

IWH Research Alert
April 12, 2019

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***Gray SE, Sheehan LR, Lane TJ, Jetha A, and Collie A. Concerns about claiming, postclaim support, and return to work planning: the workplace's impact on return to work. *Journal of Occupational and Environmental Medicine*. 2019; 61(4):e139-e145.**

<https://doi.org/10.1097/JOM.0000000000001549>

Abstract: OBJECTIVE: The aim of this study was to determine how injured Australian workers perceived employer emotional (eg, empathy) and instrumental [eg, return-to-work (RTW) planning] support during the RTW process and examine associations between support and RTW. METHODS: Using data from the 2014 National Return to Work Survey of injured workers with a workers' compensation claim, multinomial regression models examined relationships between support and RTW. RESULTS: Receiving support and developing RTW plans were significantly associated with a greater likelihood of RTW. When controlled for one another in a single model, postclaim support had the strongest association with RTW, with RTW planning also significantly and positively associated with RTW. CONCLUSION: Provision of both emotional and instrumental support are important employer-led work disability management interventions. Research is required to develop

strategies for increasing employer support to lead to improved RTW outcomes for injured workers

***Smith PM, Cawley C, Williams A, and Mustard C. Male/female differences in the impact of caring for elderly relatives on labor market attachment and hours of work: 1997-2015. The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences. 2019; [Epub ahead of print].**

<https://doi.org/10.1093/geronb/gbz026>

Abstract: OBJECTIVES: Using representative samples of the Canadian labor market (N = 5,871,850), this study examined male/female differences in the impact of informal care on labor market attachment, and the extent to which differences in labor market participation and employment relationships explained these differences over a 19-year period. METHODS: We examined four outcomes related to labor market impacts associated with caring for elderly relatives: leaving the labor market, working part-time, taking time off work in the previous week, and the amount of time taken off from work. Regression models examined differences between men and women, and the extent to which gendered labor market roles accounted for these differences. RESULTS: We observed an increase in all labor market outcomes over the study period. Women were more likely than men to experience each outcome. Adjusting for labor market role variables did not change these estimates appreciably. After adjustment for differences in labor market roles women were 73% more likely to leave the labor market, more than 5 times more likely to work part-time, and twice as likely to take time off in the last week due to informal care. Further, for temporary absences to provide care, women took an average of 160 min more per week than men. DISCUSSION: Taken together, these results suggest an increasing impact of informal care on labor market participation in Canada between 1997 and 2005, and it remains gendered

Butcher NJ, Monsour A, Mew EJ, Szatmari P, Pierro A, Kelly LE, et al. Improving outcome reporting in clinical trial reports and protocols: study protocol for the Instrument for reporting Planned Endpoints in Clinical Trials (InsPECT). Trials. 2019; 20(1):161.

<https://doi.org/10.1186/s13063-019-3248-0> [open access]

Abstract: **BACKGROUND:** Inadequate and poor quality outcome reporting in clinical trials is a well-documented problem that impedes the ability of researchers to evaluate, replicate, synthesize, and build upon study findings and impacts evidence-based decision-making by patients, clinicians, and policy-makers. To facilitate harmonized and transparent reporting of outcomes in trial protocols and published reports, the Instrument for reporting Planned Endpoints in Clinical Trials (InsPECT) is being developed. The final product will provide unique InsPECT extensions to the SPIRIT (Standard Protocol Items: Recommendations for Interventional Trials) and CONSORT (Consolidated Standards of Reporting Trials) reporting guidelines. **METHODS:** The InsPECT SPIRIT and CONSORT extensions will be developed in accordance with the methodological framework created by the EQUATOR (Enhancing the Quality and Transparency of Health Research Quality) Network for reporting guideline development. Development will consist of (1) the creation of an initial list of candidate outcome reporting items synthesized from expert consultations and a scoping review of existing guidance for reporting outcomes in trial protocols and reports; (2) a three-round international Delphi study to identify additional candidate items and assess candidate item importance on a 9-point Likert scale, completed by stakeholders such as trial report and protocol authors, systematic review authors, biostatisticians and epidemiologists, reporting guideline developers, clinicians, journal editors, and research ethics board representatives; and (3) an in-person expert consensus meeting to finalize the set of essential outcome reporting items for trial protocols and reports, respectively. The consensus meeting discussions will be independently facilitated and informed by the empirical evidence identified in the primary literature and through the opinions (aggregate rankings and comments) collected via the Delphi study. An integrated knowledge translation approach will be used throughout InsPECT development to facilitate implementation and dissemination, in addition to standard post-development activities. **DISCUSSION:** InsPECT will provide evidence-informed and consensus-based standards focused on outcome reporting in clinical trials that can be applied across diverse disease areas, study populations, and outcomes. InsPECT will support the standardization of trial outcome reporting, which will maximize trial usability, reduce

