

IWH Research Alert
September 18, 2020

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***Fan JK, Macpherson RA, Smith PM, Harris MA, Gignac MAM, and McLeod CB. Age differences in work-disability duration across Canada: examining variations by follow-up time and context. *Journal of Occupational Rehabilitation*. 2020; [epub ahead of print].**

<https://doi.org/10.1007/s10926-020-09922-x>

Abstract: Purpose This study aimed to understand age differences in wage-replacement duration by focusing on variations in the relationship across different periods of follow-up time. Methods We used administrative claims data provided by six workers' compensation systems in Canada. Included were time-loss claims for workers aged 15-80 years with a work-related injury/illness during the 2011 to 2015 period (N = 751,679 claims). Data were coded for comparability across cohorts. Survival analysis examined age-related differences in the hazard of transitioning off (versus remaining on) disability benefits, allowing for relaxed proportionality constraints on the hazard rates over time. Differences were examined on the absolute (hazard difference) and relative (hazard ratios [HR]) scales. Results Older age groups had a lower likelihood of transitioning off wage-replacement benefits compared to younger age groups in the

overall models (e.g., 55-64 vs. 15-24 years: HR 0.62). However, absolute and relative differences in age-specific hazard rates varied as a function of follow-up time. The greatest age-related differences were observed at earlier event times and were attenuated towards a null difference across later follow-up event times. Conclusions Our study provides new insight into the workplace injury/illness claim and recovery processes and suggests that older age is not always strongly associated with worse disability duration outcomes. The use of data from multiple jurisdictions lends external validity to our findings and demonstrates the utility of using cross-jurisdictional data extracts. Future work should examine the social and contextual determinants that operate during various recovery phases, and how these factors interact with age.

***Prince SA, Roberts KC, Reed JL, Biswas A, Colley RC, and Thompson W. Daily physical activity and sedentary behaviour across occupational classifications in Canadian adults. Health Reports. 2020; 31(9):13-26.**

<https://doi.org/10.25318/82-003-x202000900002-eng>

Abstract: Background Adults spend a large proportion of their day at work. Physical activity (PA) and sedentary behaviour (SB) have been shown to vary considerably between occupations. The objective of this study is to describe occupational differences in accelerometer-measured and self-reported PA and SB for Canadian full-time workers. Data and methods Using combined data from three cycles of the nationally representative Canadian Health Measures Survey (N = 4,080), three activity groups (high, intermediate, low) were created based on a composite ranking of accelerometer-derived steps, proportion of time spent sedentary (SED%) and moderate-to-vigorous intensity physical activity (MVPA) in bouts of =10 minutes (MVPAbouted). Differences between groups were assessed for accelerometer-derived and self-reported PA and SB, and sociodemographic and clinical characteristics. Results On average, Canadians employed in full-time work were sedentary for 68.9% of their day (95% confidence interval [CI]: 68.3% to 69.6%), took 8,984 steps per day (95% CI: 8,719 to 9,249) and accumulated 79.5 minutes per week of MVPAbouted (95% CI: 71.1 to 87.9). Among Canadians employed in full-time work, 18.5% met the Canadian Physical Activity Guidelines. The high-activity group took

significantly more steps and had a lower SED%, but spent a higher proportion of time in light-intensity PA compared with the intermediate- and low-activity groups. No differences were observed for MVPA. The low-activity group reported more recreational and active travel-related PA and leisure reading, while those in the high-activity group reported more work and domestic PA and leisure screen time. Interpretation The majority of full-time working adults are not getting adequate MVPA and spend most of their day sedentary, regardless of occupation. Findings support workplace policies to improve MVPA levels among Canadian workers and to promote awareness for the potential benefit of occupation-specific messaging around PA and SB.

***Robson LS, Lee H, Amick B, III, Landsman V, Smith PM, and Mustard CA. Preventing fall-from-height injuries in construction: effectiveness of a regulatory training standard. Journal of Safety Research. 2020; 74: 271-278.**

<https://doi.org/10.1016/j.jsr.2020.06.007>

Ammerman JM, Wind JJ, Goldsmith ME, and Inzana JA. Lumbar discectomy and reoperation among workers' compensation cases in Florida and New York: are treatment trends similar to other payer types? Journal of Occupational & Environmental Medicine. 2020; 62(9):e478-e484.

