activity level. This information was used to build an appropriate repeated measures model including demographics and work-related attributes.

Results Final analyses included 318 Latina/o farmworkers. Only 70 subjects (22%) were a healthy BMI, and 115 subjects (36%) were considered obese (BMI ≥30). None were underweight. The majority of participants were paid hourly (n=233, 73%) as opposed to piece-rate (n=85, 27%). Activity counts averaged 452, or a low intensity activity level. In the final repeat measures model, work activity was inversely associated with WBGT, for every oC increase in WBGT activity decreased by 4.5 counts (95% CI 1.2–7.6) P 0.01. Other independent negative associations with activity were found with age and male gender. An interaction was found between piece-rate workers and gender. Male piece rate workers did not decrease activity levels with WBGT, but females and hourly paid workers did.

Conclusion In general, farmworkers decrease their work activity with increasing environmental heat. Men, especially piece-rate workers are less likely to decrease their activity levels putting them at increased risk of HRI.

O8B.2 EPIDEMIOLOGICAL DESCRIPTIONS OF OCCUPATIONAL HEALTH EFFECTS OF CLIMATE CHANGE

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There have been many laboratory studies of the effect of heat on the health of individuals in sport, at work or in the military. However, epidemiological studies are needed to develop impact assessment of climate change. In this presentation we outline the development and use of population-exposure risk functions for different heat effects.

The first risk function is for heat discomfort based on the predicted mean vote with 10% population feeling discomfort at WBGT=21C and with 90% affected at 29C.

The second population risk function is for heat exhaustion which we derive by using epidemiological data from the US military. 10% of the population is affected by heat exhaustion at WBGT=31C increasing up to 90% of the population affected at a WBGT=38C.

The most severe population risk is heat stroke for which we use hospital data to calculate 10% of the population affected by heat stroke at WBGT=41C and 90% of the population at WBGT=44C.

These health effects of heat create different durations of ill health, with serious heat stroke causing prolonged periods of dis-ability. Based on climate modelling and our risk functions the number of people affected globally can be calculated. For heat stroke, few persons working in the shade at 300W metabolic rate, will currently suffer from heat levels that can cause heat stroke. By 2085 half a million workers (at 300W) will be exposed to heat levels that cause heat stroke. As for becoming totally exhausted (and unable to work) while working at 300W in the sun, currently that stands at about 124 million worldwide, but in 2085 that number will jump to 835 million.

Additional epidemiological studies are utilised to validate these risk estimates at local and national level.

O8B.3 HEAT AND INJURY IN THE WORKPLACE: PERSPECTIVES FROM HEALTH AND SAFETY REPRESENTATIVES

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Introduction Hot weather poses occupational health and safety concerns for outdoor workers or those in non-cooled indoor environments. The risk of occupational injuries increases during hot weather, however limited understanding exists on underlying factors associated with this increase in risk. While recommendations and guidelines for preventing heat-related health impacts include hydration, cooling practices, adequate ventilation and rescheduling work, the extent to which these recommendations are adopted in workplaces is currently unknown.

Methods A national online survey was conducted among health and safety representatives (HSRs) to better understand the nature of heat-related injuries. Responses relating to risk factors and preventive measures associated with reported injuries in workplaces were identified using log-poisson regression models.

Results In total, 222 HSRs completed the survey. Overall, more than a third (43%) of HSRs reported that injuries or incidents caused by hot/very humid weather occur sometimes/often in their workplace.

Factors found to be positively associated with reported injuries included 'the wearing of personal protective equipment (PPE)', 'inadequate resources and facilities' and 'new workers'.

For outdoor workers, the most frequently adopted preventive measures were provision of PPE, sunscreen and access to cool drinking water. HSRs reported more injuries if certain preventive measures (rescheduling work to cooler times and shaded rest/work areas) were adopted never/rarely/sometimes compared to often/always.

Access to cool drinking water and provision of PPE were the most frequently adopted preventive measures for indoor workers. For this group, HSRs reported more injuries if certain preventive measures (self-pacing, shielding of heat sources and adequate ventilation) were adopted never/rarely/sometimes.

Conclusion Findings indicate that organisational issues, workplace hazards, personal factors and preventive measures, are all determinants of heat-related injuries in Australian workplaces. Wider adoption of prevention measures such as work rescheduling, self-pacing, provision of shade and adequate ventilation could reduce incidence of heat-related injuries in outdoor and indoor workplaces.

O8B.4 EXPLORING OCCUPATIONAL INJURY EXPERIENCES DURING HOT WEATHER: A NATIONAL SURVEY OF HEALTH AND SAFETY PROFESSIONALS

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Introduction Exposure to extreme heat can lead to adverse health effects and contribute to work-related injuries. However, there is limited understanding of how physical injuries arise in hot weather. A study of the perspectives of