

**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.

**\*Jetha A, Navaratnerajah L, Shahidi FV, Carnide N, Biswas A, Yanar B, et al. Racial and ethnic inequities in the return-to-work of workers experiencing injury or illness: a systematic review. *Journal of Occupational Rehabilitation*. 2023; [epub ahead of print]. <https://doi.org/10.1007/s10926-023-10119-1> [open access]**

Abstract: PURPOSE: Non-White workers face more frequent, severe, and disabling occupational and non-occupational injuries and illnesses when compared to White workers. It is unclear whether the return-to-work (RTW) process following injury or illness differs according to race or ethnicity. OBJECTIVE: To determine racial and ethnic differences in the RTW process of workers with an occupational or non-occupational injury or illness. METHODS: A systematic review was conducted. Eight academic databases - Medline, Embase, PsycINFO, CINAHL, Sociological Abstracts, ASSIA, ABI Inform, and Econ lit - were searched. Titles/abstracts and full texts of articles were reviewed for eligibility; relevant articles were appraised for methodological quality. A best evidence synthesis was applied to determine key findings and generate recommendations based on an assessment of the quality, quantity, and consistency of evidence. RESULTS: 15,289 articles were identified from which 19 studies met eligibility criteria and were appraised as medium-to-high methodological quality. Fifteen studies focused on workers with a non-occupational injury or illness and only four focused on workers with an occupational injury or illness. There was strong evidence indicating that non-White and racial/ethnic minority workers were less likely to RTW following a non-occupational injury or illness when compared to White or racial/ethnic majority workers. CONCLUSIONS: Policy and programmatic attention should be directed towards addressing

racism and discrimination faced by non-White and racial/ethnic minority workers in the RTW process. Our research also underscores the importance of enhancing the measurement and examination of race and ethnicity in the field of work disability management

**\*Singla DR, Puerto Nino AK, Zibaman M, Andrejek N, Hossain S, Cohen M, et al. Scaling up quality-assured psychotherapy: the role of therapist competence on perinatal depression and anxiety outcomes. *General Hospital Psychiatry*. 2023; 83:101-108.**

<https://doi.org/10.1016/j.genhosppsy.2023.04.002> [open access]

**Abstract:** Objectives: To examine: (1) the psychometric properties of two therapist competence measures-multiple choice questionnaire (MCQ) and standardized role-plays; (2) whether therapist competence differed between non-specialist (NSPs) and specialist (SPs) providers; and (3) the relations between therapist competence and patient outcomes among perinatal patients receiving brief psychotherapy. Methods: This study is embedded within the SUMMIT Trial-a large, ongoing psychotherapy trial for perinatal women with depressive and anxiety symptoms. We assessed the: (1) psychometric properties of therapist competence measures using Cronbach's alpha and inter-class correlation; (2) differences in therapist competence scores between  $n = 23$  NSPs and  $n = 22$  SPs using a two-sample t-test; and (3) relations between therapist competence measures and perinatal patient outcomes through a linear regression model. Results: Internal consistency for role-play was acceptable ( $\alpha = 0.71$ ), whereas MCQ was excellent ( $\alpha = 0.97$ ). Role-play showed good inter-rater reliability ( $ICC = 0.80$ ) and scores were higher for SPs compared with NSPs ( $t(2,38) = -2.86$ ,  $p = 0.0069$ ) and associated with outcomes of anxiety ( $B = 1.52$ ,  $SE = 0.60$ ,  $p = 0.01$ ) and depressive ( $B = 0.96$ ,  $SE = 0.55$ ,  $p = 0.08$ ) symptom scores. Conclusions: Our study highlights the importance of demonstrating psychological treatment skills through standardized role-plays over knowledge-based competence to predict perinatal patient outcomes. Using well-defined evidence-based tools is critical for deploying NSPs to provide high-quality psychotherapy and increase accessibility to psychological treatments for perinatal populations worldwide.