<https://doi.org/10.1097/JOM.0000000000001943> [open access]

Abstract: Objective: The aim of this study was to better understand current treatment trends and revision rates for lumbar disc herniation (LDH) in the workers' compensation (WC) population compared with other payer types. Methods: This was a retrospective analysis of outpatient claims data from Florida and New York during 2014 to 2016. Results: WC patients were less likely to undergo discectomy in Florida (15% vs 19%; $P < 0.001$) and New York (10% vs 15%; $P < 0.001$). The odds of WC patients undergoing revision discectomy were 1.5 times greater than patients covered by private payers or all other non-WC payers ($P = 0.002$). Conclusions: WC patients undergo discectomy significantly less often than non-WC counterparts, which may be related to a higher risk of reoperation. New evidence-based treatments, such as annular repair, may be critical to advancing care in this unique population.

Bagg MK, O'Hagan E, Zahara P, Wand BM, Hubscher M, Moseley GL, et al. Systematic reviews that include only published data may overestimate the effectiveness of analgesic medicines for low back pain: a systematic review and meta-analysis. Journal of Clinical Epidemiology. 2020; 124:149-159.

<https://doi.org/10.1016/j.jclinepi.2019.12.006>

Abstract: OBJECTIVE: Systematic reviews of analgesics for low back pain generally include published data only. Obtaining data from unpublished trials is potentially important because they may impact effect sizes in meta-analyses. We determined whether including unpublished data from trial registries changes the effect sizes in meta-analyses of analgesics for low back pain. STUDY DESIGN AND SETTING: Trial registries were searched for unpublished data that conformed to the inclusion criteria of n = 5 individual source systematic reviews. We reproduced the meta-analyses using data available from the original reviews and then reran the same analyses with the addition of new unpublished data. RESULTS: Sixteen completed, unpublished, trials were eligible for inclusion in four of the source reviews. Data were available for five trials. We updated the analyses for two of the source reviews. The addition of data from two trials reduced the effect size of muscle relaxants, compared with sham, for recent-onset low back pain from -21.71 (95% CI: -28.23 to -15.19) to -2.34 (95% CI: -3.34 to -1.34) on a 0-100 scale for pain intensity. The addition of data from three trials (one enriched design) reduced the effect size of opioid analgesics, compared with sham, for chronic low back pain from -10.10 (95% CI: -12.81 to -7.39) to -9.31 (95% CI: -11.51 to -7.11). The effect reduced in the subgroup of enriched design studies, from -12.40 (95% CI: -16.90 to -7.91) to -11.34 (95% CI: -15.36 to -7.32), and in the subgroup of nonenriched design studies, from -7.27 (95% CI: -9.97 to -4.57) to -7.19 (95% CI: -9.24 to -5.14). CONCLUSION: Systematic reviews should include reports of unpublished trials. The result for muscle relaxants conflicts with the conclusion of the published review and recent international guidelines. Adding unpublished data strengthens the evidence that opioid analgesics have small effects on persistent low back pain and more clearly suggests these effects may not be clinically meaningful

**Bryson-Campbell M, Shaw L, Cooper L, and Chedore B.
Developing guidelines to support injured workers who live and**

work with chronic pain. Work. 2020; 66(2):383-404.

<https://doi.org/10.3233/WOR-203180>

Abstract: **BACKGROUND:** Living and working with chronic pain requires persons to alter lifestyles and have the knowledge as well as support to manage unforeseen challenges. Knowledge for persons living with pain who want to participate in meaningful paid and unpaid work is not easily accessible. While there is literature on chronic pain management, work transitions and return to work, less emphasis has been placed on the complexity of living and working with chronic pain. The Creating a Way Forward Project was envisioned to address this gap and to identify the informational needs of workers with pain, health/helping professionals (workers' advisors, return to work specialists, legal representatives), and stakeholders. The overarching aim of the project was to use evidence and experiential knowledge to inform the development of a foundation for educational guides and toolkits to support workers with pain to achieve their outcomes for remaining at work. **METHODS:** Phase one of the project involved a scoping review of chronic pain and work. Phase two involved stakeholder consultations, a focus group and knowledge integration of the literature and experiential insights. Knowledge synthesis drew on a Template Analysis of multiple sources of data. **RESULTS:** Knowledge domains and key components were identified for persons with pain and for the health/helping professions. **CONCLUSION:** These domains reflect a foundation for knowledge in practical training and the development of curriculum for education in self-management program and in inter professional health profession education. These knowledge domains provide a basis for future research in integrated approaches and knowledge use toward improving transitions for persons living with chronic pain who want to participate in productive paid and unpaid work. Ongoing research in knowledge domains that health providers and persons with pain need will expand the potential for improving health outcomes in living with and managing pain

Friedman C. Gendered jobs and gendered pay: the relationship between sexism, racism, and ableism, and personal care aide wages. Scandinavian Journal of Disability Research. 2020; 22(1):242-252.

