

## Oral Presentation

## Musculoskeletal

## 0394 ARE GENDER DIFFERENCES IN DISABILITY DURATION FOR WORK-RELATED MUSCULOSKELETAL INJURIES EXPLAINED BY HEALTH CARE UTILISATION?

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**Introduction** In British Columbia, Canada, women have longer work disability durations for musculoskeletal injuries than men, even after adjustment for confounders. This study investigated if different types of health care utilisation in the first four weeks of injury explain differences in disability duration.

**Methods** Three cohorts were identified from compensation claims for back strain, limb fractures and connective tissue injuries. Claims were restricted to at least four-weeks disability for a standard health care utilisation window. Quantile regression investigated the effect of physician visits (log count), physical therapies and prescriptions (yes/no), on disability days (censored at 365) at the 25<sup>th</sup>, 50<sup>th</sup> and 75<sup>th</sup> percentile by gender.

**Results** In multivariable models, physician visits were associated with shorter disability durations for both genders across injury cohorts. For example, for connective tissue injuries, an increase of one physician visit was associated with 44 fewer days [95% CI -64.8, -23.9] for women and 56 fewer days for men [-74.2, -37.5], at the 75<sup>th</sup> percentile. Opiate prescriptions were associated with longer disability durations for fractures only, with 39 more days [95% CI 16.1, 61.3] for women and 46 more days [32.1, 59.3] for men, at the 75<sup>th</sup> percentile. The effect of physical therapies varied by injury and gender.

**Discussion** Physician visits in the first weeks of a compensation claim may be part of return-to-work procedures associated with shorter disability. Opiate prescriptions in the first weeks of a fracture may be a measure of severity associated with longer disability. Health care utilisation did not readily explain longer disability durations for women.

## Poster Presentation

## Disease Surveillance

## 0397 DETECTION OF OCCUPATION INJURY AND ILLNESS THROUGH SURVEILLANCE AT EMERGENCY ROOM AT A MEDICAL CENTRE IN TAINAN, TAIWAN

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Underreporting of occupational injury and illness has been an important issue in Taiwan. We tried to implement an integrated surveillance system in the emergency services of National Cheng Kung University Hospital to screen work-related accidents. The system mobilised staffs of triage, registration and doctors to report occupational causes. A total of 4097 events were identified from Feb 2015 to Feb 2017, among which 2722 were work-related, and 1375 commuting injuries. Work-related events were predominant males (71.7%), but equally in commuting injuries. 1532 events were sent by ambulance, 498 cases hospitalised in the first month, and 4 patients died within 30 days after emergency services and all fatal cases were work-related injuries. The majority of diagnoses were contusions, abrasions and lacerations, totally accounting for 43.1%. However, significant proportion of head injuries (n=751, 18.3%), fractures (n=351, 8.6%), burns (n=264, 6.4%) including 62 cases (1.5%) of chemical burns, and 106 cases (4.4%) of amputations were found. The results were different from the government funded reporting system where most frequently reported were chronic musculoskeletal diseases. The total medical costs were about 2.9 million USD, based on a conservative estimation accounting 90 days from the first encounter. This study revealed the fact of underestimation of occupational injuries and illness resulting in significant health and societal impacts. The emergency room based surveillance system can augment the conventional reporting system. Furthermore, cluster analysis and work associated disability should be investigated to improve occupational safety and labour right.

## Oral Presentation

## Working Conditions

## 0398 CLIMATE CHANGE THREATS TO OCCUPATIONAL HEALTH AND PRODUCTIVITY AT POPULATION LEVEL

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Climate change will cause increasing environmental heat levels in large parts of the world. The heat levels for millions of people working outdoors or indoors without air conditioning, particularly in tropical areas, are already so high that physiological limits are exceeded and health risks and productivity loss occurs.

Using data on climate and working population size for 67,000 geographic grid cells (size = 0.5 × 0.5 degrees) based on internationally refereed sources we produced global heat stress maps for different calendar months and time periods. We combine these estimates with exposure-response relationships for heat stress indices to calculate heat strain risks and work capacity loss at global, regional and country level. The physiological laboratory evidence concerning heat impacts on workers is extensive, but more quantitative epidemiological studies are needed to improve risk assessments of occupational health risks due to climate change.

For example, we calculated that the global number of people subjected to extremely high monthly average heat levels (WBGT > 30°C, when even moderate work is restrained)