

**ABOUT RESEARCH ALERT**

*Research Alert* is a service provided to you by the Institute for Work & Health (IWH) to help you keep abreast of recent literature in the areas of occupational health and safety, epidemiology, public health and others within the IWH mandate. Please note that these articles have not been reviewed by Institute scientists to assess the quality of the studies. Research Alerts should not be considered an endorsement of the findings. Readers are cautioned not to act on the results of single studies, but rather to seek bodies of evidence. It should also be noted that the Institute for Work & Health cannot provide full-text of articles listed in Research Alerts to individuals outside of the organization, as this violates copyright legislation.

Journal articles marked with an asterisk indicate an IWH scientist or adjunct scientist is included in the list of authors.

**\*Mustard CA, Orchard C, Dobson KG, Carnide N, and Smith PM. The adequacy of workplace accommodation and the incidence of permanent employment separations after a disabling work injury or illness. *Scandinavian Journal of Work, Environment & Health*. 2024; [epub ahead of print]. <https://doi.org/10.5271/sjweh.4149> [open access]**

Abstract: OBJECTIVE: This study aimed to estimate the influence of the adequacy of employer accommodations of health impairments in predicting permanent separation from the employment relationship in a cohort of workers disabled by a work-related injury or illness. METHODS: The study used data from a retrospective, observational cohort of 1793 Ontario workers who participated in an interviewer-administered survey 18 months following a disabling injury or illness. The relative risks (RR) of a permanent employment separation associated with inadequate employer accommodations were estimated using inverse probability of treatment weights to reduce confounding. RESULTS: Over the 18-month follow-up, the incidence of permanent separation was 30.1/100, with 49.2% of separations related to health status. Approximately 51% of participants experiencing a separation were exposed to inadequate workplace accommodations, compared to 27% of participants in continuing employment. The propensity score adjusted RR of a health-related separation associated with inadequate accommodation was substantial [RR 2.72; 95% confidence interval (CI) 2.20-3.73], greater than the RR of separations not related to health (RR 1.68; 95% CI 1.38-2.21). CONCLUSIONS: Incidence of permanent separation in this cohort of Ontario labor force participants was approximately two times more frequent than would be expected. The adequacy of employer accommodation was a strong determinant of the risk of permanent separation. These findings emphasize the potential for strengthened workplace accommodation practices in this setting

**Baldwin ML, DeSerpa AC, and Marcus SC. Workplace disclosure of serious mental illness and gainful employment: theory and evidence. *Journal of Mental Health Policy and Economics*. 2023; 26(1):3-17.**

**[doi unavailable as of March 8, 2024]**

**Abstract:** Background: This study provides the first systematic analysis of the association between workplace disclosure of serious mental illness (SMI) and the probability of gainful employment, among workers employed in regular jobs. By regular job, we mean one that pays at least minimum wage, is not set aside for persons with disabilities, and was not obtained with assistance of mental health services. By gainful employment, we mean a regular job with monthly earnings that exceed the maximum allowable earned income for receipt of Social Security Disability Insurance. Aims: Among persons with SMI who are capable of working in regular jobs, we aim to identify: (i) what individual and work-related factors are associated with the decision to disclose mental illness at work; and (ii) how the decision to disclose is related to the probability of gainful employment. Methods: The analyses are based on a theoretical framework in which workers choose a level of disclosure to maximize utility from the benefits of employment, subject to constraints associated with mental illness-related stigma. We specify a bivariate probit regression in which the probabilities of disclosure and gainful employment are determined jointly. The model is estimated with data from a national survey of 602 workers, with schizophrenia, bipolar disorder, or major depression, who were employed in regular jobs post-onset of illness. Results: The results identify individual (e.g. younger age, less self-stigma, more severe cognitive limitations) and work-related (e.g. longer job tenure, supportive firm, administrative support occupation) factors significantly associated with the probability of disclosure. The results also indicate that disclosure has a significant positive association with the probability of gainful employment, when the empirical model controls for the endogeneity of disclosure in the employment function. Other variables that have a significant positive association with gainful employment include education, job autonomy, and employment in a white-collar occupation. Discussion: The data support the hypothesis that workers with SMI make the decision to disclose their condition based on the probability of a positive response from their employer, and this rational behavior is likely the reason for the strong correlation between disclosure and the probability of gainful employment. However, a limitation of the study is that our retrospective survey design cannot identify causal relationships. Implications for health care provision and use: Work is an important recovery goal for many workers with SMI, so the disclosure decision is likely to be a significant topic of discussion between workers and their health care providers. Implications for health policies: Amid the current focus on wellness in the workplace, policies aimed at reducing the stigma of mental illness at work, and promoting more tolerant and supportive workplace cultures, can improve the probability of gainful employment for workers with SMI. Implications for further research: Further research is needed to design and implement workplace interventions that minimize the monetary/nonmonetary costs of disclosure for workers with SMI in regular jobs.