<https://doi.org/10.16993/sjdr.652>

Abstract: There is currently a personal care staffing crisis in the

United States, with astronomical turnover, largely due to low wages. How attitudes may trickle down to impact funding decisions and personal care aide wages is unknown. The aim of this study was to explore the relationship between ableism, racism, and sexism, and states' personal care aide wages in the United States. We analyzed data about personal care aide wages, and prejudice data from 4.7 million people. Findings revealed a significant relationship between sexism and personal care aide wages – the higher a states' sexism, the lower their personal care aide wage; this finding was consistent regardless of the state's size, wealth, prevalence of the occupation, political leanings, or ableism or racism scores. Regardless of the strategies utilized to stabilize and grow the profession of personal care aides, it is important to examine the role sexism may play.

Jimmieson NL and Thorpe L. Employee musculoskeletal complaints and supervisor support: implications for behavioral stress reactions. *Journal of Occupational & Environmental Medicine*. 2020; 62(9):728-737.

<https://doi.org/10.1097/JOM.0000000000001949>

Abstract: OBJECTIVE: This research investigated the moderating role of supervisor support for employees with musculoskeletal complaints and their intentions to seek medical advice; take sick leave; transfer jobs; and resign. METHODS: Cross-sectional questionnaire data were collected from 1024 Australian employees. RESULTS: Regressions with bootstrapping revealed no support for the buffering role of supervisor support. In contrast to expectations, high supervisor support heightened, rather than lowered, musculoskeletal complaints on intentions to transfer jobs. For sick leave and resignation intentions, high supervisor support buffered the negative effects of musculoskeletal complaints for full-timers but exacerbated such intentions for part-timers. Furthermore, full-timers with high musculoskeletal complaints appeared more vulnerable to the exacerbating effects of low supervisor support compared with part-timers. CONCLUSIONS: Supervisor support for employees with musculoskeletal complaints both weakens and strengthens behavioral stress reactions, depending on employment status

Lemke MK, Apostolopoulos Y, and Sonmez S. Syndemic frameworks to understand the effects of COVID-19 on

commercial driver stress, health, and safety. Journal of Transport & Health. 2020; 18:100877.

<https://doi.org/10.1016/j.jth.2020.100877> [open access]

Abstract: INTRODUCTION: U.S. commercial drivers are entrenched in a stressogenic profession, and exposures to endemic chronic stressors shape drivers' behavioral and psychosocial responses and induce profound health and safety disparities. To gain a complete understanding of how the COVID-19 pandemic will affect commercial driver stress, health, and safety over time, and to mitigate these impacts, research and prevention efforts must be grounded in theoretical perspectives that contextualize these impacts within the chronic stressors already endemic to profession, the historical and ongoing forces that have induced them, and the potentially reinforcing nature of the resulting afflictions. METHODS: Extant literature reveals how an array of macro-level changes has shaped downstream trucking industry policies, resulting in stressogenic work organization and workplace characteristics. Emerging evidence suggests that the COVID-19 pandemic exacerbates existing stressors and introduces novel stressors, with potentially exacerbatory impacts on health and safety disparities. RESULTS: As COVID-19 exerts an array of multi-level stressors on commercial drivers, syndemic frameworks can provide the appropriate theoretical lens to guide research and prevention. Syndemic frameworks can provide the grounding to allow foregoing commercial driver COVID-19 research to transcend the limitations of prevailing research frameworks by contextualizing COVID-19 stressors holistically within the complex system of endemic chronic stressors and interrelated health and safety afflictions. Syndemic-informed prevention efforts can then be implemented that simultaneously tackle multiple afflictions and the macro-level forces that result in the emergence of commercial drivers' health and safety disparities over time. CONCLUSIONS: The impacts of the COVID-19 pandemic on commercial drivers cannot be adequately understood or acted upon in isolation from the endemic chronic stressors and interrelated health and safety disparities that characterize the profession. Instead, commercial driver COVID-19 research and prevention needs syndemic frameworks to holistically understand the impacts of COVID-19 on commercial driver stress, health, and safety, and to identify high-leverage preventive actions

Merris J, Phillips AL, Hegmann KT, Owens JD, Amoafu LA, and Thiese MS. Morphine Equivalent Dose-Days (MED-D): predicting the impact of opioid prescription on total workers' compensation claim costs for acute low back pain. Journal of Occupational & Environmental Medicine. 2020; 62(9):700-705.