**Agolli A and Holtz BC. Facilitating detachment from work: a systematic review, evidence-based recommendations, and guide for future research. *Journal of Occupational Health Psychology*. 2023; 28(3):129-159.**

<https://doi.org/10.1037/ocp0000353>

**Abstract:** Contemporary work environments are characterized by increasing job demands, extensive use of communication technologies, blurred boundaries between work and private lives, and growing uncertainty. Under these stressful conditions, employee health and well-being are among the central topics studied by organizational researchers. Extant research has shown that psychological detachment from work is a key recovery experience that is essential for employees' health, well-being, and work performance. This systematic qualitative review aims to advance our understanding of what facilitates or inhibits detachment. We review 159 empirical studies and evaluate the accumulated knowledge on predictors of detachment. Further, we offer actionable recommendations for organizational practitioners on how to

facilitate this vital recovery experience in their organizations and highlight important avenues for future research aimed at improving our understanding of employee detachment.  
(PsycInfo Database Record (c) 2023 APA, all rights reserved)

**Arena AF, Mobbs S, Sanatkar S, Williams D, Collins D, Harris M, et al. Mental health and unemployment: a systematic review and meta-analysis of interventions to improve depression and anxiety outcomes. *Journal of Affective Disorders*. 2023; 335:450-472.**

<https://doi.org/10.1016/j.jad.2023.05.027>

**Abstract:** BACKGROUND: Unemployment is associated with substantially greater depression and anxiety, constituting a considerable public health concern. The current review provides the most comprehensive synthesis to date, and first meta-analysis, of controlled intervention trials aimed at improving depression and anxiety outcomes during unemployment.

**METHODS:** Searches were conducted within PsycInfo, Cochrane Central, PubMed and Embase from their inception to September 2022. Included studies conducted controlled trials of interventions focused on improving mental health within unemployed samples, and reported on validated measures of depression, anxiety, or distress (mixed depression and anxiety). Narrative syntheses and random effects meta-analyses were conducted among prevention- and treatment-level interventions for each outcome. **RESULTS:** A total of 39 articles reporting on 33 studies were included for review (sample sizes ranging from 21 to 1801). Both prevention and treatment interventions tended to be effective overall, with treatment interventions producing larger effect sizes than prevention interventions. The clearest evidence for particular intervention approaches emerged for prevention-level Cognitive Therapy/CBT, followed by prevention-level work-related interventions, although neither produced entirely consistent effects. **LIMITATIONS:** Risk of bias was generally high across studies. Low numbers of studies within subgroups precluded any comparisons between long-term and short-term unemployment, limited comparisons among treatment studies, and reduced the power of meta-analyses. **CONCLUSIONS:** Both prevention- and treatment-level mental health-focused interventions have merit for reducing symptoms of anxiety and depression among those experiencing unemployment. Cognitive Therapy/CBT and work-related interventions hold the most robust evidence base, which can inform both prevention and treatment strategies implemented by clinicians, employment services providers, and governments

**Brusco N, Haines T, Taylor NF, Rawson H, Boyd L, Ekegren C, et al. In Australian hospitals and residential aged care facilities, how do we train nursing and direct care staff to assist patients and residents to move? A national survey. *Australian Health Review*. 2023; 47(3):331-338.**

<https://doi.org/10.1071/AH22296> [open access]

**Abstract:** Objective Nursing workplace injuries related to staff-assisted patient/resident movement occur frequently, however, little is known about the programs that aim to prevent these injuries. The objectives of this study were to: (i) describe how Australian hospitals and

residential aged care services provide manual handling training to staff and the impact of the coronavirus disease 2019 (COVID-19) pandemic on training; (ii) report issues relating to manual handling; (iii) explore the inclusion of dynamic risk assessment; and (iv) describe the barriers and potential improvements. Method Using a cross-sectional design, an online 20-min survey was distributed by email, social media, and snowballing to Australian hospitals and residential aged care services. Results Respondents were from 75 services across Australia, with a combined 73 000 staff who assist patients/residents to mobilise. Most services provide staff manual handling training on commencement (85%;  $n = 63/74$ ), then annually (88%  $n = 65/74$ ). Since the COVID-19 pandemic, training was less frequent, shorter in duration, and with greater online content. Respondents reported issues with staff injuries (63%  $n = 41$ ), patient/resident falls (52%  $n = 34$ ), and patient/resident inactivity (69%  $n = 45$ ). Dynamic risk assessment was missing in part or in whole from most programs (92%  $n = 67/73$ ), despite a belief that this may reduce staff injuries (93%  $n = 68/73$ ), patient/resident falls (81%  $n = 59/73$ ) and inactivity (92%  $n = 67/73$ ). Barriers included insufficient staff and time, and improvements included giving residents a say in how they move and greater access to allied health. Conclusion Most Australian health and aged care services provide clinical staff with regular manual handling training for staff-assisted patient/resident movement, however, issues with staff injuries, as well as patient/resident falls and inactivity, remain. While there was a belief that dynamic in-the-moment risk assessment during staff-assisted patient/resident movement may improve staff and resident/patient safety, it was missing from most manual handling programs.