**Bonner C and Ghouralal SL. Long COVID and chronic conditions in the US workforce: prevalence, productivity loss, and disability. *Journal of Occupational & Environmental Medicine*. 2024; 66(3):e80-e86.**

<https://doi.org/10.1097/JOM.0000000000003026>

**Abstract:** OBJECTIVE: This study examines how long COVID, chronic conditions, and work outcomes affect the general workforce. METHODS: It examines the prevalence of long COVID and its

associations with chronic conditions, and other sociodemographic characteristics using 2022 National Health Interview Survey data. RESULTS: Long COVID affected work attendance and disability risk, especially in those with mental health issues, angina, stroke, cancer, diabetes, chronic lung conditions, and musculoskeletal conditions. CONCLUSION: This study reveals the relationships between long COVID, chronic conditions, and work outcomes

**Crawford JA, Sanyal S, Burnett BR, Wiesenfeld SL, and Abraham JL. Accelerated silicosis in sandblasters: pathology, mineralogy, and clinical correlates. American Journal of Industrial Medicine. 2024; 67(3):179-199.**

<https://doi.org/10.1002/ajim.23561>

Abstract: BACKGROUND: With increasing reports of accelerated and acute silicosis, PMF, and autoimmune disease among coal miners and silica-exposed countertop workers, we present previously incompletely-described pulmonary pathology of accelerated silicosis and correlations with mineralogy, radiography, and disease progression in 46 Texas oilfield pipe sandblasters who were biopsied between 1988 and 1995. METHODS: Worker examinations included pulmonary function tests, chest X-ray (CXR), high-resolution computed tomography (HRCT), and Gallium-67 scans. Quantitative mineralogic analysis of pulmonary parenchymal burden of silica, silicates, and metal particles used scanning electron microscopy with energy dispersive x-ray spectroscopy (SEM EDS). RESULTS: Workers had clinical deterioration after <10 years exposure in dusty workplaces. Although initial CXR was normal in 54%, Gallium-67 scans were positive in 68% of those with normal CXR, indicating pulmonary inflammation. The histology of accelerated silicosis is diffuse interstitial infiltration of macrophages filled with weakly birefringent particles with or without silicotic nodules or alveolar proteinosis. Lung silica concentrations were among the highest in our database, showing a dose-response relationship with CXR, HRCT, and pathologic changes (macrophages, fibrosis, and silicotic nodules). Radiographic scores and diffusing capacity worsened during observation. Silica exposure was intensified, patients presented younger, with shorter exposure, more severe clinical abnormalities, higher lung particle burdens, and more rapid progression in a subset of patients exposed to recycled blasting sand. CONCLUSIONS: Accelerated silicosis may present with a normal CXR despite significant histopathology. Multivariable analyses showed silica, and not other particles, is the driver of observed radiologic, physiologic, and histologic outcomes. Eliminating this preventable disease requires higher physician, public health, and societal awareness

**Dupont F, Arabi Kugathan T, Reid RER, and Mathieu ME. Active time at work following the introduction of a standing and a cycling workstation into worker's office space. International Journal of Occupational Safety & Ergonomics. 2024; 30(1):161-167.**

