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**\*Daza JF, Mitani AA, Alibhai SMH, Smith PM, Kennedy ED, Shulman MA, et al. Joint models inform the longitudinal assessment of patient-reported outcomes in clinical trials: a simulation study and secondary analysis of the restrictive vs. liberal fluid therapy for major abdominal surgery (RELIEF) randomized controlled trial. *Journal of Clinical Epidemiology*. 2024; 176:111553.**

<https://doi.org/10.1016/j.jclinepi.2024.111553> [open access]

Abstract: Objectives: Evaluate the utility of a joint model when analysing a patient-reported endpoint as part of a randomized controlled trial (RCT) in which censoring occurs when patients die during follow-up. Study design and setting: The present study comprises two parts as follows: first we reanalyzed data from a previously published RCT comparing two fluid regimens in the first 24 hours of major abdomino-pelvic surgery ('Restrictive versus Liberal Fluid Therapy for Major Abdominal Surgery [RELIEF]' trial). In this trial, patient-reported disability was measured at multiple timepoints before and after surgery. Next, we conducted a simulation study to jointly emulate patient-reported disability and survival, similar to the RELIEF trial, under nine treatment-outcome scenarios. In both parts, we compared a joint model analysis to a linear mixed-effect model combined with one of the several traditional methods of handling longitudinal missingness as follows: available data analysis, complete case analysis, last observation carried forward, and worst-case assumption. Results: In part one, the joint model revealed no between-group differences in patient-reported disability at 1, 3, 6, and 12 months after surgery. The worst-case approach consistently resulted in the largest deviation from the joint model estimates, although in this particular setting none of the approaches materially changed the study's conclusions. In part two, the simulations revealed that across all treatment-outcome scenarios, the joint model expectedly produced unbiased estimates of patient-reported disability. Similarly, employing an approach based on all available data (ie, relying on the maximum likelihood estimator for handling missingness) yielded disability estimates close to the simulated

values, albeit with slight bias across some scenarios. The last observation carried forward approach that mirrored the joint model's estimates except when the treatment had a nonnull effect on patient-reported disability. The worst-case analysis resulted in high bias, which was particularly evident when the treatment had a large effect on survival. The complete case analysis resulted in high bias across all scenarios. Conclusion: In randomized trials that employ a patient-reported outcome as one of their endpoints, a joint model can address bias arising from informative missingness related to death. Methods for handling missingness based on all available data appear to be a reasonable alternative to joint models, with only slight bias across some simulated scenarios. Plain language summary: 'Patient-centered research' focuses on outcomes that are prioritized by patients. This approach often involves asking patients to complete questionnaires about their health experiences. However, if a patient does not finish a study, dealing with their missing answers can pose significant challenges. Joint models are a recent statistical method that may help address this issue. In this study, we used joint models in a real-world clinical trial, and in a series of simulated trials, to determine how well they handle missing questionnaire data from patients. We found that joint models offer significant benefits over most traditional methods used to analyze clinical trials.

**\*Mitani AA, Espin-Garcia O, Fernandez D, and Landsman V. Applying survey weights to ordinal regression models for improved inference in outcome-dependent samples with ordinal outcomes. *Statistical Methods in Medical Research*. 2024; [epub ahead of print].**

<https://doi.org/10.1177/09622802241282091> [open access]

Abstract: Researchers often use outcome-dependent sampling to study the exposure-outcome association. The case-control study is a widely used example of outcome-dependent sampling when the outcome is binary. When the outcome is ordinal, standard ordinal regression models generally produce biased coefficients when the sampling fractions depend on the values of the outcome variable. To address this problem, we studied the performance of survey-weighted ordinal regression models with weights inversely proportional to the sampling fractions. Through an extensive simulation study, we compared the performance of four ordinal regression models (SM: stereotype model; AC: adjacent-category logit model; CR: continuation-ratio logit model; and CM: cumulative logit model), with and without sampling weights under outcome-dependent sampling. We observed that when using weights, all four models produced estimates with negligible bias of all regression coefficients. Without weights, only stereotype model and adjacent-category logit model produced estimates with negligible to low bias for all coefficients except for the intercepts in all scenarios. In one scenario, the unweighted continuation-ratio logit model also produced estimates with low bias. The weighted stereotype model and adjacent-category logit model also produced estimates with lower relative root mean square errors compared to the unweighted models in most scenarios. In some of the scenarios with unevenly distributed categories, the weighted continuation-ratio logit model and cumulative logit model produced estimates with lower relative root mean square errors compared to the respective unweighted models. We used a study of knee osteoarthritis as an example

