throughout the 12 months covered by text messages. The variation in work capacity over time seemed to be more pronounced in case groups.

In conclusion, classifying respondents as cases and non-cases based on self-reported musculoskeletal complaints of the neck, shoulders and lower back at baseline seems to be a good predictor of persistent differences in self-reported work capacity due to neck, shoulder and low back pain during the following year.

Precarious Employment/Migrant Workers

04C.1 FEMALE LANDFILL WASTE PICKERS AND THEIR HEALTH

^{1,2}Kerry Wilson*, ^{1,3}Tahira Kootbodien, ^{1,4}Vusi Ntlebi, ^{1,2}Felix Made, ^{1,2,4}Nisha Naiker. ¹National Institute for Occupational Health, Johannesburg, South Africa; ²University of the Witwatersrand, Johannesburg, South Africa; ³University of Cape Town, Cape Town, South Africa; ⁴University of Johannesburg, Johannesburg, South Africa

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Informal waste pickers and employees working on a landfill site are exposed to multiple risks such as noise, toxic chemicals, metals, dust and ergonomic hazards. How these hazards affect the health of workers may differ by sex.

Methods A cross-sectional study was conducted among waste pickers aged 18 years or older, working in major landfill sites in Johannesburg. Information on health, work hazards and health care access were collected in interviews in the workers own language.

Results A third (27%) of the 363 waste-pickers interviewed in this study were female. These women were on average older and less educated than the men and a significantly larger proportion were born in neighbouring countries. Women waste pickers had a higher prevalence of hypertension (30.9% vs 18.4%) and HIV (24% vs 7.0%) than men. This is unlikely to be a reporting bias as women had higher BMI's ($p=0.0002$), glucose blood levels ($p=0.022$), cholesterol ($p=0.0014$) and diastolic blood pressure ($p=0.0081$).

Discussion The factors driving women to work as waste pickers appear different to men and women's health is worse than that of the men in terms of lifestyle diseases and HIV. Although in general waste pickers have a lower prevalence than the general population. This follows the pattern of the South African Demographic and Health Survey 2016.

04C.2 IMPACT OF PRECARIOUS WORK ON THE WELLBEING OF WOMEN AND MIGRANTS IN AUSTRALIA

¹Alison Reid*, ¹Alison Daly, ²Marc Schenker. ¹Curtin University, Bentley, Australia; ²University of California, Davis, USA

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Introduction Women and migrants are more likely to be in precarious work than men and native-born workers. Precarious work impacts adversely on work-related injuries, fatalities and health but little is known about how it affects the wellbeing of women and migrant workers. The aims of this study are; (1) to examine whether precarious work differs by migration status and sex and 2) to determine whether the impact of

precarious work on the wellbeing of women and migrants differs to that of males and native-born workers.

Methods In 2016/17 a national telephone survey examined psychosocial workplace hazards among 1630 migrant and 1051 Australian-born workers. Precarious work (vulnerability and job insecurity) and wellbeing were collected with sociodemographic and employment variables. Higher scores indicate greater vulnerability/insecurity/less wellbeing. Univariate statistics examined the association between precarious work and wellbeing by sex and country of birth. Stratified linear regression modelled the relationship between precarious work and wellbeing by sex.

Results Independent of country of birth, females had higher vulnerability ($\mu=6.5$, $\sigma=3.4$) than males ($\mu=5.5$, $\sigma=3.6$), in contrast to job insecurity (Women $\mu=8.2$, $\sigma=4.0$; Men $\mu=8.2$, $\sigma=3.9$). Workers born in the Philippines had higher vulnerability compared with other migrant workers ($\mu=6.6$, $\sigma=3.4$ vs $\mu=5.9$, $\sigma=3.6$) whereas workers born in India had higher employment insecurity compared with other migrant workers ($\mu=8.8$, $\sigma=4.1$ vs $\mu=8.1$, $\sigma=3.9$). Increasing vulnerability and insecurity adversely impacted wellbeing most in Australian workers. Compared with men, vulnerability had a greater adverse impact on the wellbeing of women.

Discussion Two dimensions of precarious work impact the wellbeing of men and women differently. Vulnerability impacts women most whereas work insecurity impacts men. For Australian born, the impact of either dimension on wellbeing is greater than for migrant workers.

04C.3 JOB STRAIN, EXPOSURE TO CARCINOGENS AND THE WELLBEING OF MIGRANT WORKERS

Alison Daly*, Alison Reid. Curtin University, Bentley, Australia

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Introduction Job strain adversely affects wellbeing. It is unclear if job strain increases the risk of exposure to carcinogens. The aim of this study is to examine how high strain jobs influence exposure to carcinogens and wellbeing and whether this varies by migration status.

Methods A national telephone survey conducted in 2016/17 examined exposure to workplace hazards among 1630 migrant workers (born in India, New Zealand and the Philippines). Exposure to carcinogens was assessed an online platform that automates exposure assessment. High job strain and wellbeing was measured using standardised questionnaires. Univariate statistics examined high job strain and exposure to carcinogens by country of birth. Models were developed to explore these associations.