**Bunjak A, Cerne M, Nagy N, and Bruch H. Job demands and burnout: the multilevel boundary conditions of collective trust and competitive pressure. *Human Relations*. 2023; 76(5):657-688.**

<https://doi.org/10.1177/00187267211059826> [open access]

Abstract: Do high job demands help employees to stay challenged at work, or do they challenge their well-being? Despite burnout being an ever-pressing matter in contemporary workspaces, the understanding of the link between job demands and burnout remains limited, especially considering the important multilayered role of context in organizations. Our study develops an integrated perspective on the antecedents of burnout, rather than viewing various elements in isolation. Specifically, we uncover a three-way interaction among job demands, collective trust, and competitive pressure across the three levels of study via a multilevel analysis of 5485 employees, nested into 2872 units in 89 German organizations. The three-way interaction of individual-level job demands with unit-level collective trust depends on the magnitude of competitive pressure at the organizational level. In a condition of low organizational-level competitive pressure, unit-level trust can mitigate the positive effect of individual job demands on burnout. Our findings indicate that job demands can be a double-edged sword, bringing with them both benefits and burdens. From a practical perspective, we provide guidance for organizations on how to maintain high job demands by

emphasizing collective trust and open communication about organizational-level competitive pressure to mitigate burnout at work.

**Carrillo RA. A safety & health leader's guide to diversity, equity, inclusion & belonging. Professional Safety. 2023; 68(6):34-39.  
[Doi unavailable as of June 16]**

**Hafsteinsdottir A and Hardonk SC. Understanding work inclusion: analysis of the perspectives of people with intellectual disabilities on employment in the Icelandic labor market. Work. 2023; 75(2):433-445.**

<https://doi.org/10.3233/WOR-211219>

Abstract: BACKGROUND: People with intellectual disabilities experience persistent marginalization in relation to work and employment. The concept of work inclusion provides a way of generating a more specific understanding of the meaning of employment participation. Work inclusion of people with intellectual disabilities focuses not on mere presence, but instead emphasizes relational aspects and potential for meaningful participation. OBJECTIVE: In this paper we report on an empirical study into the experiences of people with intellectual disabilities of employment participation in the Icelandic labor market. We considered their experiences in relation to four key components of work inclusion, placing emphasis on how they perceived opportunities for inclusion related to social relations, belonging, valued contributions and trust. METHODS: This study used a qualitative research design. Data was collected with semi-structured interviews with 9 participants with intellectual disabilities who all had experience of being employed in the Icelandic labour market. RESULTS: Our findings show the role of the work environment in participants' experiences of opportunities for having good relations at work, having a sense of belonging to the organization, being able to make a contribution to the goals of the organization, and receiving trust in one's professional role and responsibility. When participants experienced opportunities in relation to these basic components of work inclusion, they felt more positively about their employment participation. Lack of opportunities was reported as a reason for segregation and withdrawal. CONCLUSION: This study shows the importance for work organizations and other actors in the labor market of paying attention to components of work inclusion and their relation with corporate culture

**Jones C, O'Greysik E, Juby B, Spencer S, Vincent M, Smith-MacDonald L, et al. How do we keep our heads above water? An embedded mixed-methods study exploring implementation of a workplace reintegration program for nurses affected by operational stress injury. International Journal of Environmental Research and Public Health. 2023; 20(11):6037.**

<https://doi.org/10.3390/ijerph20116037> [open access]