<https://doi.org/10.1097/JOM.0000000000001958>

Abstract: OBJECTIVE: To assess the effect of morphine equivalent dose-days (MED-D) on the total cost for acute low back pain (LBP) workers' compensation claims. METHODS: Simple random samples of 123 opioid and 141 nonopioid acute LBP claims were obtained. Opioid claims were divided into low, medium, and high subgroups for MED-D, MED, and prescription duration. Subgroup mean total costs were compared to the nonopioid group using multivariate regression analyses. RESULTS: MED-D and prescription duration were each, respectively, associated with significantly increased total costs at both medium and high levels. Increasing MED had a negative association with total cost, though stratification by duration abrogated this perceived trend. Interaction testing indicated MED and duration together better explained cost than MED alone. CONCLUSION: MED-D is a better predictor of total cost in acute LBP claims than MED alone

Faten N, Katarina A, and Urban M. Cherry picking disability rights? Swedish disability policy on employment, health and participation. Nordic Journal of Working Life Studies. 2020; 10(3):3-22.

<https://doi.org/10.18291/njwls.v10i3.121844> [open access]

Abstract: The aim of this article is to broaden the understanding of how Swedish disability policies are constructed to meet the objectives of the ratified UN Convention on the Rights of Persons with Disabilities (CRPD) regarding active citizenship and full participation on an equal basis with others. The study examines two policy domains: health and employment. Recently issued legal documents are analyzed using the approach of directed content analysis and the theories of 'social risk' and 'governance'. The results suggest that the policy area of employment implicitly and explicitly overshadows the policy area of health and related rights accounted for in the CRPD. A more nuanced perspective in disability policies concerning employment in relation to active citizenry and full participation is

required, accompanied by social policy schemes that encompass the perspective of the CRPD as a whole in all support-to-work services, instead of the limited focus of finding full-time employment

Sinelnikov S, Bixler EA, and Kolosh A. Effectiveness of safety training interventions for supervisors: a systematic review and narrative synthesis. American Journal of Industrial Medicine. 2020; 63:878-901.

<https://doi.org/10.1002/ajim.23163>

Abstract: A wealth of research demonstrates that work unit supervisors serve a critical function in protecting the safety and health of workers. A systematic review examined the effectiveness of workplace safety training interventions intended for various supervisor populations published from 2000 to 2019. A search of seven electronic databases was supplemented with hand searches from the reference lists of identified publications, relevant scientific journals, and the gray literature. This review included an assessment of the methodological quality using a modified version of the Quality Assessment Tool for Quantitative Studies. A total of 22 peer-reviewed studies met a set of inclusion criteria and were subsequently assessed for methodological quality. Training interventions were grouped into five topical domains: ergonomics, leadership, supervisor-worker interaction, injury, and disability management, and general safety education. Consistent evidence was found for the effectiveness of supervisory training interventions across several outcome measures. To our knowledge, this is the first study to synthesize the literature on supervisory training interventions in the area of occupational safety. While the results are encouraging, they must be viewed with caution due to the fact that the methodological rigor of the reviewed studies was low

Werner RM, Hoffman AK, and Coe NB. Long-term care policy after COVID-19: solving the nursing home crisis. New England Journal of Medicine. 2020; 383(10):903-905.

<https://doi.org/10.1056/NEJMp2014811>

Wilson JM, Lee J, Fitzgerald HN, Oosterhoff B, Sevi B, and Shook NJ. Job insecurity and financial concern during the COVID-19 pandemic are associated with worse mental health.

**Journal of Occupational & Environmental Medicine. 2020;
62(9):686-691.**

<https://doi.org/10.1097/JOM.0000000000001962>

Abstract: OBJECTIVE: To determine whether job insecurity due to COVID-19 and financial concern were associated with worse mental health during the COVID-19 pandemic. METHOD: Participants (N=474 employed U.S. individuals) completed an online survey from April 6 to 12, 2020. Linear regressions were used to examine factors associated with mental health. RESULTS: After accounting for demographic characteristics, health status, other COVID-19 experiences, and anxiety symptoms, greater job insecurity due to COVID-19 was related to greater depressive symptoms. Conversely, after accounting for covariates and depressive symptoms, greater financial concern was related to greater anxiety symptoms. Further, greater job insecurity was indirectly related to greater anxiety symptoms due to greater financial concern. CONCLUSIONS: Findings suggest that employers should aim to reduce job insecurity and financial concern among employees during the COVID-19 pandemic to address the associated mental health consequences

*IWH authored publications.