**Barradas A, Iskandar I, Carder M, Gittins M, Fishwick D, Seed M, et al. Trends in occupational respiratory conditions with short latency in the UK. *Occupational Medicine*. 2024; 74(6):430-437.**

<https://doi.org/10.1093/occmed/kqae057> [open access]

Abstract: BACKGROUND: Occupational short-latency respiratory disease (SLRD; predominantly

asthma, rhinitis, hypersensitivity pneumonitis, and occupational infections) prevalence is difficult to determine but certain occupations may be associated with increased susceptibility. AIMS: This study aimed to examine which occupations and industries are currently at high risk for SLRD and determine their respective suspected causal agents. METHODS: SLRD cases reported to the SWORD scheme between 1999 and 2019 were analysed to determine directly standardized rate ratios (SRR) by occupation against the average rate for all other occupations combined. RESULTS: 'Bakers and flour confectioners' and 'vehicle spray painters' showed significantly raised SRR for SLRD in general, mostly due to occupational rhinitis (234.4; 95% CI 200.5-274.0) and asthma (63.5; 95% CI 51.5-78.3), respectively. Laboratory technicians also showed significantly raised SRR for occupational rhinitis (18.7; 95% CI 15.1-23.1), primarily caused by laboratory animals and insects. Metal machining setters and setter-operators showed increased SRR for occupational hypersensitivity pneumonitis (42.0; 95% CI 29.3-60.3), largely due to cutting/soluble oils. The occupation mostly affected by infectious disease was welding trades (12.9; 95% CI 5.7-29.3), mainly attributable to microbial pathogenicity. CONCLUSIONS: This study identified the occupational groups at increased risk of developing an SLRD based on data recorded over a recent two-decade period in the UK. Occupational asthma and rhinitis were identified as the prevailing conditions and hypersensitivity pneumonitis as a potentially rising respiratory problem in the metalworking industry

**Doran JD, McCrary SG, Morrison BM, Hiruma LS, and Chan DV. View of the work community and vocational rehabilitation services among adults with autism spectrum disorder. Rehabilitation Counseling Bulletin. 2024; 68(1):25-36.**

<https://doi.org/10.1177/00343552231155217>

**Gynning BE, Christiansen F, Lidwall U, and Brulin E. Impact of work-life interference on burnout and job discontent: a one-year follow-up study of physicians in Sweden. Scandinavian Journal of Work, Environment & Health. 2024; 50(7):519-526.**

<https://doi.org/10.5271/sjweh.4181> [open access]

Abstract: OBJECTIVES: In recent years, increased physician workload has led to higher levels of interference between work and private life with increasing stress and job discontent. The objective of this paper was to study if the experience of work-life interference (WLI) is associated with a high risk of burnout and discontent with work (turnover intention and job dissatisfaction) the following year among physicians in Sweden. METHODS: The study applied data for 2021 and 2022 from the Longitudinal Occupational Health survey for Health Care professionals in Sweden study. The data comprised a representative sample of physicians (N=1575) working in Sweden. Descriptive analyses included frequencies and estimates of prevalence with Chi-square and McNemar tests. Analyses of association were assessed through logistic regression reporting odds ratios (OR) and 95% confidence intervals (CI) adjusting for demographics and work-related factors. RESULTS: Higher levels of WLI in 2021 were associated with 1.53 (95% CI 1.05-2.25) times higher odds of reporting a high risk of burnout, 2.06 (95% CI 1.68-2.54) times higher odds of reporting job dissatisfaction, and 1.72 (95% CI 1.47-2.00) times higher odds of reporting turnover intention in 2022. CONCLUSIONS: Experiencing WLI negatively affects mental well-being and work satisfaction among physicians in Sweden. This could ultimately impact the quality of care and necessitates further research to clarify the role of WLI among healthcare workers in Sweden

