**IWH Research Alert**
**February 5, 2021**


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**\*Gignac MAM, Jetha A, Ginis KAM, and Ibrahim S. Does it matter what your reasons are when deciding to disclose (or not disclose) a disability at work? The association of workers' approach and avoidance goals with perceived positive and negative workplace outcomes. Journal of Occupational Rehabilitation. 2021; [epub ahead of print].**
**https://doi.org/10.1007/s10926-020-09956-1   [open access]**
Abstract: Deciding whether to disclose a disability to others at work is complex. Many chronic mental and physical health conditions are associated with episodic disability and include times of relative wellness punctuated by intermittent periods of activity limitations. This research draws on the disclosure processes model to examine approach and avoidance disclosure and non-disclosure goals and their association with perceived positive and negative workplace outcomes. Participants were 896 employed individuals (57.7% women) living with a chronic physical or mental health/cognitive condition. They were recruited from an existing national panel and completed an online, cross-sectional survey. Participants were asked about disclosure decisions, reasons for disclosure/non-disclosure, demographic, work context and perceived positive and negative

disclosure decision outcomes (e.g., support, stress, lost opportunities). About half the sample (51.2%) had disclosed a disability to their supervisor. Decisions included both approach and avoidance goals. Approach goals (e.g., desire support, want to build trust, maintain the status quo at work) were significantly associated with perceived positive work outcomes regardless of whether a participant disclosed or did not disclose a disability at work, while avoidance goals (e.g., concerns about losing one's job, feeling forced to disclose because others notice a problem) were associated with perceived negative work outcomes. The findings highlight benefits and challenges that workers perceive arise when they choose to disclose or not disclose personal health information. By better understanding disclosure decisions, we can inform organizational health privacy and support gaps to help sustain the employment of people living with disabilities

**\*Jetha A, Le Pouesard M, Mustard C, Backman C, and Gignac MAM. Getting the message right: evidence-based insights to improve organizational return-to-work communication practices. Journal of Occupational Rehabilitation. 2021; [epub ahead of print].**
Abstract: Purpose There is an absence of evidence-based guidance to support workplace stakeholders in the effective delivery of return-to-work (RTW) messages. Our study examines the specific RTW communication practices and their impact on the management of work disability. Methods Within two large and complex healthcare organizations, semi-structured interviews were conducted with workplace stakeholders (e.g., supervisors, union representatives, disability management professionals and workers' compensation representatives) and workers who had previously experienced sickness absence related to an occupational injury or illness. For workplace stakeholders interview questions asked about their roles and responsibilities in the RTW process, and specific communication strategies and messages that were used at different phases of the RTW process. For worker participants, interview questions explored RTW experiences and the impact of communication on work re-integration. An interpretative descriptive approach was used to inductively examine themes from interviews to create ways of

understanding phenomena that yielded applied findings. Results Forty participants were interviewed including workplace stakeholders and workers. Participants frequently described effective RTW communication as messages that were delivered by a workplace stakeholder that included the content required by an injured worker to navigate the organizational disability management process and utilized specific strategies to address the perceived attitudes and perceptions held by an injured worker regarding work re-integration. Workplace stakeholders described five specific communication strategies including relaying messages of support, optimizing the timing of communication, careful word choice, framing messages, and tailoring communication to the injured worker.  Conclusion RTW communication is an active process that requires a strategic approach. Effective communication practices represent an important strategy for workplace stakeholders to address the barriers held by injured workers and foster early and sustained RTW

**Arslan IG, Dijksma I, van Etten-Jamaludin FS, Lucas C, and Stuiver MM. Nonexercise interventions for prevention of musculoskeletal injuries in armed forces: a systematic review and meta-analysis. American Journal of Preventive Medicine. 2021; 60(2):e73-e84.**
Abstract: CONTEXT: This study evaluates the effect of nonexercise interventions on the reduction of risk for musculoskeletal injuries in armed forces. EVIDENCE ACQUISITION: A database search was conducted in PubMed/MEDLINE, Embase, Cochrane Library, CINAHL, SPORTdiscus, Greylit, Open Grey, the WHO trial registry, and the reference lists of included articles up to July 2019. RCTs and cluster RCTs evaluating nonexercise interventions for the prevention of musculoskeletal injuries in armed forces compared with any other intervention(s) or no intervention were eligible for inclusion. Data extraction and risk of bias assessment were done by 2 authors independently, followed by meta-analysis and Grading of Recommendations Assessment, Development, and Evaluation assessment, if appropriate. EVIDENCE SYNTHESIS: This study included 27 articles with a total number of 25,593 participants, examining nutritional supplementation, prophylactic medication, and equipment modifications with mostly high or unclear risk of bias.