<https://doi.org/10.1080/10803548.2023.2284012>

Abstract: Objectives. Active workstations have been proposed to counteract sedentary behavior at work. This study describes office workers' use of and perceptions toward standing and cycling workstations, and assesses whether the two active workstations were sufficient to break sitting time and replace it with 2-4 h of light activity per workday. Methods. This mixed-method study utilized video recording, semi-structured interviews and a questionnaire. The quantitative data covered time spent sitting, standing and on a cycling workstation. The qualitative data were analyzed based on preferences, barriers and facilitators. Results. Participants (n = 15) used active workstations 125.3 (74.5) min/day and spent 79.0 (63.6) min/day using standing versus 46.3 (47.6) min/day using cycling

workstations ( $p = 0.153$ ,  $d = 0.58$ ). Following the interviews, the standing workstation was preferred over cycling. The ergonomics of the cycling workstation were not optimal and caused discomfort in use. Seven participants broke their sitting time and accumulated 2+ h of light physical activity per workday. Those participants meeting recommendations were older, had a higher body fat percentage and engaged in less physical activity per week. Conclusion. With a preference for standing workstations, our results showed that 47% of workers used standing and cycling workstations to accumulate 2+ h of active time per day.

**Guimaraes A, Cavalcanti M, and Vasconcelos BM. Gamification using technologies for occupational safety training in the civil construction sector. *Work*. 2024; 77(2):477-485.**

<https://doi.org/10.3233/WOR-220685>

Abstract: BACKGROUND: Although regulatory norms on work safety offer guidelines for organizing and preventing accidents, the construction site is an environment susceptible to deviations, sometimes due to the lack of effective training. To this end, technologies such as virtual reality become possibilities for innovations with great advantages, as they allow simulations, modeling, exploratory environments and games, which allow the user to create a greater connection and interest in the subject in question. OBJECTIVE: This study aimed to present the technological advances applied in safety-oriented training in the construction industry worldwide, emphasizing serious games through a systematic review of the literature. METHODS: The review was carried out using five scientific databases, with a research protocol to answer questions about the application of gamification to guarantee the safety of workers. RESULTS: Fifteen articles were evaluated, with descriptive, observational research and case studies. It was found that the use of technologies in construction safety is not yet a common reality in the sector, as it presents challenges and limitations, such as gameplay and issues related to cost. However, they show great potential as a dynamic solution in the training of civil construction workers, effectively collaborating in accident prevention and work safety. CONCLUSION: Several software programs and applications were found for creating three-dimensional scenes and for providing users with a customized experience according to the needs observed in the virtual interaction; building information modeling tools, which promote realistic project modeling; and equipment to visualize the scenes created. Furthermore, the possibility of combining traditional theoretical teaching with serious games was verified. However, gamification applicability is an alternative that still has limitations, in addition to the lack of flexibility in the rules imposed on the game, hampering users' authenticity in making decisions

**Ishdorj S, Ahn CR, and Park M. Major factors influencing safety knowledge-sharing behaviors of construction field workers: worker-to-worker level safety communication. *Journal of Construction Engineering and Management*. 2024; 150(4):04024021.**

<https://doi.org/10.1061/JCEMD4.COENG-14121>

**Kasem J, Davies MAM, Chainey S, and Ronca F. Musculoskeletal complaints in English law enforcement officers: a cross-sectional study. *International Journal of Occupational Safety & Ergonomics*. 2024; 30(1):84-89.**