bias, foster trial replication, improve trial design and execution, and ultimately reduce research waste and help improve patient outcomes

Buys NJ, Selander J, and Sun J. Employee experience of workplace supervisor contact and support during long-term sickness absence. *Disability and Rehabilitation*. 2019; 41(7):808-814.

<https://doi.org/10.1080/09638288.2017.1410584>

Abstract: **PURPOSE:** Workplace support is an important factor in promoting successful return to work. The purpose of this article is to examine relationships between supervisor contact, perceived workplace support and demographic variables among employees on long-term sickness absence. **MATERIALS AND METHOD:** Data were collected from 204 public employees at a municipality in Sweden who had been on long term sickness absence (60 days or more) using a 23 question survey instrument that collected information on demographic variables, supervisor contact and perceived workplace support. **RESULTS:** Most injured employees (97%) reported having contact with their supervisors during their sickness absence, with a majority (56%) reporting high levels of support, including early (58.6%) and multiple (70.7%) contacts. Most were pleased with amount of contact (68.9%) and the majority had discussed workplace accommodations (68.1%). Employees who self-initiated contact, felt the amount of contact was appropriate, had a personal meeting with their supervisors and discussed workplace adjustments reported experiencing higher levels of support from supervisors. **CONCLUSIONS:** Employees on long-term sickness absence appreciate contact from their supervisors and this is associated with perceived workplace support. However, the amount and employee experience of this contact is important. It needs to be perceived by employees as supportive, which includes a focus on strategies (e.g., work adjustment) to facilitate a return to work. Supervisor training is required in this area to support the return to work process. Implications for Rehabilitation Contact and support from workplace supervisors is important to workers on long-term sickness absence. Employees appreciate frequent contact from supervisors during long-term sickness absence. Employees appreciate a personal meeting with supervisors and the opportunity to discuss issues related to return to work such as work adjustment. Employers should provide

training to supervisors on how to communicate and assist employees on long-term sickness absence

Hale A. From national to European frameworks for understanding the role of occupational health and safety (OHS) specialists. *Safety Science*. 2019; 115:435-445.

<https://doi.org/10.1016/j.ssci.2019.01.011>

Halonen JI, Virtanen M, Leineweber C, Rod NH, Westerlund H, and Magnusson Hanson LL. Associations between onset of effort-reward imbalance at work and onset of musculoskeletal pain: analyzing observational longitudinal data as pseudo-trials. *Pain*. 2018; 159(8):1477-1483.

<https://doi.org/10.1097/j.pain.0000000000001230>

Abstract: Existing evidence of an association between effort-reward imbalance (ERI) at work and musculoskeletal pain is limited, preventing reliable conclusions about the magnitude and direction of the relation. In a large longitudinal study, we examined whether the onset of ERI is associated with subsequent onset of musculoskeletal pain among those free of pain at baseline, and vice versa, whether onset of pain leads to onset of ERI. Data were from the Swedish Longitudinal Occupational Survey of Health (SLOSH) study. We used responses from 3 consecutive study phases to examine whether exposure onset between the first and second phases predicts onset of the outcome in the third phase (N = 4079). Effort-reward imbalance was assessed with a short form of the ERI model. Having neck-shoulder and low back pain affecting life to some degree in the past 3 months was also assessed in all study phases. As covariates, we included age, sex, marital status, occupational status, and physically strenuous work. In the adjusted models, onset of ERI was associated with onset of neck-shoulder pain (relative risk [RR] 1.51, 95% confidence interval [CI] 1.21-1.89) and low back pain (RR 1.21, 95% CI 0.97-1.50). The opposite was also observed, as onset of neck-shoulder pain increased the risk of subsequent onset of ERI (RR 1.36, 95% CI 1.05-1.74). Our findings suggest that when accounting for the temporal order, the associations between ERI and musculoskeletal pain that affects life are bidirectional, implying that interventions to both ERI and pain may be worthwhile to prevent a vicious cycle