Meta-analysis and Grading of Recommendations Assessment, Development, and Evaluation assessment could be performed for 3 comparisons: custom-made insoles versus no insoles, tropical/hot-weather boots versus leather boots, and shock-absorbing insoles versus nonshock-absorbing insoles interventions, all showing the very low quality of evidence. Some evidence was found to support the preventive effect of shock-absorbing insoles, basketball shoes, padded polyester socks, calcium with vitamin D supplementation, only calcium supplementation, protein supplementation, and dynamic patellofemoral braces. CONCLUSIONS: Although an evidence base for the efficacy of preventive interventions for musculoskeletal injuries in armed forces is weak, there are some indications for the preventive effect of shock-absorbing insoles, basketball shoes, padded polyester socks, supplementation of calcium alone or combined with vitamin D, protein supplementation, and dynamic patellofemoral braces on the incidence of musculoskeletal injuries

**Blakely T, Moss R, Collins J, Mizdrak A, Singh A, Carvalho N, et al. Proportional multistate lifetable modelling of preventive interventions: concepts, code and worked examples. International Journal of Epidemiology. 2020; 49(5):1624-1636.**
Abstract: Burden of Disease studies-such as the Global Burden of Disease (GBD) Study-quantify health loss in disability-adjusted life-years. However, these studies stop short of quantifying the future impact of interventions that shift risk factor distributions, allowing for trends and time lags. This methodology paper explains how proportional multistate lifetable (PMSLT) modelling quantifies intervention impacts, using comparisons between three tobacco control case studies [eradication of tobacco, tobacco-free generation i.e. the age at which tobacco can be legally purchased is lifted by 1 year of age for each calendar year) and tobacco tax]. We also illustrate the importance of epidemiological specification of business-as-usual in the comparator arm that the intervention acts on, by demonstrating variations in simulated health gains when incorrectly: (i) assuming no decreasing trend in tobacco prevalence; and (ii) not including time lags from quitting tobacco to changing disease incidence. In conjunction with increasing availability of baseline and forecast demographic and epidemiological data, PMSLT modelling is

well suited to future multiple country comparisons to better inform national, regional and global prioritization of preventive interventions. To facilitate use of PMSLT, we introduce a Python-based modelling framework and associated tools that facilitate the construction, calibration and analysis of PMSLT models

**Boon MH and Thomson H. The effect direction plot revisited: application of the 2019 Cochrane Handbook guidance on alternative synthesis methods. Research Synthesis Methods. 2021; 12(1):29-33.**
Abstract: Effect direction (evidence to indicate improvement, deterioration, or no change in an outcome) can be used as a standardized metric which enables the synthesis of diverse effect measures in systematic reviews. The effect direction (ED) plot was developed to support the synthesis and visualization of effect direction data. Methods for the ED plot require updating in light of new Cochrane guidance on alternative synthesis methods. To update the ED plot, statistical significance was removed from the algorithm for within-study synthesis and use of a sign test was considered to examine whether patterns of ED across studies could be due to chance alone. The revised methods were applied to an existing Cochrane review of the health impacts of housing improvements. The revised ED plot provides a method of data visualization in synthesis without meta-analysis that incorporates information about study characteristics and study quality, using ED as a common metric, without relying on statistical significance to combine outcomes of single studies. The results of sign tests, when appropriate, suggest caution in over-interpreting apparent patterns in effect direction, especially when the number of included studies is small. The revised ED plot meets the need for alternative methods of synthesis and data visualization when meta-analysis is not possible, enabling a transparent link between the data and conclusions of a systematic review. ED plots may be particularly useful in reviews that incorporate nonrandomized studies, complex systems approaches, and diverse sources of evidence, due to the variety of study designs and outcomes in such reviews

**Brosseau LM, Rosen J, and Harrison R. Selecting controls for minimizing SARS-COV-2 aerosol transmission in workplaces and conserving respiratory protective equipment supplies. Annals of Work Exposures and Health. 2021; 65(1):53-62.** https://doi.org/10.1093/annweh/wxaa083 **[open access]**

