

respectively), reported that they did not use the recommended PPE at least once during the study. Forgetfulness (26.1% and 27.3%, respectively) and time constraints (23.1% and 21.1%, respectively) were the primary causes for not using the recommended PPE. At the time of the conference, data from the second round of questionnaires (response rates of 26.1% and 41.6%, respectively, corresponding to 6,816 and 3,959 participants respectively) will also be available for presentation.

**Conclusion** One fifth of Danish healthcare workers have been in a situation where PPE was recommended but not used. Time constraints and forgetfulness are important reasons for this. Healthcare workers not wearing the recommended PPE increases the risk of the healthcare workers becoming infected with COVID-19, and is harmful to the performance of the healthcare system.

### O-168 COVID-19 INFECTION AND MENTAL WELLNESS IN A CANADIAN COHORT STUDY OF HEALTHCARE WORKERS

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**Introduction** Healthcare workers (HCW) working through the pandemic are in the front line for infection, psychological pressure and overwork.

**Objectives** To identify modifiable work factors associated with COVID-19 infection and mental distress, and to assess the effectiveness of provisions to mitigate their impact.

**Methods** A cohort study of HCWs was set up in the first weeks of the pandemic in Canada. HCWs from British Columbia, Alberta, Ontario, and Quebec completed an online questionnaire in the spring/summer of 2020, and a Phase 2 questionnaire from October 2020. They also provided a blood sample to assess SARS-CoV-2 antibodies. HCWs reporting a COVID-19 infection after the Phase 2 questionnaire were matched on job-type and province to 4 referents for a nested case-referent (C-R) study concentrating on exposures immediately prior to infection. Phase 3 is underway, with a final contact planned for March 2022.

**Results** 5135 HCWs completed the Phase 1 questionnaire with 93% (4539/4857) of those eligible completing Phase 2. By March 1st 2021, 157 cases had been confirmed by PCR and a further 10 found positive only on antibody testing (an overall rate of 3.3%). The odds of infection doubled for working one-on-one with known COVID-19 patients. Rates were lower in physicians and nurses, compared to personal support workers, health care aides, and licensed practical nurses. HCWs in a hospital setting had lower rates than those working in the community, where shortages of personal protective equipment were more widespread. High rates of anxiety (on the Hospital Anxiety and Depression Scale) were recorded in both Phase 1 and 2. Only 1 in 4 HCW had used available mental health supports. By May 2021, 100 cases with 389 referents had been recruited to the on-going C-R study.

**Conclusion** Information collected prospectively has the potential to improve HCWs protection during this and future epidemics.

### O-294 LEVELS OF ANXIETY AND DEPRESSION AND THE PERCEIVED RISK OF COVID-19 AT WORK

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**Introduction** Workers who frequently contact to public or provide close-contact service may have higher anxiety and depression levels, as they may be worried about getting infected with the coronavirus at work.

**Objectives** To examine the association of perceived risk of COVID-19 at work (including contact with people and close contact to public) with anxiety and depression levels among non-healthcare worker, taking perceived effectiveness of company's preventive measures into account.

**Methods** This is a multi-city cross-sectional study in Hong Kong, Nanjing and Wuhan. We recruited 7391 non-healthcare workers who were aged >18 during 07/2020–04/2021. We used standardized questionnaire to collect sociodemographic, job-related information and their satisfaction of effectiveness of company's preventive measures. Participants' frequency of contact and close contact to public were collected and classified into occasionally, sometimes and often, and their anxiety and depression levels were measured using DASS-21. We performed multinomial logistic regression models to examine the association of frequency of contact and close contact to public with anxiety and depression levels. Path models were developed to analyze the potential modification of perceived effectiveness of company's preventive measures on these associations.

**Results** Compared with workers with occasional contact to population, workers with sometimes contact were associated with severe anxiety (AOR=1.59, 95%CI=1.27–1.99). The AOR for workers with often close contact to public compared with no contact were 1.53 (95%CI= 1.25–1.87) for severe anxiety, and 1.43 (95%CI=1.14–1.79) for severe depression. Additionally, according to path analysis, the indirect path between contact or close contact to public and anxiety/depression were modified by perceived effectiveness of company's preventive measures.

**Conclusion** Workers with frequent contact with people or close contact to public was associated with worse anxiety and depressive symptoms. Companies should consider effective and sustainable measures in mitigating the risk and thereby reducing employees' anxiety and depression levels during the COVID-19 pandemic.

### O-369 SARS-COV-2 ANTIBODY SEROPREVALENCE AMONG FIREFIGHTERS IN ORANGE COUNTY, CALIFORNIA

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**Introduction** Firefighters play a vital role in Orange County (OC) California (CA) communities by assisting in emergencies, providing emergency medical treatment, and transporting ill or injured individuals, in addition to performing traditional fire-fighting duties. Antibody testing can be a useful tool in