Lau EY and Faulkner G. Program implementation and effectiveness of a national workplace physical activity intervention: UPnGO with ParticipACTION. Canadian Journal of Public Health. 2019; 110(2):187-197.

<https://doi.org/10.17269/s41997-018-0170-2>

Abstract: INTERVENTION: UPnGO with ParticipACTION (UPnGO) is a 6-week workplace physical activity (PA) initiative aiming to increase habitual PA (steps) during the workday. Core intervention components included (1) self-monitoring of steps and action planning behaviours using a Web/mobile app with incentives and (2) organizational support, which included senior management's role modeling and endorsement of the program. **RESEARCH QUESTION:** What is the effectiveness and levels of implementation of the UPnGO intervention? What is the relationship between effectiveness and levels of implementation? **METHODS:** A single-arm, pre-/post-test study design was used. Participants were 660 employees from nine organizations who had valid step data and complete socio-demographic information at baseline. The primary outcome (mean daily steps) was assessed by Garmin VivoFit. Using the usage data from the UPnGO web-based system, a composite score for levels of implementation was calculated based on participant's compliance with the self-monitoring component and senior management's role modeling. Associations of interest were analyzed using linear mixed-effects models. **RESULTS:** Levels of implementation were highly variable across organizations (mean = 68.22% +/- 18.75, range = 19.8 to 100%). A significant Time x Implementation (IM) status interaction effect was observed. When stratified by IM status, a significant increase in mean daily steps at week 6 was found among participants in the high (beta = 540.01 +/- 202.69, p = 0.011) but not low (beta = - 81.54 +/- 291.96, p = 0.78) implementation group. **CONCLUSION:** Findings suggest significant intervention effects in increasing average daily steps among participants who were exposed to optimal levels of implementation (~ 70%). UPnGO may be a scalable workplace PA intervention at a national level, although this needs further verification with more rigorous study designs

Lestari RI, Guo BHW, and Goh YM. Causes, solutions, and adoption barriers of falls from roofs in the Singapore construction industry. Journal of Construction Engineering and

Management. 2019; 145(5):04019027.

[https://doi.org/10.1061/\(ASCE\)CO.1943-7862.0001649](https://doi.org/10.1061/(ASCE)CO.1943-7862.0001649)

Li Y, Yin Y, Jia G, Chen H, Yu L, and Wu D. Effects of kinesiotape on pain and disability in individuals with chronic low back pain: a systematic review and meta-analysis of randomized controlled trials. Clinical Rehabilitation. 2019; 33(4):596-606.

<https://doi.org/10.1177/0269215518817804>

Abstract: OBJECTIVE:: To explore the effects of kinesiotape on pain and disability in individuals with chronic low back pain. DATA SOURCES:: PubMed, Embase and the Cochrane Central Register of Controlled Trials were searched for English language publications from inception to 13 February 2018. REVIEW METHODS:: This study was registered in PROSPERO (CRD42018089831). Our key search terms were ((kinesio taping) OR (kinesiotaping) OR (kinesiotape)) AND (low back pain). Randomized controlled trials evaluating the effects of kinesiotape published in English language were included in this review. The reference lists of retrieved studies and relevant reviews were also searched. Quality of the included trials was assessed according to 2015 updated Cochrane Back and Neck Review Group 13-Item criteria. RESULTS:: A total of 10 articles were included in this meta-analysis. A total of 627 participants were involved, with 317 in the kinesiotape group and 310 in the control group. The effects of kinesiotape on pain and disability were explored. While kinesiotape was not superior to placebo taping in pain reduction, either alone ($P = 0.07$) or in conjunction with physical therapy ($P = 0.08$), it could significantly improve disability when compared to the placebo taping ($P < 0.05$). CONCLUSION:: Since kinesiotape is convenient for application, it could be used for individuals with chronic low back pain in some cases, especially when the patients could not get other physical therapy

Lindsay S, Cagliostro E, Leck J, Shen W, and Stinson J. Employers' perspectives of including young people with disabilities in the workforce, disability disclosure and providing accommodations. Journal of Vocational Rehabilitation. 2019; 50(2):141-156.