<https://doi.org/10.1080/10803548.2023.2235844>

Abstract: Objectives. Musculoskeletal (MSK) complaints are prevalent in law enforcement officers (LEOs), but research that examines their risk factors is limited. This study aimed to identify the self-reported MSK complaint prevalence and perceived causes in LEOs. Methods. The Nordic

musculoskeletal questionnaire was used to identify the 12-month and 7-day prevalence of MSK 'trouble' (ache, pain, discomfort) for nine body sites. The perceived cause, participant characteristics and occupational role were reported. Body fat percentage was measured using bioelectrical impedance. Results. Complete submissions of 186 questionnaires were received (80% male, median age 40.6 years, interquartile range 10.1). Eighty-six per cent of officers reported having an MSK complaint in the last 12 months, where lower back, shoulder and neck complaint prevalence was 59.1, 48.4 and 42.5%, respectively. The occupational role was associated with the site and presence of complaints ( $p < 0.05$ ), where armed officers presented with more shoulder, lower back and hip/thigh complaints. Age, sex and body fat did not impact complaint prevalence. Participants mainly attributed their complaints to occupation equipment or to sport and exercise. Conclusion. MSK complaints were highly prevalent in this cohort, particularly armed officers. Further research is required to establish the impact of these complaints and how they can be mitigated.

**Kugler HL, Taylor NF, and Brusco NK. Patient handling training interventions and musculoskeletal injuries in healthcare workers: systematic review and meta-analysis. *Heliyon*. 2024; 10(3):e24937. <https://doi.org/10.1016/j.heliyon.2024.e24937> [open access]**

Abstract: Workplace injuries are a serious issue for the health and social care industry, with the sector accounting for 20 % of all serious claims reported. The aim of this systematic review was to determine whether patient handling training interventions that included instruction on patient transfer techniques are effective in preventing musculoskeletal injuries in healthcare workers. Methods: Electronic databases MEDLINE (Ovid), EMBASE (Ovid), CINAHL (EBSCO) and Health and Safety Science Abstracts (ProQuest) were searched for controlled trials from January 1996-August 2022. Risk of bias was evaluated using the PEDro scale and overall certainty of evidence assessed using the Grading of Recommendations, Assessment, Development and Evaluation for each meta-analysis. Results: A total of nine studies (3903 participants) were included. There is moderate certainty evidence that could not conclude whether patient handling training affects the 12-month incidence of lower back pain (OR = 0.83, 95 % CI [0.59, 1.16]). There is low certainty evidence that patient handling training does not prevent lower back pain in health professionals without pre-existing pain (MD = -0.06, 95 % CI [-0.63, 0.52]) but may reduce lower back pain in those with pre-existing pain (MD = -2.92, 95 % CI [-5.44, -0.41]). The results also suggest that there may be a positive effect of training incorporating risk assessment on musculoskeletal injury rates; however the evidence is of very low certainty. There is low certainty evidence from a single study that training may have a short-term effect on sickness absences.) Conclusions: There is a lack of evidence to support patient handling training when delivered to all healthcare staff. Training in its current form may be an ineffective strategy for reducing musculoskeletal injuries and pain. High quality disinvestment studies or trials incorporating risk assessment strategies are warranted. Practical Applications: This review suggests health service managers question the effectiveness of current patient handling training practices and consider evaluating current practices before allocating resources to meet employee risk reduction obligations

**Li L, Liang Y, Sabia JJ, and Dave DM. Recreational marijuana legalization and workplace injuries among younger workers. *JAMA Health Forum*. 2024; 5(2):e235438. <https://doi.org/10.1001/jamahealthforum.2023.5438> [open access]**

**Pawliuk C, Cheng S, Zheng A, and Siden HH. Librarian involvement in systematic reviews was associated with higher quality of reported search methods: a cross-sectional survey. *Journal of Clinical Epidemiology*. 2023; 166:111237.**

