IWH Research Alert
March 20, 2020

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*Jones AM, Koehoorn M, and McLeod CB. Gender differences in surgery for work-related musculoskeletal injury: a population-based cohort study. Healthcare Policy. 2020; 15(3):47-62.
https://doi.org/10.12927/hcpol.2020.26131

Abstract: OBJECTIVE: The objective of this study is to examine if women are less likely than men to receive surgery following work-related musculoskeletal injury in the Canadian province of British Columbia. METHODS: The study included 2,403 workers with work-related knee meniscal tear, thoracic/lumbar disc displacement or rotator cuff tear. Probability of surgery was compared by gender using Kaplan-Meier methods and Cox proportional hazards models. RESULTS: For each injury type, a smaller proportion of women received surgery compared to men (knee: 76% vs. 80%; shoulder: 13% vs. 36%; back: 13% vs. 19%). In adjusted models, compared to men, women were 0.87 (95% confidence interval [CI] [0.69, 1.09]), 0.35 (95% CI [0.25, 0.48]) and 0.54 (95% CI [0.31, 0.95]) times less likely to receive knee, shoulder or back surgery, respectively. CONCLUSIONS: Probability of surgery following work-related musculoskeletal injury was lower for women than for men. Strategies to ensure gender equitable delivery of surgical services by workers' compensation systems may be warranted, although further research

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is necessary to investigate determinants of the gender difference and the impact of elective orthopaedic surgery on occupational outcomes

*Rieb LM, Samaan Z, Furlan AD, Rabheru K, Feldman S, Hung L, et al. Canadian guidelines on opioid use disorder among older adults. Canadian Geriatrics Journal. 2020; 23(1):123-134. https://doi.org/10.5770/cgj.23.420

Askenazy P and Cartron D. When preventing absenteeism fuels long-sickness leave: the case of a leading operator for local transport services. British Journal of Industrial Relations. 2020; 58(1):199-223. https://doi.org/10.1111/bjir.12495

Bodin J, Garlantezec R, Costet N, Descatha A, Viel JF, and Roquelaure Y. Shoulder pain among male industrial workers: validation of a conceptual model in two independent French working populations. Applied Ergonomics. 2020; 85:103075. https://doi.org/10.1016/j.apergo.2020.103075   [open access]
Abstract: This study aims to validate a conceptual model for shoulder pain risk factors in two independent samples of male industrial workers: the Cosali cohort (n = 334) and one pharmaceutical company (n = 487). Direct and indirect relationships between work organization factors (automatic speed of a machine or movement of a product and work pace dependent on customers' demand), psychosocial factors (Job strain model), biomechanical factors (working with abducted arms, working with arms at or above shoulder level, and perceived physical exertion), perceived stress, and shoulder pain were explored using structural equation models. Shoulder pain was positively associated with biomechanical exposure in both samples, and with perceived stress only in the pharmaceutical preparation manufacturer, while factors related to work organization and psychosocial factors had indirect impacts on the risk of chronic shoulder pain in both samples. The results provide a deeper understanding of the complex relationships between workplace risk factors and shoulder pain

Cannady R. Noise: not just in the workplace. Professional Safety. 2020; 65(3):32-38. https://www.onepetro.org/journal-paper/ASSE-20-03-32

Chapman E, Haby MM, Toma TS, de Bortoli MC, Illanes E, Oliveros MJ, et al. Knowledge translation strategies for dissemination with a focus on healthcare recipients: an overview of systematic reviews. Implementation Science. 2020; 15(1):14.

Abstract: BACKGROUND: While there is an ample literature on the evaluation of knowledge translation interventions aimed at healthcare providers, managers, and policy-makers, there has been less focus on patients and their informal caregivers. Further, no overview of the literature on dissemination strategies aimed at healthcare users and their caregivers has been conducted. The overview has two specific research questions: (1) to determine the most effective strategies that have been used to disseminate knowledge to healthcare recipients, and (2) to determine the barriers (and facilitators) to dissemination of knowledge to this group. METHODS: This overview used systematic review methods and was conducted according to a pre-defined protocol. A comprehensive search of ten databases and five websites was conducted. Both published and unpublished reviews in English, Spanish, or Portuguese were included. A methodological quality assessment was conducted; low-quality reviews were excluded. A narrative synthesis was undertaken, informed by a matrix of strategy by outcome measure. The Health System Evidence taxonomy for "consumer targeted strategies" was used to separate strategies into one of six categories. RESULTS: We identified 44 systematic reviews that describe the effective strategies to disseminate health knowledge to the public, patients, and caregivers. Some of these reviews also describe the most important barriers to the uptake of these effective strategies. When analyzing those strategies with the greatest potential to achieve behavioral changes, the majority of strategies with sufficient evidence of effectiveness were combined, frequent, and/or intense over time. Further, strategies focused on the patient, with tailored interventions, and those that seek to acquire skills and competencies were more effective in achieving these changes. In relation to barriers and facilitators, while the lack of health literacy or e-literacy could increase inequities, the benefits of social media were also emphasized, for example by widening access to health