**Howard J and Schulte P. Managing workplace AI risks and the future of work. American Journal of Industrial Medicine. 2024; 67(11):980-993.**

<https://doi.org/10.1002/ajim.23653>

Abstract: Artificial intelligence (AI)-the field of computer science that designs machines to perform tasks that typically require human intelligence-has seen rapid advances in the development of foundation systems such as large language models. In the workplace, the adoption of AI technologies can result in a broad range of hazards and risks to workers, as illustrated by the recent growth in industrial robotics and algorithmic management. Sources of risk from deployment of AI technologies across society and in the workplace have led to numerous government and private sector guidelines that propose principles governing the design and use of trustworthy and ethical AI. As AI capabilities become integrated in devices, machines, and systems across industry sectors, employers, workers, and occupational safety and health practitioners will be challenged to manage AI risks to worker health, safety, and well-being. Five risk management options are presented as ways to assure that only trustworthy and ethical AI enables workplace devices, machinery, and processes. AI technologies will play a significant role in the future of work. The occupational safety and health practice and research communities need to ensure that the promise of these new AI technologies results in benefit, not harm, to workers

**Judice PB, Silva H, Teno SC, and Hetherington-Rauth M. The effectiveness of a 6-month intervention with sit-stand workstation in office workers: results from the SUFHA cluster randomized controlled trial. Work. 2024; 79(2):879-890.**

<https://doi.org/10.3233/WOR-230624> [open access]

Abstract: BACKGROUND: Prolonged periods of sitting have been linked to negative health outcomes. Implementation of sit-stand desks in the workplace has been one strategy to reduce prolonged sitting. OBJECTIVE: To assess the effectiveness of sit-stand workstations on reducing sitting time and improving other health outcomes of office-based workers. METHODS: 39 Portuguese office workers were randomized into a 6-month parallel-group cluster RCT consisting by the implementation of sit-stand desks in the workplace. The primary outcome of sitting time was assessed using ActivPAL. Secondary outcomes included biometric, psychological, and diet-related variables. All outcomes were assessed at baseline and 6 months for the whole sample and at 3 months for a sub-sample of the intervention group (n = 11). RESULTS: No significant time\*group interaction was found for the primary or secondary outcomes, apart from waist circumference favoring the control group ( $\Delta$ -1.81 cm, pinteraction = 0.04). There were significant changes within the intervention group for sitting time (-44.0 min/day), prolonged sitting (>30 min) (-45.3 min/day) and standing time (51.7 min/day) at 3 months in the sub-sample and in prolonged sitting (>30 min) (-26 min/day) in the full intervention group (p < 0.05). Changes were also observed within the intervention group for percent body fat ( $\Delta$ -3.7%) and ratings of quality of life ( $\Delta$ 2.2), musculoskeletal discomfort ( $\Delta$ -4.9), overall fatigue ( $\Delta$ -2.2), and the need for recovery after work ( $\Delta$ -1.7) at 6-month follow-up (p < 0.05). CONCLUSION: Although not being effective for reducing sitting time, the implementation of sit-stand desks in the Portuguese workspace was shown to be feasible over the long term, received well by users, and may offer other health benefits. TRIAL REGISTRATION: OSF Registration, OSF.IO/JHGPW. Registered 15 November 2022. <https://doi.org/10.17605/OSF.IO/JHGPW>

**Katsu A, Mackenzie L, Elliott JM, Mackey M, and Tyack Z. Return-to-employment for working-aged adults after burn injury: a mixed methods scoping review. *Work*. 2024; 79(2):523-550.**