<https://doi.org/10.3233/JVR-180996>

Mills CB, Keller M, Chilcutt A, and Nelson MD. No laughing matter: workplace bullying, humor orientation, and leadership styles. *Workplace Health & Safety*. 2019; 67(4):159-167.

<https://doi.org/10.1177/2165079918811318>

Abstract: Workplace bullying is associated with a host of negative outcomes for the worker who is the target of bullying, as well as for the organization where the bullying occurs. Moreover, we know that rates of bullying are particularly high in health care settings; however, we are less familiar with the factors that may reduce workplace bullying in hospitals. Thus, this study was conducted to determine whether the humor orientation styles of individuals, including nurses working in hospitals, as well as their managers' leadership styles, can influence perceptions of bullying in the workplace. Using data from 459 workers employed in a large hospital in the Southern United States, we examined associations between the Multidimensional Sense of Humor Scale, which has four dimensions, as well as the Multifactor Leadership Questionnaire, with three leadership substyles, and their associations with the risk of being bullied. We observed that one of the four humor subscales, Humor Appreciation, did affect perceptions of bullying in the workplace. The other three, Humor Recognition, Humor Production, and Humor for Coping, did not. However, the leadership styles of managers did affect reports of negative acts. In fact, transformational leadership was associated with 22% of the variance in reports of decreased bullying activity. This work is consistent with previous work on the importance of leadership styles for creating positive work environments, particularly in hospital settings. Given these findings, we offer suggestions for leaders to further improve nursing communication

Nordstoga AL, Vasseljen O, Meisingset I, Nilsen TIL, and Unsgaard-Tondel M. Improvement in work ability, psychological distress and pain sites in relation to low back pain prognosis: a longitudinal observational study in primary care. *Spine*. 2019; 44(7):E423-E429.

<https://doi.org/10.1097/BRS.0000000000002860>

Abstract: STUDY DESIGN: Prospective observational study pooled from two clinical cohorts. OBJECTIVE: To investigate the longitudinal relation between multisite pain, psychological distress, and work ability with disability, pain, and quality of life. SUMMARY OF

BACKGROUND DATA: Knowledge of prognostic factors is essential for better management of patients with low back pain (LBP). All domains of the biopsychosocial model have shown prognostic value; however, clinical studies rarely incorporate all domains when studying treatment outcome for patients with LBP. **METHODS:** A total of 165 patients with nonspecific LBP seeking primary care physiotherapy were included. Mixed-effects models were used to estimate longitudinal relations between the exposure variables and concurrent measures of outcomes at baseline and 3 months. Logistic regression was used to estimate odds ratios for minimal important difference in outcome. **RESULTS:** Higher work ability was associated with less disability -2.6 (95% confidence interval [CI]: -3.3, -2.0), less pain: -0.4 (95% CI: -0.5, -0.3), and higher quality of life 0.03 (95% CI: 0.02, 0.04). Higher psychological distress and number of pain sites were associated with higher disability: 10.9 (95% CI: 7.7, 14.1) and 2.3 (95% CI: 1.4, 3.2) higher pain: 1.9 (95% CI: 1.3, 2.5) and 0.4 (95% CI: 0.2, 0.5), and lower quality of life: -0.1 (95% CI: -0.2, -0.1) and -0.02 (95% CI: -0.03, -0.01), respectively. Improvement in work ability showed consistent associations with successful outcome for disability (odds ratio [OR]: 4.8, 95% CI: 1.3, 18.1), pain (OR: 3.6, 95% CI: 1.1, 12.1), and quality of life (OR: 4.5, 95% CI: 1.4, 15.1) at 3 months. Reduced psychological distress was associated with improvement in pain only (OR 4.0, 95% CI: 1.3, 12.3). **CONCLUSION:** More pain sites, higher psychological distress, or lower work ability showed higher disability, more pain, and lower quality of life in patients with LBP. Only improvement in work ability was consistently related to successful outcomes. **LEVEL OF EVIDENCE:** 2

Park H, Cho SI, and Lee C. Second hand smoke exposure in workplace by job status and occupations. *Annals of Occupational and Environmental Medicine*. 2019; 31:3.