Results There were no differences in prevalence of job strain by country of birth with percents ranging from 23.8% [95% CI 18.6,30.0] for India-born workers to 26.5% [95% CI 21.7,31.8] for New Zealand-born. A lower percent of migrants born in India or the Philippines were exposed to any carcinogens at work 55.2% [95% CI 51.2,59.0] compared New Zealand workers (68.8% [95% CI 63.9,73.4] vs 55.2% [95% CI 51.2,59.0]). Wellness means ranged from 13.6 [95% CI 13.1,14.1] for Philippines-born workers to 14.3 [95% CI 13.9,14.7] for New Zealand-born. Wellbeing was adversely impacted by high job strain (Coef=2.1 95% CI 1.7,2.6). There was no difference by country of birth. Job strain was not associated with exposure to carcinogens but country of birth was

with workers born in India having a lower probability of being exposed (Predicted probability of exposure: 50 (95% CI. 46,.54) compared with the other migrant workers.

Discussion High strain jobs adversely affected wellbeing independent of migrant status. Job strain was not associated with either exposure to carcinogens or migrant status. However migrant status was associated with exposure to carcinogens.

04C.5 PRECARIOUS WORK AND PRECARIOUS LIVES: AN ANALYSIS OF THE ASSOCIATION BETWEEN EMPLOYMENT RELATIONSHIPS AND ACCESS TO SOCIAL AND HEALTH BENEFITS

Mieke Koehoorn*, Robert Macpherson, Christopher B McLeod. *University of British Columbia, Vancouver, Canada*

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Background Precarious employment relationships impact many facets of society, among them health and health inequities for workers and their families. The objective of the current analyses was to investigate the association between precarious employment and access to social and health employment benefits in the Canadian context.

Methods The General Social Survey (GSS) is an annual and national cross-sectional survey administered by Statistics Canada. The GSS2016 focused on social trends in education, work and home conditions to inform policy issues. The association between employment status (regular versus seasonal, term, casual) and access to employment benefits (pension, sick leave, vacation, disability, workers' compensation, parental leave, supplemental medical, and other) was investigated using multivariable logistic regression, adjusted for socio-demographic (age, sex, education, visible minority, immigrant), occupation and industry, and physical and mental disability characteristics.

Results Among those employed at the time of the survey (60.4% of 19 609 respondents), the majority had regular (80.8%) versus precarious seasonal (7.0%), casual (6.9%), or term (5.3%) employment. Twenty-eight percent of precarious workers reported no employment benefits compared to 6% of regular workers (ORadj=4.99, 95% CI 3.53, 7.05). By type of benefit, the greatest disparity between precarious employment and no benefits was reported for disability insurance (ORadj=2.45 95% CI 1.81, 3.32) and supplemental medical benefits (ORadj=2.54 95% CI 1.90, 3.38), while the least disparity was reported for workers' compensation benefits (ORadj=1.46 95% CI 1.11, 1.92).

Discussion Precarious work may equate to precarious living for a significant number of workers without pension, disability, sick leave, family or medical employment benefits. The impact of the observed disparity in employment benefits for workers with regular versus precarious attachment to the labour market warrants longer-term investigation, but the findings suggest that precarious work could be a significant social determinant of health.

04C.6 'HEALTHY ON THE OUTSIDE, SICK ON THE INSIDE' - FORESTRY WORKERS, EMBODIMENT AND BIOSOCIALITY

Kirsten Lovelock*. *Worksafe, Wellington, New Zealand*

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Health outcomes for workers in forestry are shaped by a complex range of exposures, including exposures related to the work environment generated by the industry itself and within a natural environment. We understand how the worker experiences these exposures is shaped by a range of contextual factors including external factors such as market prices and legislation; employer specific factors (e.g. pace of work, provision of Personal Protective Equipment (PPE)); to task specific factors (e.g. repetition, worker control). And, health outcomes from these exposures can range from immediate to delayed, and in duration from acute to chronic. This paper draws on a qualitative research project conducted with forestry workers, their contractors and the CEOs of corporate forests in New Zealand and argues that we need to know more if we are to intervene effectively. Face to face interviews and focus groups were conducted with 100 participants at multiple sites throughout New Zealand (Northland, Gisborne, Central North Island, Hawkes Bay, Wanganui and Otago). This paper focuses specifically on the experiential aspects of being a forestry worker and contractor and how the concept of embodiment and bio-sociality is a useful means by which to understand how bodies are produced and reproduced through labour, how labour converts bodies into social entities and that the body is not exclusively in either the biological or social world, rather bodies are made, have social value and the sociality of bodies shapes altered biologies. These concepts allow us to understand why it is that workers self-describe and are described as being 'healthy on the outside, sick on the inside' or 'fit on the outside, sick on the inside' and to unpack how social groups form around biological identities marked by ill health or illness susceptibility.

Chemical and Physical Hazards

04D.1 LONGITUDINAL ANALYSIS OF INCIDENCE OF BERYLLIUM SENSITIZATION IN A US NUCLEAR WORKFORCE

¹Ashley Golden*, ²Miranda Dally, ¹Jeffery Miller, ²Lee Newman, ¹Donna Cragle. ¹ORAU, Oak Ridge, USA; ²Colorado School of Public Health, Aurora, USA

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The goal of this study was to evaluate trends in incidence of beryllium sensitization (BeS) and the impact of exposure regulation in a US Department of Energy (DOE) nuclear worker cohort. The 1999 DOE final rule for Chronic Beryllium Disease Prevention Program was established to accomplish three goals: reduce the number of workers currently exposed to beryllium; minimize exposures and the potential for exposure; and establish medical surveillance requirements to ensure early detection of disease. While the impact of this rule has been evaluated through observational reports, with decreases in exposure and reported cases, there have been no published studies assessing whether exposure reduction measures result in the prevention of BeS.

Methods We examined the incidence of beryllium sensitization in a cohort of 6915 workers with almost 29,000 BeLPT results obtained between 1994–2018. All workers