

Differences in Disability Management Outcomes in First Responders Compared to High and Low Physical Demand Workers

Shannon Killip, MSc¹, Joy C. MacDermid, PT, PhD^{1,2,3}, Kathryn Sinden, PhD⁴, Rebecca Gewurtz, OT, PhD¹

KEY FINDINGS

- First responders returned to work sooner than other workers, yet this was associated with greater use of modified work as first responders were less likely to return to their full duties.
- There is a need for programs to assist the transition from modified to full duties in first responders.

Background

- First responders have uniquely high physical¹ and psychological job demands², and work in dangerous environments¹.
- These unique work characteristics lead to an increased risk of injury and mental health issues^{1,3}.
- There is a lack of disability management research in first responders.

Objective

- To determine whether differences exist in the duration of time off work, the type of injuries or illnesses, the duties performed when returning to work, and the duration of claim in disability management claims of first responders compared to high or low physical demand occupations.

	Mean (days)	95% Confidence Interval (days)
First Responders	33.6	26.3 – 42.8
High Demand Workers	52.7	40.9 – 68.0
Low Demand Workers	60.7	47.5 – 77.6

Table 1: Adjusted mean number of days off work for each occupation group based on the Analysis of Covariance

	Mean (days)	95% Confidence Interval (days)
First Responders	42.0	33.2 – 53.0
High Demand Workers	61.8	49.0 – 78.1
Low Demand Workers	65.0	51.4 – 82.1

Table 2: Adjusted mean number of days until claim closure for each occupation group based on the Analysis of Covariance

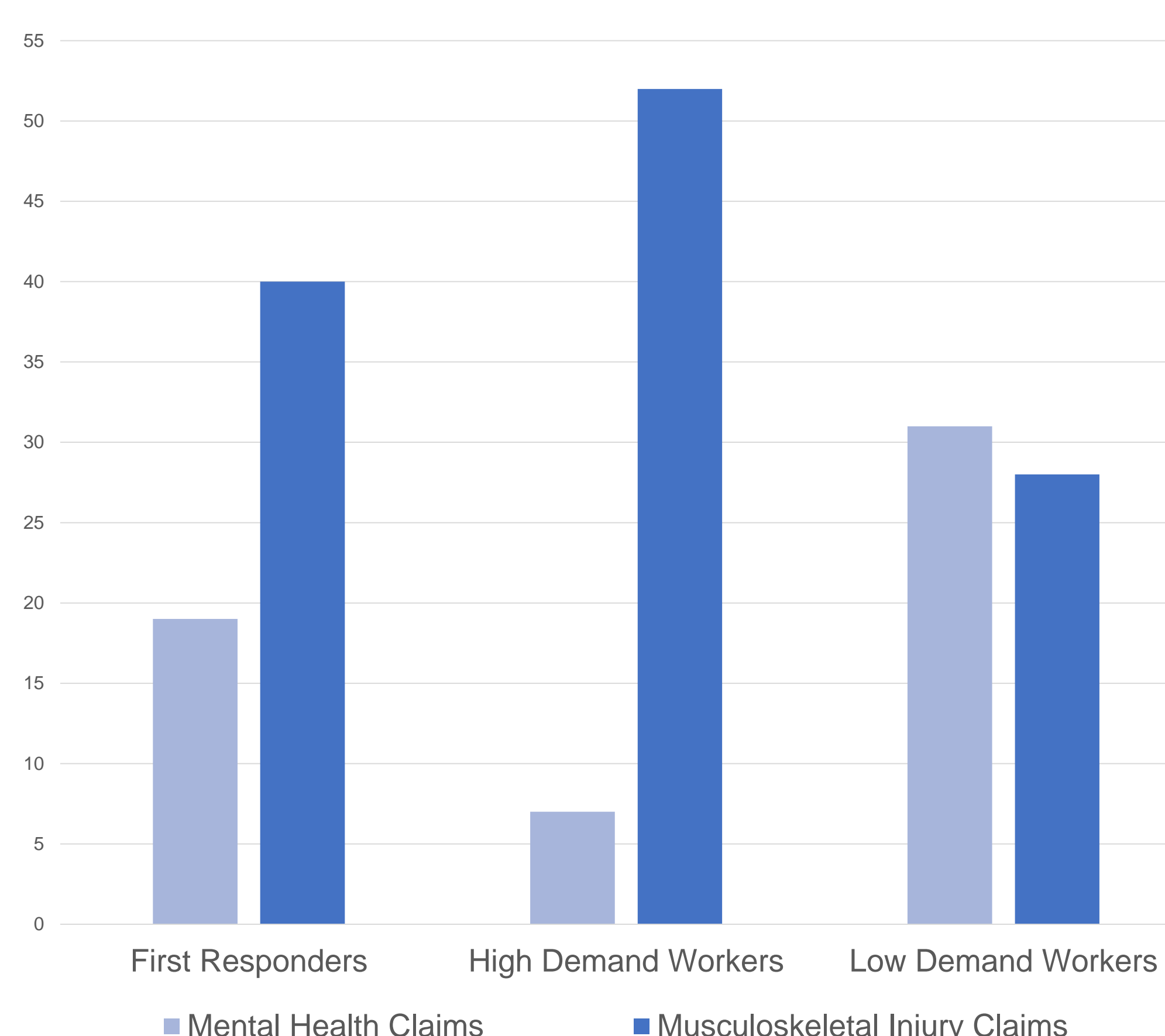
Methods

- Injury claim data was obtained from a National Disability Management Company, and was collected from January 2, 2012 to July 25, 2017.
- Inclusion criteria: All first responder claims (cases), male dominated occupation rated as having high or low physical demands (controls)
- Exclusion criteria: Claims without a known duration of time off work
- The data from the first responder claims were used to age and sex match the high and low demand occupation groups at a 1:1:1 ratio.
- Data analyses: Descriptive, Chi Squared Tests of Homogeneity, Analysis of Covariance

Results

- N=177; median age: 44.5 years; 17% were female
- First responders returned to work sooner than high demand (mean difference=20 days) and low demand workers (mean difference=23 days) (Table 1).
- First responders had less musculoskeletal (MSK) injuries than high demand workers (OR=0.3) but more MSK injuries compared to low demand workers (OR=2.3) (Figure 1).
- First responders were more likely to only perform modified work compared to high demand workers (OR=8.1) and low demand workers (OR=5.3) (Figure 2).
- First responder disability claims were closed sooner than high demand worker claims (mean difference=19 days) and low demand worker claims (mean difference=27 days) (Table 2).

Figure 1: Number of MSK injury and mental health claims for each occupation group



Conclusion and Discussion

First responders had a shorter duration of time off work but this was associated with modified work

- First responders were more likely to be performing modified duties and less likely to perform full duties compared to the two other occupation groups.
- **The concerns:** Could this be permanent disability? Are first responders satisfied with the modified work they performing?

First responders had less MSK injuries compared to other high physically demanding occupations

- A healthy worker effect may explain this.

First responders had less mental health claims compared to other stressful but sedentary occupations

- The low demand occupations may have been more cognitively demanding.
- Under-reporting in first responders may have been an issue.

Future Directions: More research is needed!

- Qualitative research to further explore the disability management process for first responders.

Implementation of future interventions

- **Knowledge Translation:** encourage the use of modified work for first responders while discussing the importance of rehabilitation and conditioning while absent from work.
- **Intervention:** programs for the transition from modified to full duties for first responders.

Figure 2: Type of work performed by the end of the data collection period (July 25, 2017) for each occupation group