Abstract: BACKGROUND: Nurses are exposed to potentially psychologically traumatic events which can lead to operational stress injuries (OSI). Workplace reintegration after an OSI can

be challenging, especially with repeated exposure to potentially traumatic scenarios and workplace demands. A workplace reintegration program (RP) originally developed for police officers may be of benefit for nurses returning to work after an OSI. The purpose of this study is to investigate the perceived need for an RP for nurses, and its potential contextualization and implementation in the nursing context using an implementation science approach. **METHODS:** This mixed-methods study collected data via questionnaires and focus groups from acute care nurses in Canada (N = 19). Data analysis was conducted using descriptive statistics, thematic analysis, and an organizational readiness assessment. **RESULTS:** Study participants indicated that formalized processes were rarely used to support nurses returning to work after time off due to mental health challenges. Themes included (1) "The Perfect Storm": the current state of return-to-work, (2) Integral Needs, and (3) A Break in the Clouds: hope for health. **CONCLUSIONS:** Exploration of innovative programs such as the RP may provide additional support to nurses affected by OSIs. Further research is needed regarding workplace reintegration for nurses, and contextualization and evaluation of the RP

**Kim J, Inge K, Keeton B, Riesen T, Castruita-Rios Y, and Tansey TN. Use of customized employment in state vocational rehabilitation programs: a retrospective study 2017 - 2020. *Rehabilitation Counseling Bulletin*. 2023; 66(3):186-194.**

<https://doi.org/10.1177/00343552221140335> [open access]

**Abstract:** The purpose of this study was to examine the outcomes of customized employment via an analysis using the U.S. Rehabilitation Services Administration Case Service Report (RSA-911) from Federal Fiscal Years of 2017 through 2020. The independent variables were demographics, barriers to employment, and types of state vocational rehabilitation agency (SVRA) services, and the dependent variables were competitive integrated employment status and weekly earnings at exit. Descriptive analyses, multiple logistic regression, and hierarchical multiple regression comprised data analysis. The study sample (N = 2,280) was 57.9% male and 42.1% female and had a mean age of 32.69 years (SD = 12.83). Seventy-seven percent identified themselves as White and 46.7% had a cognitive disability. The results of this study indicated that consumers who have cognitive disability and cultural barriers; are migrant farmworkers and/or dependents; and receive job placement assistance, short-term job supports, maintenance services, benefits counseling, and supported employment are more likely to get competitive integrated employment at exit (R<sup>2</sup> = .34). Multiple variables were found to be significantly related to weekly earnings at exit and explained 24% of the variance. Rehabilitation counselors should take into consideration the findings of this study to determine from which supports consumers may benefit to attain successful employment goals, particularly for customized employment.



Liao L, Liao K, Wei N, Ye Y, Li L, and Wu Z. A holistic evaluation of ergonomics application in health, safety, and environment management research for construction workers. *Safety Science*. 2023; 165:106198.

<https://doi.org/10.1016/j.ssci.2023.106198>

Martin JT, Asimakopoulos D, Hornung AL, Toro SJ, Le Maitre CL, Chahine NO, et al. Bullying, harassment, and discrimination of musculoskeletal researchers and the impact of the COVID-19 pandemic: an international study. *European Spine Journal*. 2023; 32(6):1861-1875.

<https://doi.org/10.1007/s00586-023-07684-7> [open access]

Abstract: Purpose: Bullying, harassment, and discrimination (BHD) are prevalent in academic, scientific, and clinical departments, particularly orthopedic surgery, and can have lasting effects on victims. As it is unclear how BHD affects musculoskeletal (MSK) researchers, the following study assessed BHD in the MSK research community and whether the COVID-19 pandemic, which caused hardships in other industries, had an impact. Methods: A web-based anonymous survey was developed in English by ORS Spine Section members to assess the impact of COVID-19 on MSK researchers in North America, Europe, and Asia, which included questions to evaluate the personal experience of researchers regarding BHD. Results: 116 MSK researchers completed the survey. Of respondents, 34.5% (n = 40) focused on spine, 30.2% (n = 35) had multiple areas of interest, and 35.3% (n = 41) represented other areas of MSK research. BHD was observed by 26.7% (n = 31) of respondents and personally experienced by 11.2% (n = 13), with mid-career faculty both observing and experiencing the most BHD. Most who experienced BHD (53.8%, n = 7) experienced multiple forms. 32.8% (n = 38) of respondents were not able to speak out about BHD without fear of repercussions, with 13.8% (n = 16) being unsure about this. Of those who observed BHD, 54.8% (n = 17) noted that the COVID-19 pandemic had no impact on their observations. Conclusions: To our knowledge, this is the first study to address the prevalence and determinants of BHD among MSK researchers. MSK researchers experienced and observed BHD, while many were not comfortable reporting and discussing violations to their institution. The COVID-19 pandemic had mixed-effects on BHD. Awareness and proactive policy changes may be warranted to reduce/eliminate the occurrence of BHD in this community.

