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

Behrens T, Griemsmann S, Hosbach I, Wechsler K, Weber B, Clarenbach C, et al. Computer vision syndrome before and after the SARS-COV-2 pandemic: new-symptom onset and workplace setup of visual display terminals. *Journal of Occupational & Environmental Medicine*. 2025; 67(11):962-969. <https://doi.org/10.1097/JOM.0000000000003484> [open access]

Abstract: OBJECTIVE: This cross-sectional online survey investigated the associations between the setup of visual display terminals (VDT) and the new onset of symptoms associated with computer-vision syndrome (CVS) after the SARS-CoV-2 pandemic. METHODS: CVS was assessed by the standardized CVS-Q questionnaire. Items of VDT workplace setup at home were assessed individually as well as by a comprehensive VDT risk score. New onset and exacerbation of CVS symptoms were modeled using logistic regression, adjusting for various confounders. RESULTS: The overall CVS prevalence was estimated as 42.7%. Symptoms associated with oculomotor dysfunction were particularly affected. An inadequate home-office equipment, several variables related to VDT exposure, and an overall inadequate VDT score (odds ratio = 1.78; 95% confidence interval 1.10-2.78) were associated with increased risks for CVS. CONCLUSIONS: To define effective preventive measures will be a major challenge for future ophthalmological research

Dong RG, Pan CS, and Wu JZ. Safety design, use, and research of mast climbing work platforms. *Journal of Construction Engineering and Management*. 2025; 151(12):03125009. <https://doi.org/10.1061/JCEMD4.COENG-16369>

Espel-Huynh HM, Chen SY, Ialynytchev A, Wickham RE, Wang L, Varra A, et al. Changes in work impairment and associated cost savings among employees receiving psychotherapy: retrospective cohort study. *Journal of Occupational & Environmental Medicine*. 2025; 67(11):901-910.

<https://doi.org/10.1097/JOM.0000000000003508> [open access]

Abstract: OBJECTIVE: The aim of the study was to examine changes in work impairment and associated cost savings among employees receiving psychotherapy through an employer-sponsored benefit. METHODS: A retrospective analysis evaluated changes in work impairment and lost productive time among N = 5450 adults receiving psychotherapy. Per employee per year (PEPY) cost savings due to gains in productive time were estimated using a range of salary benchmarks. RESULTS: Employees experienced significant reductions in work impairment (b = -2.88, 95% confidence interval [-3.01, -2.75]) and lost productive time (b = -4.00, 95% confidence interval [-4.25, -3.74]). Based on the median US salary, improvements corresponded to an average cost savings of \$4806 PEPY. Cost savings increased with increasing baseline work impairment severity (very severe: \$20,882 PEPY at the median US salary). CONCLUSIONS: Employees receiving evidence-based psychotherapy experience meaningful reductions in work impairment, which are associated with employer cost savings due to productive time gains

Ferrer A and Dhatt SS. Immigrant gaps in job quality: Canadian immigrant women's resilience to automation. *Labour*. 2025; 39(4):271-291.

<https://doi.org/10.1111/labr.12293>

Gould Rothberg BE, Caban-Martinez AJ, Barr DB, Jara MA, Rodriguez V, Louzado Feliciano P, et al. Polybrominated diphenyl ethers, occupational exposures, and thyroid function among US and Canadian firefighters: a cross-sectional study. *Journal of Occupational & Environmental Medicine*. 2025; 67(11):935-942.

<https://doi.org/10.1097/JOM.0000000000003477>

Abstract: OBJECTIVE: Evaluate the association between serum polybrominated diphenyl ether (PBDE) levels and thyroid anatomy and function in firefighters. METHODS: Two hundred fifty-nine firefighters provided a blood sample and underwent thyroid ultrasound. Blood serum levels were tested for thyroid function tests and PBDEs -47, -85, -99, -100, -153, and -154 (ng/g lipid weight). Ultrasonography documented structural characteristics. Bivariate associations between PBDE concentrations and demographic/occupational characteristics, thyroid function, and thyroid anatomic measures were determined using multivariable linear regression. RESULTS: A positive relationship between PBDE-47 and triiodothyronine (P = 0.02) while an inverse relationship with free thyroxine (P = 0.03) was observed. PBDE-47 was inversely associated with thyroid nodule size (P = 0.03) and nodule aggressiveness (P = 0.02). PBDE-47 was highest in western United States firefighters and lowest among sampled Canadians (P = 0.01). CONCLUSIONS: PBDE-47 may contribute to thyroid dysregulation in firefighters. PBDE-47 levels differ across North America