<https://doi.org/10.3233/WOR-230148>

**Abstract:** BACKGROUND: This scoping review aimed to identify the barriers, facilitators and benefits of returning to work following burn injury, outcome measures used, management strategies, and models of care. OBJECTIVE: To provide a comprehensive overview about working-aged adults returning to their preinjury employment after burn injury. METHODS: We followed a pre-determined scoping review protocol to search MEDLINE, CINAHL, Embase, PsycINFO, PubMed, Scopus, CCRCT and CDSR databases between 2000 to December 2023. Papers reporting primary data from previously employed adults with cutaneous burn injuries were included. RESULTS: In all, 90 articles met the review criteria. Return-to-work was both an outcome goal and process of recovery from burn injury. Physical and psychological impairments were identified barriers. Job accommodations and modifications were important for supporting the transition from hospital to workplace. Employment status and quality of life sub-scales were used to measure return-to-work. CONCLUSIONS: Consistent definitions of work and measurements of return-to-employment after burn injury are priorities for future research. Longitudinal studies are more likely to capture the complexity of the return-to-employment process, its impact on work participation and changes in employment over time. The social context of work may assist or hinder return-to-work more than physical environmental constraints. Equitable vocational support systems would help address disparities in vocational rehabilitation services available after burn injury

**Lacatena M, Ramaglia F, Vallone F, Zurlo MC, and Sommantico M. Lesbian and gay population, work experience, and well-being: a ten-year systematic review. *International Journal of Environmental Research and Public Health*. 2024; 21(10):1355.**

<https://doi.org/10.3390/ijerph21101355> [open access]

**Abstract:** Despite an increase in the promotion of equal opportunities at work, there is still persistent discrimination against lesbian and gay (LG) workers. In this vein, this study aimed to systematically review the research investigating the peculiarities of the work experience of LG people, particularly considering the theoretical frameworks in the approach to sexual minorities' work-related issues, as well as individual and contextual variables influencing the work experience and the impact they may have on health and well-being. We explored the PsycArticles, EMBASE, Scopus, and Web of Science electronic databases and the EBSCOHost (PsycInfo, Psychology and Behavioral Sciences Collection) scholarly search engine, between 01/01/2013 to 01/03/2023, with regards to the search terms "lgb\*", "gay\*", "lesbian\*", "homosexual\*", and "sexual minorit\*", associated with "employee\*", "personnel", "worker\*", and "staff", and with "workplace", "work", "job", "occupation", "employment", and "career". Data were narratively synthesized and critically discussed. Of the 1584 potentially eligible articles, 140 papers contributed to this systematic review. Five main theoretical frameworks were identified: (a) minority stress, (b) sexual prejudice and stigma, (c) queer and Foucauldian paradigms, (d) social identity theories, and (e) intersectionality. Furthermore, significant individual (e.g., outness, disclosure, and work-family conflict) and contextual (e.g., heterosexist and heteronormative workplace climate and culture) variables influencing LG people's work experience were identified. This review highlights the need to develop a unified theoretical model for the construction of specific



measurement tools to assess the work experience of LG people and for the implementation of interventions aimed at minimizing the effects of stigma in work contexts

**Liao D, Pulido MD, and Liu Y. Coping, surviving, or thriving: a scoping review examining social support for migrant care workers through four theoretical lenses. *Social Science & Medicine*. 2024; 360:117335.**

<https://doi.org/10.1016/j.socscimed.2024.117335>

**Abstract:** RATIONALE: Migrant care workers (MCWs) play a crucial role in addressing healthcare workforce shortages in many developed countries. Existing reviews document the significant challenges MCWs face—such as language barriers, interpersonal discrimination, and sexual harassment—and describe the social support that MCWs receive, but ambiguous application and heterogeneous measurement of theoretical constructs have thus far precluded researchers from deriving generalizable insights about how various types of social support positively and negatively impact MCWs' well-being. Therefore, we conducted a scoping review on this topic and organized the literature using four theoretical perspectives on social support. OBJECTIVE: To synthesize interdisciplinary research on social support for MCWs and extend existing reviews, we conducted a scoping review of 56 empirical studies to understand how these studies conceptualize and operationalize social support for MCWs and the theoretical and methodological approaches they adopt. FINDINGS: Our findings suggest that scholars have implicitly and explicitly adopted a wide array of theoretical perspectives (e.g., stress and coping, social constructivism), with few studies engaging theories in substantive ways. The reviewed studies have demonstrated both positive and negative implications of social support for MCWs' well-being. However, these studies heavily focus on the social support MCWs receive, whereas the negative impacts of MCWs' unmet support needs remain under-investigated. Although empirical studies use diverse methodologies to study this topic, most quantitative studies approach social support from a stress and coping perspective. We advocate for researchers conducting quantitative studies to adopt a critical consciousness and work toward statistically modeling how the intersectionality of MCWs' identities and the multi-level nature of MCWs' power positions within their social networks may impact whether MCWs successfully obtain the support they need to thrive