<https://doi.org/10.1016/j.jclinepi.2023.111237>

**Abstract:** OBJECTIVES: Systematic reviews (SRs) are considered the gold standard of evidence, but many published SRs are of poor quality. This study identifies how librarian involvement in SRs is associated with quality-reported methods and examines the lack of motivation for involving a librarian in SRs. STUDY DESIGN AND SETTING: We searched databases for SRs that were published by a first or last author affiliated to a Vancouver hospital or biomedical research site and published between 2015 and 2019. Corresponding authors of included SRs were contacted through an e-mail survey to determine if a librarian was involved in the SR. If a librarian was involved in the SR, the survey asked at what level the librarian was involved and if a librarian was not involved, the survey asked why. Quality of reported search methods was scored independently by two reviewers. A linear regression model was used to determine the association between quality of reported search methods scores and the level at which a librarian was involved in the study. RESULTS: One hundred ninety one SRs were included in this study and 118 (62%) of the SRs authors indicated whether a librarian was involved in the SR. SRs that included a librarian as a co-author had a 15.4% higher quality assessment score than SRs that did not include a librarian. Most authors (27; 75%) who did not include a librarian in their SR did not do so because they did not believe it was necessary. CONCLUSION: Higher level of librarian involvement in SRs is correlated with higher scores in reported search methods. Greater advocacy or changes at the policy level is necessary to increase librarian involvement in SRs and as a result the quality of their search methods

**Rajappan D, Mailerum Perumal A, Santhi IV, and Narayanan R. Analyzing the stress management intervention impacting the mindfulness and well-being of employees. *Work*. 2024; 77(2):561-571.**

<https://doi.org/10.3233/WOR-220410>

**Abstract:** BACKGROUND: Developing employee well-being as well as lowering stress may have several benefits for organizations. Stress management intervention techniques utilized via organizations help to develop worker mindfulness and well-being, and reduce stress. OBJECTIVE: To review stress management interventions to determine the effectiveness of diverse interventions in improving the mindfulness and well-being of employees working in an organization. METHODS: This work is split into two main sections: collection of data and analysis of data. First, data collection is carried out. The structured questionnaire was organized and distributed to managers and working employees of an organization. Based on the developed hypothesis, the questionnaire was arranged and all queries were compulsory. Subsequently, the collected data were performed by Structural Equation Modeling (SEM) and One Way Analysis of Variance (ANOVA) analysis. RESULTS: The Standard Mean Residual Root Square for the baseline model of mindfulness and well-being of employees working in an organization is 0.2156, which is better than threshold value. CONCLUSION: From the analysis, the goodness of fit and significant relation among the stress intervention techniques as well as mindfulness and well-being of employees in an organization has been found

**Rutherford K, Hiseler L, and O'Hagan F. Help! I need somebody: help-seeking among workers with self-reported work-related mental disorders. *Journal of Occupational Rehabilitation*. 2024; 34(1):197-215.**

<https://doi.org/10.1007/s10926-023-10123-5>

**Abstract:** Purpose: Worker mental health has emerged as one of the most significant challenges in contemporary workplaces. Knowing what intervention is effective is important to help workers adapt to mental health disorders but connecting workers to helpful resources is just as important and perhaps more of a challenge. With the multiple stakeholders involved, mental health disorders arising in the workplace pose specific challenges to help-seeking. The present study sought to explore the lived experience of workers and the personal and contextual influences on help-seeking among workers with work-related mental health disorders. Methods: A qualitative methodology was employed utilizing purposive sampling to conduct semi-structured interviews with individuals (n = 12) from various occupational backgrounds who had experienced a work-related (self-declared) mental health disorder. A Critical Theory approach was used to inform study design and analysis. Interpretative phenomenological analysis and thematic content analysis were combined to analyze the data. Results: Three main themes emerged including: (1) self-preservation through injury concealment and distancing themselves from workplace stressors to minimize/avoid internal and external stigma; (2) fatigue relating to complex help-seeking pathways, accumulation of stressors, eroding the worker's ability to make independent decisions regarding supports; and (3) (mis)trust contributed to resources accessed by participants. Conclusions: Along with internalized stigma, findings point to the important role of social identity and trust and how these are influenced by relationships and organizational contexts. Findings indicate the need to educate workplace parties such as supervisors on mental health and pathways to help, simplifying pathways to service and removing barriers to help seeking including stigmatizing behaviours. Future quantitative research and intervention development directed at workplace mental health should integrate models and frameworks emphasizing relational and organizational dimensions in help-seeking.