Abstract: With growing evidence of inhalation of small infectious particles as an important mode of transmission for SARS-CoV-2, workplace risk assessments should focus on eliminating or minimizing such exposures by applying the hierarchy of controls. We adapt a control banding model for aerosol-transmissible infectious disease pandemic planning to encourage the use of source and pathway controls before receptor controls (personal protective equipment). Built on the recognition that aerosol-transmissible organisms are likely to exhibit a dose-response function, such that higher exposures result from longer contact times or higher air concentrations, this control banding model offers a systematic method for identifying a set of source and pathway controls that could eliminate or reduce the need for receptor controls. We describe several examples for workers at high risk of exposure in essential or return to work categories. The goal of using control banding for such workers is to develop effective infection and disease prevention programs and conserve personal protective equipment

**Dettmann MM and Hasselhorn HM. Helpfulness of workplace accommodations in maintaining health and work ability in older employees with poor health in Germany. Journal of Occupational & Environmental Medicine. 2021; 63(1):e1-e6.** https://doi.org/10.1097/JOM.0000000000002069

Abstract: OBJECTIVE: Supporting employees with health impairments to stay at work through workplace accommodation is a well-researched topic. However, research on workplace accommodations for older employees is lacking. METHODS: Cross-sectional data from the German lidA cohort study in 2018 focusing on older employees who reported poor health (n=421) was analyzed. A multiple logistic regression analysis was conducted to asses a potential association between the accommodation type and perceived helpfulness of workplace accommodations in older employees with poor health. RESULTS: Changes in working times (OR 6.59), in work tasks (OR 3.50) and in the workplace (OR 2.57) were perceived as

most helpful. CONCLUSION: The results indicate that workplace accommodations can be helpful in older employees with health impairments and that this is not by chance, but that the perceived effectiveness has determinants and can be influenced

**Etowa J and Hyman I. Unpacking the health and social consequences of COVID-19 through a race, migration and gender lens. Canadian Journal of Public Health. 2021; 112(1):8-11.**
https://doi.org/10.17269/s41997-020-00456-6    [open access]
Abstract: The ongoing COVID-19 pandemic has emerged as an unprecedented challenge for healthcare systems across the world. To date, there has been little application of a race, migration and gender lens to explore the long-term health and social consequences of COVID-19 in African, Caribbean and Black (ACB) communities in Canada, who have been disproportionately impacted by this pandemic. The evidence presented in this commentary suggests that recovery strategies need to adopt an intersectional lens taking into account race, migration and gender since ACB women and ACB immigrant women have been among the populations most impacted both personally and economically. To do so, there is an urgent need to incorporate variables capturing race, beyond "visible minority" status; gender, beyond looking at differences between women and men; and factors to help understand the complexities of migration trajectories (i.e., beyond the dichotomy of born in Canada versus not born in Canada categories) in Canadian datasets. We provide examples of policy and practice initiatives that will be urgently required to address the needs of these population groups as these race-based data become available

**Guo BHW, Zou Y, Fang Y, Goh YM, and Zou PXW. Computer vision technologies for safety science and management in construction: a critical review and future research directions. Safety Science. 2021; 135:105130.**
https://doi.org/10.1016/j.ssci.2020.105130

**Hedlund A, Boman E, Kristofferzon ML, and Nilsson A. Beliefs about return to work among women during/after long-term sick leave for common mental disorders: a qualitative study based**

**on the theory of planned behaviour. Journal of Occupational Rehabilitation. 2021; [epub ahead of print].**
https://doi.org/10.1007/s10926-020-09946-3

Abstract: PURPOSE: Long-term sick leave due to common mental disorders (CMDs) is an increasing problem, especially among women. To help these women return to work (RTW) sustainably, we need to know more about their own beliefs about RTW. One applicable theory is the theory of planned behaviour (TPB). Thus, the present study aimed to describe, based on the TPB, women's beliefs about RTW during or after long-term sick leave for a CMD. METHODS: A qualitative approach was used. Twenty women were included during a long-term sick leave period due to a CMD. A deductive content analysis was conducted using predetermined factors from the TPB: behavioural beliefs (advantages-disadvantages of RTW), normative beliefs (supporters and non-supporters of RTW), and control beliefs (facilitators of-barriers to RTW). RESULTS: The women believed that RTW would give them meaning and balance in life, but also that it would be challenging to maintain balance after RTW. They believed they had several supporters of RTW, but that the support was sometimes perceived as stressful rather than encouraging. Furthermore, individual adaptation and high demands were the most mentioned facilitator and barrier, respectively. Workplace conditions and personal strategies were thought to be important aspects. CONCLUSIONS: By using the TPB, the present study was able to offer new findings on women's beliefs about RTW after long-term sick leave for a CMD. Based on the findings, we suggest that various RTW stakeholders should focus on striving to provide the tasks and work pace women need so they can maintain their professional competence and sense of meaning