information for ethnic minorities and lower socioeconomic groups. CONCLUSIONS: Those interventions that have been shown to be effective in improving knowledge uptake or health behaviors should be implemented in practice, programs, and policies-if not already implemented. When implementing strategies, decision-makers should consider the barriers and facilitators identified by this overview to ensure maximum effectiveness. PROTOCOL REGISTRATION: PROSPERO: CRD42018093245

Filtness AJ, Hickman JS, Mabry JE, Glenn L, Mao H, Camden M, et al. Associations between high caffeine consumption, driving safety indicators, sleep and health behaviours in truck drivers. Safety Science. 2020; 126:104664.
https://doi.org/10.1016/j.ssci.2020.104664

Garg A, Pathak H, Churyukanov MV, Uppin RB, and Slobodin TM. Low back pain: critical assessment of various scales. European Spine Journal. 2020; 29(3):503-518.
https://doi.org/10.1007/s00586-019-06279-5
Abstract: PURPOSE: To study the various pain assessment tools based on their psychometric properties and ease of use. METHODS: Published articles on psychometric properties of pain tools were accessed and data collected for low back pain (LBP)-specific tools, generic tools, neuropathic LBP tools, tools for cognitively impaired patients, and tools for acute LBP. RESULTS: Among the LBP-specific tools, Roland Morris Disability Questionnaire (RMDQ) and Oswestry Disability Index (ODI) have good construct validity and reliability, and responsiveness over short intervals. Quebec Back Pain Disability Scale (QBPDS) gauges only disability and sleep. Among the generic tools, McGill Pain Questionnaire (MPQ), West Haven-Yale Multidimensional Pain Inventory (MPI), and Brief Pain Inventory (BPI) show good responsiveness, but BPI is the only tool validated for LBP. Neuropathic Pain Scale (NPS) and Short Form-MPQ-2 (SF-MPQ-2) are both reliable tools for neuropathic LBP. For cognitively impaired patients, Pain Assessment in Advanced Dementia (PAINAD), Abbey Pain Scale (APS), and Doloplus-2 are all reliable tools, but PAINAD has good construct validity. For acute pain, Clinically Aligned Pain Assessment (CAPA) is reliable and responsive, but presently, unidimensional tools and SF-MPQ-2 are the tools most preferred.

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CONCLUSION: Based on psychometric properties and ease of use, the best tools for LBP seem to be RMDQ/ODI (among LBP-specific tools), BPI (among generic tools), SF-MPQ-2/NPS (for neuropathic LBP), PAINAD (for cognitively impaired patients), and unidimensional tools and SF-MPQ-2 (for acute pain). Overall, BPI seems to be a tool that can be relied upon the most. These slides can be retrieved under Electronic Supplementary Material

Hagqvist E, Vinberg S, Toivanen S, Hagstrom M, Granqvist S, and Landstad BJ. Falling outside the system: occupational safety and health inspectors' experiences of micro-enterprises in Sweden. Safety Science. 2020; 125:104631. https://doi.org/10.1016/j.ssci.2020.104631

Jung S, Lee J, and Lee K. Assessing the association between emotional labor and presenteeism among nurses in Korea: cross-sectional study using the 4th Korean Working Conditions Survey. Safety and Health at Work. 2020; 11(1):103-108. https://doi.org/10.1016/j.shaw.2019.12.002 [open access]

Abstract: Background Presenteeism has emerged as an important health-related issue and has been studied in a variety of occupation groups. This study examines the relationship between emotional labor and presenteeism in nurses in Republic of Korea. Methods As a cross-sectional study, our study was conducted on 328 female nurses participating in the fourth Korean Working Conditions Survey (2015). Nurses were identified by the Korean Industry Classification Code. Multivariable logistic regression analysis was performed to explore the association between emotional labor and presenteeism. Results Female nurses who always or sometimes hide their emotions in the workplace were found to have a high risk for presenteeism compared with female nurses who rarely hide their emotions in the workplace {odds ratio [OR] = 2.40 [95% confidence interval (CI) 1.04–5.54]; OR = 4.12 [95% CI 1.72–9.84], respectively}. Furthermore, the risk of presenteeism was higher in nurses who sometimes engaged with complaining customers compared with nurses who rarely did so, but it lacked statistical significance. Conclusion Presenteeism in nurses can cause various negative secondary effects; therefore, an alternative should be sought to mediate nurses' emotional labor to prevent presenteeism.