Hansen A, Lauridsen HH, Escorpizo R, Sogaard K, Sondergaard J, Schiottz-Christensen B, et al. Reliability and construct validity of the work rehabilitation questionnaire domains in patients with persistent low back pain. *Journal of Occupational Rehabilitation*. 2025; 35(4):888-898.

<https://doi.org/10.1007/s10926-024-10248-1> [open access]

Abstract: PURPOSE: The Work Rehabilitation Questionnaire (WORQ) assesses patient functioning, including psychological, physical, and cognitive limitations. This study evaluates the WORQ domains in individuals with persistent low back pain (LBP), focusing on reliability and construct validity. METHODS:

Individuals aged 18-65 with LBP completed WORQ and the workability index single item. A subgroup undertook sit-to-stand and 6-min walking tests and re-evaluated WORQ after 14 days. Reliability was assessed through internal consistency (McDonald's omega and Cronbach's alpha), test-retest reliability, and smallest detectable change. Construct validity was analyzed via Spearman's rank correlation and known group validity, with physical functioning also examined against sit-to-stand and 6-min walk test results for sensitivity/specificity. Floor and ceiling effects were assessed through classical and scale width methods. RESULTS: Of 425 participants, 149 completed physical tests, and 102 re-assessed WORQ. McDonald's omega and Cronbach's alpha indicated high internal consistency (0.92-0.96) with strong test-retest reliability (intraclass-correlation coefficients: 0.74-0.82). The smallest detectable change ranged from 4.62 to 7.82. Predictions from 7 out of 8 hypotheses were confirmed. Notable differences in domain scores were observed based on disability level and sick leave status, with varied diagnostic performance in physical functioning items. Potential floor effects were noted using the scale width method. CONCLUSIONS: The WORQ demonstrated good reliability and satisfactory validity in assessing work-related functioning in individuals with persistent LBP. These findings support its use as a comprehensive tool for evaluating psychological, physical, and cognitive limitations. However, varied diagnostic performance in physical functioning items and potential floor effects suggest cautious interpretation in diverse clinical settings

Jansen L, Angelini V, Groneck M, and van Ooijen R. Do stronger employer responsibilities enhance work accommodation for sick-listed workers? Evidence from a Dutch reform. *Health Economics*. 2025; 34(12):2297-2316.

<https://doi.org/10.1002/hec.70038> [open access]

Abstract: This paper studies the impact of stronger employer responsibilities for facilitating work resumption of sick or disabled workers on employers' workplace accommodation efforts during sick leave. We exploit a reform in the Netherlands that altered experience rating—that is, shifting the costs of sick leave and disability insurance to the firm—both for permanent and non-permanent employees. Using unique Dutch survey data on workplace accommodation of long-term sick-listed workers, we show that experience rating has no significant impact on accommodation efforts. Moreover, we provide evidence that the reform led to more firms opting for self-arranging both the sick leave benefits and the reintegration process of sick non-permanent workers, instead of using the public insurance scheme

Kautzky A, Virtanen M, Alexanderson K, Mittendorfer-Rutz E, and Gemes K. Ten-year working life sequences in women and men following sickness absence due to common mental disorders: a Swedish prospective cohort study. *Journal of Affective Disorders*. 2026; 393(Pt A):120353.