Andaur Navarro CL, Damen JAA, Takada T, Nijman SWJ, Dhiman P, Ma J, et al. Systematic review finds "spin" practices and poor reporting standards in studies on machine learning-based prediction models. *Journal of Clinical Epidemiology*. 2023; 158:99-110.

<https://doi.org/10.1016/j.jclinepi.2023.03.024> [open access]

Abstract: OBJECTIVES: We evaluated the presence and frequency of spin practices and poor reporting standards in studies that developed and/or validated clinical prediction models using supervised machine learning techniques. STUDY DESIGN AND SETTING: We systematically searched PubMed from 01/2018 to 12/2019 to identify diagnostic and prognostic prediction model studies using supervised machine learning. No restrictions were

placed on data source, outcome, or clinical specialty. RESULTS: We included 152 studies: 38% reported diagnostic models and 62% prognostic models. When reported, discrimination was described without precision estimates in 53/71 abstracts (74.6% [95% CI 63.4-83.3]) and 53/81 main texts (65.4% [95% CI 54.6-74.9]). Of the 21 abstracts that recommended the model to be used in daily practice, 20 (95.2% [95% CI 77.3-99.8]) lacked any external validation of the developed models. Likewise, 74/133 (55.6% [95% CI 47.2-63.8]) studies made recommendations for clinical use in their main text without any external validation. Reporting guidelines were cited in 13/152 (8.6% [95% CI 5.1-14.1]) studies. CONCLUSION: Spin practices and poor reporting standards are also present in studies on prediction models using machine learning techniques. A tailored framework for the identification of spin will enhance the sound reporting of prediction model studies

**Noguchi M, Zehr JD, Tennant LM, Fok DJ, and Callaghan JP. Increasing movement during office work at sit-stand workstations: a novel seating device to facilitate transitions.**

**Applied Ergonomics. 2023; 111:104044.**

<https://doi.org/10.1016/j.apergo.2023.104044>

Abstract: A novel active office chair (Movably Pro) was designed to facilitate frequent sit-stand movement 1) through auditory and tactile prompts and 2) with minimal-to-no work surface adjustment when transitioning. The purpose of this study was to compare lumbopelvic kinematics, discomfort, and task performance between the novel chair and traditional sitting/standing. Sixteen participants completed three separate 2-h sedentary exposures. Although participants transitioned every 3 min between sitting and standing with the novel chair, productivity was not affected. When standing in the novel chair, the lumbopelvic angles fell in between traditional sitting and standing ( $p < 0.01$ ). Movement and/or postural changes that occurred with the novel chair reduced low back and leg discomfort for pain developers (PDs) ( $p < 0.01$ ). All participants classified as PDs in traditional standing were non-PDs with the novel chair. This intervention was effective in reducing sedentary time without the time loss associated with desk movement.