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Kalweit A, Herrick RF, Flynn MA, Spengler JD, Berko JK, Levy JI, et al. Eliminating take-home exposures: recognizing the role of occupational health and safety in broader community health. Annals of Work Exposures and Health. 2020; 64(3):236-249.
https://doi.org/10.1093/annweh/wxaa006

Abstract: Toxic contaminants inadvertently brought from the workplace to the home, known as take-home or paraoccupational exposures, have often been framed as a problem that arises due to unsanitary worker behavior. This review article conceptualizes take-home exposures as a public health hazard by (i) investigating the history of take-home contaminants and how they have been studied, (ii) arguing that an ecosocial view of the problem is essential for effective prevention, (iii) summarizing key structural vulnerabilities that lead populations to be at risk, and (iv) discussing future research and prevention effort needs. This article reframes take-home exposures as one of many chronic pathways that contributes to persistent health disparities among workers, their families, and communities. Including the role of work in community health will increase the comprehensiveness of prevention efforts for contaminants such as lead and pesticides that contribute to environmental disparities

Lawaree J, Jacob S, and Ouimet M. A scoping review of knowledge syntheses in the field of evaluation across four decades of practice. Evaluation and Program Planning. 2019; 79:101761.
https://doi.org/10.1016/j.evalprogplan.2019.101761

Abstract: This scoping review of 62 knowledge syntheses published in evaluation-focused journals between 1979 and May 2018 provides a portrait of synthesis practices and their evolution in the mainstream of the field of evaluation. Concerns surrounding the production of knowledge syntheses to answer policy questions are not new in the field of evaluation. However, during this last decade, knowledge synthesis methods have expanded as a means to go beyond the limits and constraints of singular evaluations. This scoping review reveals and discusses two key issues with regards to the expansion of knowledge synthesis practices within the field of evaluation: the diversity-and muddling- of methodological practices and synthesis designs, and the frequent omission of quality appraisals

Madsen AA. Return to work after first incidence of long-term sickness absence: a 10-year prospective follow-up study identifying labour-market trajectories using sequence analysis. Scandinavian Journal of Public Health. 2020; 48(2):134-143. https://doi.org/10.1177/1403494818821003

Abstract: Aims: The study aim was to identify prototypical labour-market trajectories following a first incidence of long-term sickness absence (LTSA), and to assess whether baseline socio-demographic characteristics are associated with the return-to-work (RTW) process and labour-market attachment (LMA). Methods: This prospective study used Norwegian administrative registers with quarterly information on labour-market participation to follow all individuals born 1952-1978 who underwent a first LTSA during the first quarter of 2004 (n =9607) over a 10-year period (2004-2013). Sequence analysis was used to identify prototypical labour-market trajectories and LMA; trajectory membership was examined with multinomial logistic regression. Results: Sequence analysis identified nine labour-market trajectories illustrating the complex RTW process, with multiple states and transitions. Among this sample, 68.2% had a successful return to full-time work, while the remaining trajectories consisted of part-time work, unemployment, recurrence of LTSA, rehabilitation and disability pension (DP). A higher odds ratio (OR) for membership to trajectories of weaker LMA was found for females and older participants, while being married/cohabitating, having children, working in the public sector, and having a higher education, income and occupational class were associated with a lower OR of recurrence, unemployment, rehabilitation and DP trajectories. These results are consistent with three LMA indicators. Conclusions: Sequence analysis revealed prototypical labour-market trajectories and provided a holistic overview of the heterogeneous RTW processes. While the most frequent outcome was successful RTW, several unfavourable labour-market trajectories were identified, with trajectory membership predicted by socio-demographic measures

Olesen K, Cleal B, and Willaing I. Discrimination and stigma among people with type 2 diabetes in the workplace: prejudice against illness or obesity? Public Health. 2020; 180:100-101. https://doi.org/10.1016/j.puhe.2019.11.009