**Macfarlane GJ, D'Angelo S, Ntani G, and Walker-Bone K. Impact of fatigue on work productivity and health-related job loss. *Occupational Medicine*. 2024; 74(6):423-429.**

<https://doi.org/10.1093/occmed/kqae056> [open access]

**Abstract:** BACKGROUND: Fatigue is commonly reported in population surveys and has been identified in patients with health conditions as a key co-morbidity which makes remaining in work challenging. Such patients, however, rarely have access to programmes to help them manage their fatigue. AIMS: To quantify the relationship between fatigue, work impairment and health-related job loss. METHODS: We use data from the Health and Employment After Fifty study, a longitudinal study of people aged 50-64 years when recruited through general practices in England in 2013-14. During follow-up, fatigue was measured using the Fatigue Assessment Scale, work impairment was assessed using the Work Productivity and Activity Impairment scale, and changes in employment status were recorded. RESULTS: A total of 2743 participants were eligible for the current analysis; 23% satisfied criteria for being fatigued. People who were fatigued were less likely to have a partner, university degree, be physically active and were more likely to be obese. Their job was more likely to involve

shifts, be perceived as insecure, have reported difficulties coping with job demands, and be unsatisfying. After adjustment for socio-economic, lifestyle and work-related factors, they were almost twice as likely to report both work impairment (relative risk 1.8; 95% confidence interval [CI] 1.6, 2.1) and future health-related job loss, although the latter effect was only in those with other morbidities (incidence rate ratio 1.96; 95% CI 1.03-3.72). **CONCLUSIONS:** Providing evidence-based support for workers with health conditions who experience fatigue may have an important impact at a population level in terms of extending working lives

**Niedhammer I, Pineau E, and Bertrais S. Associations between work-related factors and sickness presenteeism: a prospective study using the national French working conditions survey. Occupational and Environmental Medicine. 2024; 81(9):448-455.**

<https://doi.org/10.1136/oemed-2023-109202> [open access]

**Abstract:** Objectives: The objectives were to assess the prospective associations between work-related factors, including psychosocial and physical work factors and working time/hours factors, and sickness presenteeism alone or combined with sickness absence. **Methods:** The study relied on prospective data of a national representative sample of 16 129 employees followed up from 2013 to 2016 in France. Work-related factors were assessed in 2013 and included 20 psychosocial work factors, 4 working time/hours factors and 4 physical work factors. Sickness presenteeism was studied using two items in 2016: the presence and duration of sickness presenteeism within the last 12 months. Weighted Hurdle and multinomial logistic regression models were performed to study the prospective associations between work-related factors at baseline and sickness presenteeism (both presence and duration) and sickness absence at follow-up. Models were adjusted for covariates. **Results:** Almost all psychosocial and physical work factors were predictive of sickness presenteeism (ORs ranging from 1.30 to 2.07 for men, and from 1.16 to 2.30 for women) but only some of them predicted its duration. Dose-response associations were observed between multiple exposures to these factors and sickness presenteeism. These factors predicted more sickness presenteeism alone or combined with sickness absence than sickness absence alone. Gender differences were observed in these associations, as some associations were found to be stronger among women than among men. **Conclusions:** There is a need to study sickness presenteeism and sickness absence combined. Prevention oriented towards the psychosocial and physical work environment may contribute to reduce sickness presenteeism and sickness absence.