<https://doi.org/10.1186/s40557-019-0282-z> [open access]

Abstract: Background: The objective of this study is to evaluate the risk of exposure to second hand smoke (SHS) during working hours by job status and occupation. Methods: Using the 4th Korean Working Conditions Survey (KWCS), 49,674 respondents who answered the question about SHS were studied. A chi-square test was carried out to determine whether there is a significant different in SHS exposure frequency by general and occupational characteristics

and experience of discrimination at work and logistic regression analysis was carried out to identify the risk level of SHS exposure by variables. Results: In this study, we found that male workers in their 40s and 50s, workers employed in workplaces with fewer than 50 employees, daily workers, and people working outdoors had a higher rate of exposure to SHS than the others. The top five occupations with the highest SHS exposure were construction and mining-related occupations, metal core-makers-related trade occupations, wood and furniture, musical instrument, and signboard-related trade occupations, transport and machine-related trade occupations, transport and leisure services occupations. The least five exposed occupations were public and enterprise senior officers, legal and administrative professions, education professionals, and health, social welfare, and religion-related occupations. Conclusion: Tobacco smoke is a significant occupational hazard. Smoking ban policy in the workplace can be a very effective way to reduce the SHS exposure rate in the workplace and can be more effective if specifically designed by the job status and various occupations

Rofcanin Y, Bakker AB, Berber A, Golgeci I, and Las Heras M. Relational job crafting: exploring the role of employee motives with a weekly diary study. Human Relations. 2018; 72(4):859-886. <https://doi.org/10.1177/0018726718779121>

Sharma M, Ugiliweneza B, Sirdeshpande P, Wang D, and Boakye M. Opioid dependence and health care utilization after decompression and fusion in patients with adult degenerative scoliosis. Spine. 2019; 44(4):280-290. <https://doi.org/10.1097/BRS.0000000000002794>

Abstract: STUDY DESIGN: Retrospective study. OBJECTIVE: To identify factors associated with opioid dependence after surgery for adult degenerative scoliosis (ADSc). SUMMARY OF BACKGROUND DATA: Opioid epidemic is of prodigious concern throughout the United States. METHODS: Data was extracted using national MarketScan database (2000-2016). Opioid dependence was defined as continued opioid use or >10 opioid prescriptions for 1 year either before or 3 to 15 months after the procedure. Patients were segregated into four groups based on opioid dependence before and postsurgery: NDND (before nondependent who remain non-

dependent), NDD (before nondependent who become dependent), DND (before dependent who become non-dependent) and DD (before dependent who remain dependent). Outcomes were discharge disposition, length of stay, complications, and healthcare resource utilization. RESULTS: Approximately, 35.82% (n = 268) of patients were identified to have opioid dependence before surgery and 28.34% (n = 212) were identified to have opioid dependence after surgery for ADSc. After surgical fusion for ADSc, patients were twice likely to become opioid independent than they were to become dependent (13.77% vs. 6.28%, OR: 2.191, 95% CI: 21.552-3.094; P < 0.0001). Before opioid dependence (RR: 14.841; 95% CI: 9.867, 22.323; P < 0.0001) was identified as a significant predictor of opioid dependence after surgery for ADSc. In our study, 57.9%, 6.28%, 13.77%, and 22.06% of patients were in groups NDND, NDD, DND, and DD respectively. DD and NDD were likely to incur 3.03 and 2.28 times respectively the overall costs compared with patients' ingroup NDND (P < 0.0001), at 3 to 15 months postsurgery (median \$21648 for NDD; \$40,975 for DD; and \$ 13571 for NDND groups). CONCLUSION: Surgery for ADSc was not associated with increased likelihood of opioid dependence, especially in opioid naive patients. Patients on regular opiate treatment before surgery were likely to remain on opiates after surgery. Patients who continued to be opioid dependent or become dependent after surgery incur significantly higher healthcare utilization at 3 and 3 to 15 months. LEVEL OF EVIDENCE: 4

Thornton J, Russek H, and O'Neil T. Turn and face the strange: changes impacting the future of employment in Canada.