<https://doi.org/10.1016/j.jad.2025.120353> [open access]

Abstract: BACKGROUND: Rates of long-term sickness absence (SA) spells due to common mental disorders (CMD; depression, anxiety, and stress-related disorders) are increasing in Western countries, especially among women. However, little is known about their future SA and work situation. We aimed to identify future working-life sequences among women and men with long-term SA due to CMD. METHODS: Ten-year sequences of annual working-life states were identified prospectively in individuals in Sweden aged 30-50 years with a new SA spell >90 days with CMD in 2010. Representative typologies were identified with clustering and associations with sex and several covariates were investigated by multinomial regression, yielding odds ratios (OR) with 95% confidence intervals (CI). RESULTS: The most frequent typology, return to work (RTW), was observed in 49.5% of women and 40.6% of men. Prior SA,

a full-time index SA, and low income were inversely associated with the RTW typology in both sexes. Adjusted for covariates and relative to RTW, men had higher odds of a typology described by emigration, severe mental disorders, or death (OR 1.3, CI 1.1-1.4), while women had higher odds of a typology described by recurrent SA (OR 1.3, CI 1.1-1.4). Low income, low educational level, mental comorbidities, and prior SA were negatively associated with RTW in both women and men.

CONCLUSIONS: Roughly half of patients on long-term SA due to CMD showed sustainable RTW. Women more likely experienced RTW but also recurrent SA, while men had higher odds of severe mental disorders or death during a ten-year follow-up period

Kudla A, Dinelli EJ, Capraro P, Crown S, Sheth M, Trierweiler R, et al. Person-, job-, and environment-related factors associated with long-term job retention of people with physical disabilities. *Journal of Occupational Rehabilitation*. 2025; 35(4):860-875.

<https://doi.org/10.1007/s10926-024-10245-4>

Abstract: **PURPOSE:** Employment provides people with physical disabilities (PWP) financial independence, enhances their well-being, self-worth, and facilitates a sense of purpose. However, the unemployment rate for PWP is significantly higher than for individuals without a disability. There is limited knowledge regarding what factors help people with disabilities retain employment beyond the standard 90-day job probationary period. Thus, we investigated person-, job-, and environment-related factors that contribute to long-term job retention for four years or more among PWP. **METHODS:** We recruited a national sample of 1500 PWP who had work experience after disability onset from panels assembled by a market research organization. We compared a subsample that maintained their longest held job for at least four years with those who had not using multivariate Poisson regression. Three models evaluated the association between job retention and (1) person-, (2) job-, and (3) environment-related factors. **RESULTS:** Likelihood of job retention was greater for respondents reporting fatigue or emotional problems (vs. pain), advancement opportunities, and receipt of job accommodations. Concerns about limited career advancement opportunities, perception of unimportance about disclosing a disability to coworkers, and difficult work commutes were associated with shorter job retention. **CONCLUSION:** Several person-, job-, and environment-related factors play an important role in promoting job retention of people with physical disabilities. Employers, job coaches, and rehabilitation professionals should consider these factors when developing strategies to support the retention of PWP. Future studies should examine the relationship between these factors and their associations with the employment outcomes of PWP across work settings and industries

Luo X, Wang B, Shi Q, Wang Z, Lai H, Liu H, et al. Lack of methodological rigor and limited coverage of generative artificial intelligence in existing artificial intelligence reporting guidelines: a scoping review. *Journal of Clinical Epidemiology*. 2025; 186:111903.

<https://doi.org/10.1016/j.jclinepi.2025.111903>

Abstract: **OBJECTIVES:** This study aimed to systematically map the development methods, scope, and limitations of existing artificial intelligence (AI) reporting guidelines in medicine and to explore their applicability to generative AI (GAI) tools, such as large language models (LLMs). **STUDY DESIGN AND SETTING:** We reported a scoping review adhering to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews. Five information sources were searched, including MEDLINE (via PubMed), Enhancing the QUALity and Transparency Of health Research (EQUATOR) Network, China National Knowledge Infrastructure, FAIRsharing, and Google Scholar, from