**Seyfert K and Alonso H. Social protection for refugees and migrants: examining access to benefits and labour market interventions. *International Social Security Review*. 2023; 76(4):23-43.**

<https://doi.org/10.1111/issr.12347>

**Torrance N, Maclver E, Adams NN, Skatun D, Scott N, Kennedy C, et al. Lived experience of work and long COVID in healthcare staff. *Occupational Medicine*. 2024; 74(1):78-85.**

<https://doi.org/10.1093/occmed/kqad117> [open access]

**Abstract:** BACKGROUND: Healthcare workers (HCWs) had a greater occupational risk of exposure to coronavirus disease 2019 (COVID-19) and reported higher rates of long COVID (LC). This has implications for the provision of health care in already stretched health services. AIMS: This study explored the impact of LC on a range of UK National Health Service (NHS) HCWs, their health and well-being, the effect on work patterns, and occupational support received. METHODS: Mixed-methods study, online survey and qualitative interviews. Participants self-reporting LC symptoms were recruited through social media and NHS channels. Interviews used maximum variation sampling of 50 HCWs including healthcare professionals, ancillary and administration staff. Thematic analysis was conducted using NVivo software. RESULTS: A total of 471 HCWs completed the online survey. Multiple LC symptoms were reported, revealing activity limitations for 90%. Two-thirds had taken sick leave,

18% were off-work and 33% reported changes in work duties. There were few differences in work practices by occupational group. Most participants were working but managing complex and dynamic symptoms, with periods of improvement and exacerbation. They engaged in a range of strategies: rest, pacing, planning and prioritizing, with work prioritized over other aspects of life. Symptom improvements were often linked to occupational medicine, managerial, colleague support and flexible workplace adjustments. CONCLUSIONS: LC has a significant impact on the lives of HCWs suffering prolonged symptoms. Due to the variability and dynamic nature of symptoms, workplace support and flexible policies are needed to help retain staff

**van Zwieten A, Dai J, Blyth FM, Wong G, and Khalatbari-Soltani S. Overadjustment bias in systematic reviews and meta-analyses of socio-economic inequalities in health: a meta-research scoping review. *International Journal of Epidemiology*. 2024; 53(1):dyad177.**

<https://doi.org/10.1093/ije/dyad177> [open access]

Abstract: BACKGROUND: Overadjustment bias occurs when researchers adjust for an explanatory variable on the causal pathway from exposure to outcome, which leads to biased estimates of the causal effect of the exposure. This meta-research review aimed to examine how previous systematic reviews and meta-analyses of socio-economic inequalities in health have managed overadjustment bias. METHODS: We searched Medline and Embase until 16 April 2021 for systematic reviews and meta-analyses of observational studies on associations between individual-level socio-economic position and health outcomes in any population. A set of criteria were developed to examine methodological approaches to overadjustment bias adopted by included reviews (rated Yes/No/Somewhat/Unclear). RESULTS: Eighty-four reviews were eligible (47 systematic reviews, 37 meta-analyses). Regarding approaches to overadjustment, whereas 73% of the 84 reviews were rated as Yes for clearly defining exposures and outcomes, all other approaches were rated as Yes for <55% of reviews; for instance, 5% clearly defined confounders and mediators, 2% constructed causal diagrams and 35% reported adjusted variables for included studies. Whereas only 2% included overadjustment in risk of bias assessment, 54% included confounding. Of the 37 meta-analyses, 16% conducted sensitivity analyses related to overadjustment. CONCLUSIONS: Our findings suggest that overadjustment bias has received insufficient consideration in systematic reviews and meta-analyses of socio-economic inequalities in health. This is a critical issue given that overadjustment bias is likely to result in biased estimates of health inequalities and accurate estimates are needed to inform public health interventions. There is a need to highlight overadjustment bias in review guidelines

**Missed an issue?** Catch up on previous Research Alerts available on the IWH website  
[www.iwh.on.ca/journal-articles/research-alerts](http://www.iwh.on.ca/journal-articles/research-alerts)