**Patel PK, Hoffman WR, Aden J, and Acker JP. Health care avoidance among Canadian pilots due to fear of medical certificate loss: a national cross-sectional survey study. Journal of Occupational & Environmental Medicine. 2023; 65(6):e413-e417.**

<https://doi.org/10.1097/JOM.0000000000002838>

Abstract: OBJECTIVE: Canadian pilots may avoid health care and report inaccurate medical information due to fear of medical invalidation. We sought to determine if health care avoidance due to fear of certificate loss exists. METHODS: We conducted an anonymous 24-item Internet survey of 1405 Canadian pilots between March and May 2021. Responses were collected using REDCap, and the survey was advertised through aviation magazines and social media groups. RESULTS: Seventy-two percent of respondents ( $n = 1007$ ) have felt worried about seeking medical care because it may impact their career or hobby. Respondents participated in various health care avoidance behaviors with the most common being having



actually avoided or delayed medical care for a symptom (46%, n = 647). CONCLUSION: Canadian pilots fear medical invalidation and consequently, avoid health care. This may be severely impacting aeromedical screening effectiveness

**Rezai M, Lindsay S, Ahmed H, and Vijayakumar A. Workplace inclusion: a scoping review of the qualitative literature. Work. 2023; 75(1):59-73.**

<https://doi.org/10.3233/WOR-211343>

Abstract: BACKGROUND: An inclusive workplace culture supports and values the individual and collective work processes of workers from diverse backgrounds. The reality or perception of inclusion or exclusion at work can influence the social functioning, health, and well-being of workers. However, we lack knowledge about the concepts relevant to inclusion at the workplace. Furthermore, research is needed to better understand the drivers and obstacles to workplace inclusion to better promote participation in working life. OBJECTIVE: This scoping review of the qualitative literature identifies the barriers to and facilitators of workplace inclusion. METHODS: Systematic searches of five databases were conducted from 2000 to January 2020. Pairs of reviewers independently screened and reviewed all citations and full-text articles. We used Arksey and O'Malley's scoping review framework which advances through five stages. Barriers and facilitators of workplace inclusion were categorized relative to a multi-layered conceptualization of workplace inclusion and grouped by theme. Studies were described and thematic results totaled and communicated with evidence tables and conceptual maps. RESULTS: Thirty-nine qualitative studies met our inclusion criteria. All five domains of the multi-layered framework were represented by the reported shared experiences of study participants. Organizational level factors, especially attitudinal barriers were the most reported barriers to workplace inclusion. Facilitators of workplace inclusion focused on employer level factors and most often cited the role of inclusive leadership and support. CONCLUSION: Workplace inclusion requires consideration of societal, organizational, employer, and interpersonal level factors in addition to individual worker characteristics

**Rowland SA, Ramos AK, Maiya S, and Carlo G. Health status, health care access, and health information sources among Latino immigrant cattle feedyard workers in the Midwest.**

**Workplace Health & Safety. 2023; 71(6):296-303.**

<https://doi.org/10.1177/21650799231163134>

Abstract: Background: Cattle production in the United States is heavily supported by Latino/a workers. Beyond injury rates, our understanding of the health status of cattle feedyard workers is limited. The purpose of this study was to describe the health status and health care access among Latino immigrant cattle feedyard workers in the Midwest. Methods: A cross-sectional design using face-to-face structured interviews with Latino immigrant cattle feedyard workers in Kansas and Nebraska was conducted between May 2017 and February 2020. Findings: A total of 243 workers completed interviews; 91% were men. Over half (58%) had health insurance but few (36%) had a regular health care provider. Few chronic health

conditions were reported despite most being overweight (53%) or obese (37%). The sample mean of sleep hours/24 hours was  $7.1 \pm 1.1$ . Problem drinking was moderate (42%), cigarette smoking was low (14%), and drug use was extremely low (<1%). Receiving health information from work was associated with less problem drinking, less obesity, lower blood pressure, and better sleep. Conclusions: Although few workers reported having a chronic health condition, most workers had chronic disease risk (i.e., elevated body mass index, problem drinking) and few had a regular health care provider. Receiving health information at work may have protective health effects. Applications to practice: Occupational health professionals can partner with feedyard employers to expand current health and safety training programs beyond injury prevention to focus on health more broadly and to connect workers with local health care resources.