inception to December 31, 2024. Two reviewers independently screened records and extracted data using a predefined Excel template. Data included guideline characteristics (eg, development methods, target audience, AI domain), adherence to EQUATOR Network recommendations, and consensus methodologies. Discrepancies were resolved by a third reviewer. RESULTS: Sixty-eight AI reporting guidelines were included; 48.5% focused on general AI, whereas only 7.4% addressed GAI/LLMs. Methodological rigor was limited; 39.7% described development processes, 42.6% involved multidisciplinary experts, and 33.8% followed EQUATOR recommendations. Significant overlap existed, particularly in medical imaging (20.6% of guidelines). GAI-specific guidelines (14.7%) lacked comprehensive coverage and methodological transparency. CONCLUSION: Existing AI reporting guidelines in medicine have suboptimal methodological rigor, redundancy, and insufficient coverage of GAI applications. Future and updated guidelines should prioritize standardized development processes, multidisciplinary collaboration, and expanded focus on emerging AI technologies like LLMs

McGrath PJ, Akbari-Fakhrabadi M, Chaplin WF, Saryeddine T, Pawlett G, Laroche E, et al. Development and evaluation of the firefighter exposure to carcinogens scale. *Journal of Occupational & Environmental Medicine*. 2025; 67(11):e821-e826.

<https://doi.org/10.1097/JOM.0000000000003515>

Abstract: OBJECTIVE: Firefighters are exposed to carcinogens from combustion, necessitating decontamination practices. This study developed and validated the Firefighter Exposure to Carcinogens Scale (FECS) to assess exposure-mitigating behaviors. METHODS: The sample included 179 volunteer firefighters from across Canada, comprising both English and French speakers, evaluated 20 items on exposure prevention across the following three dimensions: perceived importance, past behavior, and future intention. Principal axis factor analysis was conducted, and parallel analysis based on principal components determined the number of factors. McDonald's Omega measured internal consistency, and item-total correlations were examined. RESULTS: A one-factor solution was acceptable for all scales, with high coefficient omega values indicating strong internal consistency. Small mean differences between language groups were nonsignificant, and no correlations were found with demographic variables. CONCLUSIONS: The FECS is a reliable, valid one-factor model for both languages, supporting cancer prevention efforts

Oami T, Okada Y, and Nakada T. Optimal large language models to screen citations for systematic reviews. *Research Synthesis Methods*. 2025; 16(6):859-875.

<https://doi.org/10.1017/rsm.2025.10014> [open access]

Abstract: Recent studies highlight the potential of large language models (LLMs) in citation screening for systematic reviews; however, the efficiency of individual LLMs for this application remains unclear. This study aimed to compare accuracy, time-related efficiency, cost, and consistency across four LLMs—GPT-4o, Gemini 1.5 Pro, Claude 3.5 Sonnet, and Llama 3.3 70B—for literature screening tasks. The models screened for clinical questions from the Japanese Clinical Practice Guidelines for the Management of Sepsis and Septic Shock 2024. Sensitivity and specificity were calculated for each model based on conventional citation screening results for qualitative assessment. We also recorded the time and cost of screening and assessed consistency to verify reproducibility. A post hoc analysis explored whether integrating outputs from multiple models could enhance screening accuracy. GPT-4o and Llama 3.3 70B achieved high specificity but lower sensitivity, while Gemini 1.5 Pro and Claude 3.5 Sonnet exhibited higher sensitivity at the cost of lower specificity. Citation screening times and costs varied, with GPT-4o

being the fastest and Llama 3.3 70B the most cost-effective. Consistency was comparable among the models. An ensemble approach combining model outputs improved sensitivity but increased the number of false positives, requiring additional review effort. Each model demonstrated distinct strengths, effectively streamlining citation screening by saving time and reducing workload. However, reviewing false positives remains a challenge. Combining models may enhance sensitivity, indicating the potential of LLMs to optimize systematic review workflows.

Perna R, Hernandez-Moreno J, and Cruz-Martinez G. Reforming long-term care provision and work in post-pandemic times: scope and drivers of policy change in the Spanish decentralised system. *Social Policy & Administration*. 2025; 59(7):1180-1190.