Toronto, ON: Brookfield Institute for Innovation + Entrepreneurship; 2019.

<https://brookfieldinstitute.ca/wp-content/uploads/Turn-and-Face-the-Strange-FINAL-online.pdf>

van Altena AJ, Spijker R, and Olabarriaga SD. Usage of automation tools in systematic reviews. Research Synthesis Methods. 2019; 10(1):72-82.

<https://doi.org/10.1002/jrsm.1335>

Abstract: Systematic reviews are a cornerstone of today's evidence-informed decision making. With the rapid expansion of questions to

be addressed and scientific information produced, there is a growing workload on reviewers, making the current practice unsustainable without the aid of automation tools. While many automation tools have been developed and are available, uptake seems to be lagging. For this reason, we set out to investigate the current level of uptake and what the potential barriers and facilitators are for the adoption of automation tools in systematic reviews. We deployed surveys among systematic reviewers that gathered information on tool uptake, demographics, systematic review characteristics, and barriers and facilitators for uptake. Systematic reviewers from multiple domains were targeted during recruitment; however, responders were predominantly from the biomedical sciences. We found that automation tools are currently not widely used among the participants. When tools are used, participants mostly learn about them from their environment, for example, through colleagues, peers, or organization. Tools are often chosen on the basis of user experience, either by own experience or from colleagues or peers. Lastly, licensing, steep learning curve, lack of support, and mismatch to workflow are often reported by participants as relevant barriers. While conclusions can only be drawn for the biomedical field, our work provides evidence and confirms the conclusions and recommendations of previous work, which was based on expert opinions. Furthermore, our study highlights the importance that organizations and best practices in a field can have for the uptake of automation tools for systematic reviews

Vanti C, Andreatta S, Borghi S, Guccione AA, Pillastrini P, and Bertozzi L. The effectiveness of walking versus exercise on pain and function in chronic low back pain: a systematic review and meta-analysis of randomized trials. Disability and Rehabilitation. 2019; 41(6):622-632.

<https://doi.org/10.1080/09638288.2017.1410730>

Abstract: OBJECTIVE: Walking is commonly recommended to relieve pain and improve function in chronic low back pain. The purpose of this study was to conduct a systematic review and meta-analysis of randomized controlled trials concerning the effectiveness of walking interventions compared to other physical exercise on pain, disability, quality of life and fear-avoidance, in chronic low back pain.

METHODS: Randomized controlled trials investigating the effects of

walking alone compared to exercise and to exercise with added walking on adults with chronic low back pain were identified using the MEDLINE, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Physiotherapy Evidence Database (PEDro), Cochrane Central Register of Controlled Trials (CENTRAL), PsychINFO, and SPORT Discus(TM) databases. Two reviewers independently selected the studies and extracted the results. Study quality was assessed using the PEDro scale and the clinical relevance of each outcome measure was evaluated. RESULTS: Meta-analysis of five randomized controlled trials meeting inclusion criteria was performed. The effectiveness of walking and exercise at short-, mid-, and long-term follow-ups appeared statistically similar. Adding walking to exercise did not induce any further statistical improvement, at short-term. CONCLUSIONS: Pain, disability, quality of life and fear-avoidance similarly improve by walking or exercise in chronic low back pain. Walking may be considered as an alternative to other physical activity. Further studies with larger samples, different walking dosages, and different walking types should be conducted. Implications for Rehabilitation Walking is commonly recommended as an activity in chronic low back pain. Pain, disability, and fear-avoidance similarly improve by walking or exercise. Adding walking to exercise does not induce greater improvement in the short-term. Walking may be a less-expensive alternative to physical exercise in chronic low back pain

*IWH authored publications.