**Schultz CD, Koch C, and Olbrich R. Dark sides of artificial intelligence: the dangers of automated decision-making in search engine advertising. *Journal of the Association for Information Science and Technology*. 2023; [epub ahead of print].**

<https://doi.org/10.1002/asi.24798> [open access]

Abstract: With the growing use of artificial intelligence, search engine providers are increasingly pushing advertisers to use automated bidding strategies based on machine learning. Such automated decision-making systems leave advertisers in the dark about the data being used and how they can influence the outcome of the decision-making process. Previous literature on artificial intelligence lacks an understanding of the dangers related to artificially intelligent systems and their lack of transparency. In response, our paper addresses the inherent risks of the automated optimization of advertisers' bidding strategies in search engine advertising. The selected empirical case of a service company therefore demonstrates how data availability can trigger a long-term decline in advertising performance and how search engine advertising performance metrics develop before and after an event of data scarcity. Based on data collected for 525 days, difference-in-differences analysis shows that the algorithmic approach has a considerable and lasting negative impact on advertising performance. Furthermore, the empirical case indicates that self-regulated learning can initialize a downward spiral that gradually impairs advertising performance. Thus, the aim of this study is to increase awareness regarding automated decision-making dangers in search engine advertising and help advertisers take preventive measures to reduce the risks of algorithm missteps.

**Van de Ven D, Robroek SJW, Burdorf A, and Schuring M. Inequalities in the impact of having a chronic disease on entering permanent paid employment: a registry-based 10-year follow-up study. *Journal of Epidemiology & Community Health*. 2023; 77(7):474-480.**

<https://doi.org/10.1136/jech-2022-219891> [open access]

Abstract: Background: This study aimed to investigate among unemployed persons (1) the impact of having a chronic disease on entering paid employment and obtaining a permanent contract and (2) whether these associations differed by educational attainment. Methods:

Register data from Statistics Netherlands on employment status, contract type, medication and sociodemographic characteristics were linked. Dutch unemployed persons between 18 and 64 years (n=667 002) were followed up for 10 years (2011-2020). Restricted mean survival time analyses (RMSTs) were used to investigate differences in average months until entering paid employment and until obtaining a permanent contract between persons with and without cardiovascular diseases, inflammatory conditions, diabetes, respiratory illness, common mental disorders and psychotic disorders. Interaction terms were included for education. Results: One-third of the unemployed persons at baseline entered paid employment during follow-up. Persons with chronic diseases spent more months in non-employment compared with persons without chronic diseases (difference ranging from 2.50 months (95% CI 1.97 to 3.03 months) to 10.37 months (95% CI 9.98 to 10.77 months)), especially for persons with higher education. Conditional on entering paid employment, the time until a permanent contract was longer for persons with cardiovascular diseases (4.42 months, 95% CI 1.85 to 6.99 months), inflammatory conditions (4.80 months, 95% CI 2.02 to 7.59 months) and diabetes (8.32 months, 95% CI 4.26 to 12.37 months) than for persons without these diseases. These latter differences were similar across educational attainment. Conclusions: Having a chronic disease is a barrier to entering permanent paid employment. The findings underline the need to prevent chronic diseases and promote an inclusive workforce.

**Zimmerman SM, Scott KA, Wingate KC, Ramirez-Cardenas A, Pompei R, Hagan-Haynes K, et al. Working alone and/or in remote locations: opportunities to prevent the risk of fatality from cardiovascular events in oil and gas extraction workers. *Journal of Occupational & Environmental Medicine*. 2023; 65(6):481-487.**

<https://doi.org/10.1097/JOM.0000000000002851>

Abstract: OBJECTIVE: The aim of the study is to explore personal and work factors related to fatal cardiac events among oil and gas extraction (OGE) workers. METHODS: The National Institute for Occupational Safety and Health Fatalities in Oil and Gas Extraction database was reviewed to identify fatal cardiac events among OGE workers from 2014 through 2019. A case series design was used to review case files, provide descriptive statistics, and summarize the findings. RESULTS: There were 75 fatalities identified, including 55 (73%) with sufficient information for review. Of the 55 workers, 18 (33%) worked alone. Thirty-six fatal cardiac events (66%) were unwitnessed by a coworker. Toxicology findings suggested some possible exposures to hydrogen sulfide or hydrocarbon gases or vapors. Missing data were common. CONCLUSIONS: This study identified the need for cardiovascular disease prevention and treatment, emergency preparedness, lone worker programs, medical screening, and enhanced exposure control in the OGE industry

**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)