**Hoel V, von Zweck C, and Ledgerd R. Was a global pandemic needed to adopt the use of telehealth in occupational therapy? Work. 2021; 68(1):13-20.**
https://doi.org/10.3233/WOR-205268

Abstract: BACKGROUND: An analysis of data from an international survey was undertaken to determine the impact of the COVID-19 pandemic on telehealth practice in occupational therapy worldwide, in addition to facilitators and barriers in utilising this form of service delivery. METHOD: The global online survey was circulated in the

occupational therapy community by the World Federation of Occupational Therapists (WFOT) between April and July 2020, collecting responses to closed-ended questions, in addition to free-text comments. Descriptive statistics and bivariate analyses were used to assess relationships between respondent characteristics and the utilisation of telehealth. Thematic statement analysis provided further insight regarding factors impacting telehealth use. RESULTS: Findings revealed a significant increase in the use of telehealth strategies with the onset of the pandemic among survey respondents, with many reported benefits. Bivariate analyses indicated telehealth users were more likely to score higher feelings of safety and positive work morale, as well as perceive employer expectations to be reasonable. Restricted access to technology, limitations of remote practice, funding issues and slow pace of change were identified as barriers for some respondents to utilising telehealth. Facilitators included availability of supportive policy, guidelines and strategies, in addition to education and training. CONCLUSION: This study advances the understanding of the current scope of occupational therapy telehealth practice in the context of the ongoing COVID-19 pandemic. Although results suggest long-term potential for telehealth use as an adjunct to traditional service provision, important considerations were identified regarding factors influencing integration of such strategies

**Iversen IB, Mohr MS, Vestergaard JM, Stokholm ZA, and Kolstad HA. Occupational styrene exposure and risk of encephalopathy and unspecified dementia: a long-term follow-up study of workers of the reinforced plastics industry. American Journal of Epidemiology. 2020; 190(2):288-294.**
**https://doi.org/10.1093/aje/kwaa170    [open access]**
Abstract: Industrial solvents exposure has been associated with encephalopathy. As styrene is a neurotoxic industrial solvent, we investigated the long-term risk of encephalopathy and unspecified dementia following styrene exposure. We followed 72,465 workers of the reinforced plastics industry in Denmark 1977-2011 and identified incident cases of encephalopathy (n=228) and unspecified dementia (n=565) in national registers. Individual styrene exposure levels were modeled from information on occupation, measurements of work place styrene levels, product, process, and years of employment.

Adjusted analyses were conducted with a discrete survival function. A positive trend for encephalopathy (P < 0.01) and a negative trend for unspecified dementia (P=0.03) were seen with cumulative styrene exposure accrued during the recent < 15 years. For unspecified dementia and unspecified dementia and encephalopathy combined, a positive trend was indicated when applying a 30-year exposure lag (P =0.13 and P =0.07). The risk patterns seen following recent exposure probably reflect diagnostic criteria for encephalopathy requiring recent industrial solvent exposure and referral bias and not association with styrene exposure, while the increasing risk observed for unspecified dementia and combined encephalopathy and unspecified dementia following distant exposure indicates an increased risk of dementia following styrene exposure with a long latency period

**McIlveen P, Hoare PN, Perera HN, Kossen C, Mason L, Munday S, et al. Decent work's association with job satisfaction, work engagement, and withdrawal intentions in Australian working adults. Journal of Career Assessment. 2020; 29(1):18-35.**
**https://doi.org/10.1177/1069072720922959**