Abstract: OBJECTIVES: Both obesity/overweight and type 2 diabetes

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(T2D) have been independently identified as being the basis for stigma and discrimination in the workplace. The study sought to test the hypothesis that people with T2D are at increased risk of discrimination and adverse self-reported psychosocial work environment. STUDY DESIGN: This study was based on survey data from 2415 working Danes with T2D (n = 586) and without T2D (n = 1829) recruited from online panels. Single self-reported items were used to obtain information about diabetes status, exposure to discrimination and other individual factors. METHODS: Descriptive statistics and linear regression were used for the data analysis. RESULTS: Six percent of the participants with T2D had experienced some type of discrimination at work, which was ascribed to their diabetes. People with diabetes had higher levels of effort-reward imbalance. When adjusting for body mass index, differences in relation to effort-reward imbalance were accounted for. CONCLUSIONS: People with T2D reported relatively poor psychosocial working environment compared with the general working population, but the difference was removed by adjusting for overweight/obesity. This indicates that T2D alone is not a source of stigma and discrimination in the context of work. Levels of perceived discrimination were notably lower than expected among people with diabetes as a whole, but a number of people, nonetheless, continue to be exposed to the destructive effects of discrimination in the context of work

Panken AM, Staal JB, and Heymans MW. Kinesiophobia is not required to predict chronic low back pain in workers: a decision curve analysis. BMC Musculoskeletal Disorders. 2020; 21(1):163. https://doi.org/10.1186/s12891-020-3186-8   [open access]
Abstract: BACKGROUND: Currently used performance measures for discrimination were not informative to determine the clinical benefit of predictor variables. The purpose was to evaluate if a former relevant predictor, kinesiophobia, remained clinically relevant to predict chronic occupational low back pain (LBP) in the light of a novel discriminative performance measure, Decision Curve Analysis (DCA), using the Net Benefit (NB). METHODS: Prospective cohort data (n = 170) of two merged randomized trials with workers with LBP on sickleave, treated with Usual Care (UC) were used for the analyses. An existing prediction model for chronic LBP with the variables 'a

clinically relevant change in pain intensity and disability status in the first 3 months', 'baseline measured pain intensity' and 'kinesiophobia' was compared with the same model without the variable 'kinesiophobia' using the NB and DCA. RESULTS: Both prediction models showed an equal performance according to the DCA and NB. Between 10 and 95% probability thresholds of chronic LBP risk, both models were of clinically benefit. There were virtually no differences between both models in the improved classification of true positive (TP) patients. CONCLUSIONS: This study showed that the variable kinesiophobia, which was originally included in a prediction model for chronic LBP, was not informative to predict chronic LBP by using DCA. DCA and NB have to be used more often to develop clinically beneficial prediction models in workers because they are more sensitive to evaluate the discriminate ability of prediction models

Rudkjoebing LA, Bungum AB, Flachs EM, Eller NH, Borritz M, Aust B, et al. Work-related exposure to violence or threats and risk of mental disorders and symptoms: a systematic review and meta-analysis. Scandinavian Journal of Work, Environment, & Health. 2020; [Epub ahead of print].
https://doi.org/10.5271/sjweh.3877   [open access]

Abstract: Objective This review aimed to examine systematically the epidemiological evidence linking work-related exposure to violence and threats thereof with risk of mental disorders and mental ill-health symptoms. Methods We searched PubMed, EMBASE, PsycINFO and Web of Science to identify original studies that provide quantitative risk estimates. The evidence was weighted according to completeness of reporting, potential common method bias, and bias due to differential selection and drop out, selective reporting, and misclassification of exposure and outcome. Results We identified 14 cross-sectional and 10 cohort studies with eligible risk estimates, of which 4 examined depressive disorder and reported an elevated risk among the exposed [pooled relative risk (RR) 1.42, 95% confidence interval (CI) 1.31-1.54, $I_{(2)}$=0%]. The occurrence of depressive and anxiety symptoms, burnout and psychological distress was examined in 17 studies (pooled RR 2.33, 95% CI 3.17, $I_{(2)}$=42%), and 3 studies examined risk of sleep disturbance (pooled RR 1.22, 95% CI 1.09-1.37, $I2$=0%). In most studies, common method bias and confounding could not be ruled out with confidence and strong

heterogeneity in most outcome definitions invalidate the strict interpretation of most pooled risk estimates. Conclusion The reviewed studies consistently indicate associations between workplace violence and mental health problems. However, due to methodological limitations the causal associations (if any) may be stronger or weaker than the ones reported in this study. Prospective studies with independent and validated reporting of exposure and outcome and repeated follow-up with relevant intervals are highly warranted