**Reed BN and McGonagle AK. Working with chronic health conditions: a case for more proactive support. Workplace Health & Safety. 2024; 72(10):453.**

<https://doi.org/10.1177/21650799241267835>

**Tasli-Karabulut V and Sancak M. Vocational education and training: a pathway for refugees' integration in the labour market? Lessons from Syrian refugees in Tarsus, Turkey. Industrial Relations Journal. 2024; 55(6):401-424.**

<https://doi.org/10.1111/irj.12442> [open access]

**Abstract:** Vocational education and training (VET) has been promoted as a key strategy for refugees' integration into the labour markets of their host societies, with the expectation that it would provide refugees the skills that are necessary to access better employment in their host countries. Nevertheless, evidence from both high-income and middle-income countries (MICs) shows that refugees predominantly work in labour-intensive jobs under precarious conditions, and, VET has not

always been an effective instrument to improve refugees' employment conditions. This article aims to understand the reasons behind this situation. It studies the multiplicity of factors influencing the viability of VET for refugees' labour market integration, focusing on Syrian refugees in Tarsus, Turkey, a MIC currently hosting the largest number of refugees worldwide. It shows that the top-down, supply focused VET programmes may have limited effectiveness in promoting better employment for refugees if the designers and implementers of these programmes do not fully consider the local context and the refugees' specific realities.

**Vendelbosch R, Roelen C, Almansa J, Bultmann U, and Arends I. Do return-to-work trajectories differ by mental disorder diagnosis? A register study among 37 523 Dutch workers. *Scandinavian Journal of Work, Environment & Health*. 2024; 50(7):527-535.**

<https://doi.org/10.5271/sjweh.4183> [open access]

Abstract: OBJECTIVES: Return to work (RTW) of workers with mental disorders is often a process of gradually increasing work hours over time, resulting in a RTW trajectory. This study aimed to investigate 2-year RTW trajectories by mental disorder diagnosis, examining the distribution of age, sex and contracted work hours across the diagnosis-specific RTW trajectories. METHODS: Sickness absence episodes diagnosed within the ICD-10 chapter V (mental and behavioral disorders) and ICD-10 Z73.0 (burnout) were retrieved from a Dutch occupational health service register, together with age, sex and contracted work hours. Sickness absence episodes due to adjustment disorders (N=25 075), anxiety disorders (N=1335), burnout (N=3644), mood disorders (N=5076), and post-traumatic stress disorders (N=2393) were most prevalent and included in latent class growth analysis (LCGA) to estimate 23-month RTW trajectories. RESULTS: Four main RTW trajectories were identified for all mental disorder diagnoses: fast full RTW [range 82.4% (mood disorders) to 92.0% (adjustment disorders) of the study population], slow full RTW [3.5% (burnout) to 6.1% (mood disorders)], slow partial RTW [0.6% (adjustment disorders) to 1.6% (mood disorders)] and no RTW [2.2% (adjustment disorders) to 9.7% (mood disorders)]. Trajectories with a late onset of fast full RTW included higher percentages of women and lower percentages of full-time workers. CONCLUSIONS: RTW trajectories were similar for different mental disorder diagnoses although the distribution differed across diagnoses, with more partial and no RTW trajectories among workers with mood disorders. To better guide workers back to work, more knowledge is needed of factors associated with late, partial, or no RTW

**Willeke K, Janson P, Kirchner A, Tischer C, D'Souza A, Heuschmann PU, et al. Effects of occupational health promotion interventions on health-related outcomes among employees of small businesses and self-employed individuals: a systematic review. *Work*. 2024; 79(2):551-567.**

<https://doi.org/10.3233/WOR-230441> [open access]

Abstract: BACKGROUND: Compared to workers of larger companies it is less clear what health promoting interventions might be beneficial for employees of small businesses and self-employed individuals. OBJECTIVE: Our aim was to critically appraise trials investigating health promotion programs among small business workers and self-employed individuals, by means of a systematic review. METHODS: We conducted a search of primary studies using MEDLINE, Web of Science, LIVIVO and the Cochrane library. Our assessment followed the recommendations of the Cochrane Handbook for Systematic Reviews of Interventions and PRISMA. RESULTS: We identified six trials including 5,854 participants from Asia, North America and Australia. Most were of moderate methodological quality,



only one was of low quality. Some of the supervised psycho-educational lifestyle programs focusing on individual behavior changes showed benefits in terms of stress reduction and increased physical activity levels among small enterprise employees. CONCLUSIONS: There is a huge knowledge gap on evidence-based health promotion interventions for self-employed and for small business workers, especially in Europe

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