<https://doi.org/10.1111/spol.13117> [open access]

Abstract: The COVID-19 pandemic unveiled and magnified structural challenges of long-term care (LTC) provision and work across Europe, bringing the need for reforms on the quality-of-care provision and work to the fore in several countries. Focusing on the case of Spain, this paper analyses to what extent the window of opportunity opened by the pandemic resulted in structural LTC reform, focusing on the scope and drivers of policy change/continuity. Relying on a multidimensional framework to analyse policy change, we performed qualitative policy analysis to assess our expectations on the mechanisms facilitating/hindering policy change in the country, where a reform process on LTC provision and work took place between July 2021 and June 2022. Our findings reveal that the pandemic fostered a radical policy change; yet, its scope was constrained by the opening of veto points, partisan incongruence, and financial limitations. The reform led to the introduction of a new care model and a new configuration of service provision. However, results were mixed, with some areas only seeing incremental adjustments due to resistance from vested interests and institutional veto players operating along the country's multi-level governance of LTC. Our findings contribute to understanding welfare policy change beyond the 'expansion–retrenchment' debate, delving into the complexities of pursuing crisis-induced reforms on LTC provision and work in decentralised welfare systems.

Schulz F, Valizade D, Stuart M, Soffia M, and Skordis J. Artificial intelligence technologies and employee pay in the United Kingdom: evidence from matched employer-employee data. *British Journal of Industrial Relations*. 2025; [epub ahead of print].

<https://doi.org/10.1111/bjir.70019> [open access]

Abstract: This paper examines the impact of artificial intelligence (AI)-enabled technologies on employee pay in the United Kingdom. We use matched nationally representative data from the Employers' Digital Practices at Work Survey and an original survey of 6000 UK workers and apply machine learning techniques to uncover relationships between AI technology and employee pay across qualification and occupation skill groups. We find that lower skilled workers were the primary beneficiaries of AI, but this effect was contingent on the extent of worker interaction with AI. Further analysis shows that employee involvement in pay determination facilitates a more equitable distribution of AI-related pay benefits by enabling a significant uplift in pay among lower qualified workers. Overall, while the implications of AI for pay outcomes are broadly positive, the study highlights the need to strengthen workplace voice mechanisms to ensure a more equitable distribution of benefits from the growing use of AI.

Wahlstrom V, Abtahi F, Forsman M, Yang L, Ohrner P, Tornevi A, et al. Cardiovascular load and physical capacity in older workers engaged in physically demanding occupations. *International Archives of Occupational & Environmental Health*. 2025; 98(7):673-683.

<https://doi.org/10.1007/s00420-025-02161-8> [open access]

Abstract: **OBJECTIVE:** To measure and determine the occupational cardiovascular workload and cardiovascular fitness among older employees (50+ years) in four physically demanding occupational groups. **METHODS:** Health investigations, including aerobic capacity, were performed on 120 construction and kitchen workers, cleaners, and assistant nurses. Cardiovascular load was assessed over three working days using heart rate (HR) measurements. Data was processed for average loads (HR and Relative HR reserve (%HRR)) and measures describing variations in loads, such as time spent in different heart rate intensities. **RESULTS:** Participants' mean age was 57 (SD 4.1) years, and 63% of the participants were female. The mean %HRR over occupational groups was 24.9% (SD 6.8). Of the participants, 43% had an average cardiovascular load above 24.5%HRR and 11% over 33%HRR. Depending on the work sector, 22-37% of the worktime was spent in intensities over 30%HRR, and 2-4% was spent in cardiovascular intensities over 50%HRR. The average VO_{2max} was 33.2 (SD 8.2) ml/kg/min for all, for men 39.0 (SD 7.0), and for women 29.8 (SD 6.9). **CONCLUSION:** We found a high mean cardiovascular load at work among the senior workers in all four work sectors, but low proportions of the worktime were spent in high intensity levels. Despite a high mean cardiovascular load at work, a high proportion of the workers had low cardiovascular fitness. Given the possible negative effects of occupational physical activity and to meet future demographic challenges, future interventions should aim to reduce physical loads and increase physical fitness in the workforce

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