Sohn M, Brinkman R, and Wellman GS. Coprescription of opioid and naloxone in office-based practice and emergency department settings in the United States. Public Health. 2020; 180:82-84.
https://doi.org/10.1016/j.puhe.2019.11.014

Abstract: OBJECTIVES: The objective of the study was to estimate the national rates of naloxone coprescribing with opioids in office-based practice and emergency department (ED) settings in the United States (US). STUDY DESIGN: This study is a cross-sectional study. METHODS: We used the National Ambulatory Medical Care Survey (NAMCS) and the National Hospital Ambulatory Medical Care Survey (NHAMCS) datasets to estimate the national rates of naloxone coprescribing with opioids for the period 2014-2016. The analysis was stratified into office-based practice and ED settings. In ED settings, opioid and naloxone could be given to patients while they were in ED or as a prescription at discharge. Patients of all ages were considered for the analysis and sampling weights were applied to estimate national rates. RESULTS: In office-based settings, 7918 sample visits included one or more opioid prescriptions (10.67 per 100 office visits). Of those, one included naloxone as a coprescription. In ED settings, the opioid prescription was given at discharge in 6124 sample visits (9.68 per 100 ED visits). Of those, two included naloxone as a coprescription. On the other hand, opioid was given to patients in the ED in 8811 sample visits (13.57 per 100 ED visits). Of those, 30 included naloxone as a coprescription. CONCLUSIONS: The rates of naloxone coprescribing with opioids were extremely low in office-based and ED settings in the US. Expanding access to naloxone is a key component of the public health response to the opioid crisis. Based on our study findings,

promoting the coprescription of naloxone with opioids may provide greater access to naloxone for those who are at risk of opioid overdose

Stoesz B, Chimney K, Deng C, Grogan H, Menec V, Piotrowski C, et al. Incidence, risk factors, and outcomes of non-fatal work-related injuries among older workers: a review of research from 2010 to 2019. Safety Science. 2020; 126:104668.
https://doi.org/10.1016/j.ssci.2020.104668

Varghese BM, Hansen AL, Williams S, Bi P, Hanson-Easey S, Barnett AG, et al. Heat-related injuries in Australian workplaces: perspectives from health and safety representatives. Safety Science. 2020; 126:104651.
https://doi.org/10.1016/j.ssci.2020.104651

Yamada K, Adams H, Ellis T, Clark R, Sully C, and Sullivan MJL. Reductions in fatigue predict occupational re-engagement in individuals with work-related musculoskeletal disorders. Journal of Occupational Rehabilitation. 2020; 30(1):135-145.
https://doi.org/10.1007/s10926-019-09856-z
Abstract: Background Symptoms of fatigue have been shown to be associated with heightened levels of disability in patients suffering from a wide range of debilitating health and mental health conditions. The role of fatigue as a determinant of work disability in individuals with work-related musculoskeletal disorders (WRMD) has received little attention. The present study examined the role of fatigue as a determinant of work-disability in individuals with WRMDs. Methods Participants included 117 individuals with WRMDs who completed measures of pain severity, fatigue, depression and disability before and after participating in a behavioral activation rehabilitation intervention. Results Cross-sectional analyses on pre-treatment measures revealed that fatigue contributed significant variance to the prediction of self-reported disability, beyond the variance accounted for by pain severity and depression. Prospective analyses revealed that reductions in fatigue through the course of treatment predicted occupational re-engagement following termination of the intervention. Conclusions The results of the present study suggest fatigue contributes to occupational disability, independent of the effects of

pain and depression. The findings also suggest that meaningful reductions in fatigue might be achieved through psychosocial interventions that promote gradual re-integration into discontinued activities, increase participants' exposure to success and achievement experiences, and reduce the severity of depressive symptoms. Behavioural activation interventions such as the one used in the present study might contribute to more positive occupational outcomes in work-disabled individuals who report high levels of fatigue

Zhang M, Shi R, and Yang Z. A critical review of vision-based occupational health and safety monitoring of construction site workers. Safety Science. 2020; 126:104658.
https://doi.org/10.1016/j.ssci.2020.104658

*IWH authored publications.