**Ramos AK, Carvajal-Suarez M, Trinidad N, Quintero S, Molina D, and Rowland SA.  "No somos máquinas" (We are not machines): worker perspectives of safety culture in meatpacking plants in the Midwest. American Journal of Industrial Medicine. 2021; 64(2):84-96.**
**https://doi.org/10.1002/ajim.23206**
Abstract: BACKGROUND: Meatpacking is dangerous, dirty, and demanding (3-D) work-much of which is done by immigrant workers. It is characterized by high rates of occupational injuries and illnesses due to the speed of the production line, repetitive motions, and other inherent exposures. The purpose of this qualitative study was to explore perceptions of safety culture among Hispanic/Latino meatpacking workers in the Midwest. METHODS: Five focus groups with a total of 28 participants were conducted between March 2019 and February 2020 with Hispanic/Latino meatpacking workers in Nebraska. Workers were asked about the type of work performed, how the work was physically done, and perceptions of health risks and exposures. Thematic analysis was used to build a description of

safety culture within the meatpacking industry. RESULTS: Three main themes were found: (1) workers depicted a culture where companies cared more about production than people; (2) workers felt powerless in improving their situation; and (3) workers noted that the work was precarious, both dangerous and one where much of the responsibility for safety was shifted to the individual workers. CONCLUSIONS: The meatpacking industry has a poor safety culture. Safety culture within the industry may be improved by ensuring that organizational values and artifacts are aligned with safety by addressing the critical role of supervisors, providing culturally and linguistically appropriate consistent safety training and messaging to the workforce, and enforcing and strengthening safety regulations

**Sarker P, Norasi H, Koenig J, Hallbeck MS, and Mirka G. Effects of break scheduling strategies on subjective and objective measures of neck and shoulder muscle fatigue in asymptomatic adults performing a standing task requiring static neck flexion. Applied Ergonomics. 2021; 92:103311.**
https://doi.org/10.1016/j.apergo.2020.103311

Abstract: Sustained non-neutral postures of the head/neck are related to transient neck discomfort and longer-term disorders of the neck. Periodic breaks can help but the ideal length and frequency of breaks are yet to be determined. The current study aimed to quantify the effects of three work-rest strategies on fatigue development. Participants maintained a 45-degree neck flexion posture for a total of 60 min and were provided 3 min of rest distributed in different ways throughout the experiment [LONG (one, 3-min break), MEDIUM (two, 1.5-min breaks), or SHORT (five, 36-s breaks)]. Surface electromyography data were collected from the bilateral neck extensors and trapezius. Subjective discomfort/fatigue ratings were also gathered. Results of the analysis of the EMG data revealed that the SHORT condition did not show increased EMG activity, while LONG [21%] and MEDIUM [10%] did ($p < 0.05$), providing objective data supporting the guidance of short, frequent breaks to alleviate fatigue.

**Schopf AK, Stouten J, and Schaufeli WB. The role of leadership in air traffic safety employees' safety behavior . Safety Science.**

2021; 135:105118.
https://doi.org/10.1016/j.ssci.2020.105118

Zhang M. Estimation of differential occupational risk of COVID-19 by comparing risk factors with case data by occupational group. American Journal of Industrial Medicine. 2021; 64(1):39-47.
https://doi.org/10.1002/ajim.23199
Abstract: Background: The disease burden of coronavirus disease 2019 (COVID-19) is not uniform across occupations. Although healthcare workers are well-known to be at increased risk, data for other occupations are lacking. In lieu of this, models have been used to forecast occupational risk using various predictors, but no model heretofore has used data from actual case numbers. This study assesses the differential risk of COVID-19 by occupation using predictors from the Occupational Information Network (O*NET) database and correlating them with case counts published by the Washington State Department of Health to identify workers in individual occupations at highest risk of COVID-19 infection. Methods: The O*NET database was screened for potential predictors of differential COVID-19 risk by occupation. Case counts delineated by occupational group were obtained from public sources. Prevalence by occupation was estimated and correlated with O*NET data to build a regression model to predict individual occupations at greatest risk. Results: Two variables correlate with case prevalence: disease exposure (r = 0.66; p = 0.001) and physical proximity (r = 0.64; p = 0.002), and predict 47.5% of prevalence variance (p = 0.003) on multiple linear regression analysis. The highest risk occupations are in healthcare, particularly dental, but many nonhealthcare occupations are also vulnerable. Conclusions: Models can be used to identify workers vulnerable to COVID-19, but predictions are tempered by methodological limitations. Comprehensive data across many states must be collected to adequately guide implementation of occupation-specific interventions in the battle against COVID-19.

*IWH authored publications.