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

***Yanar B, Nasir K, Massoud A, Usmani S, Premji S, and Smith P. Employers' experiences with safe work integration of recent immigrants and refugees. *Safety Science*. 2022; 155:105856.**

<https://doi.org/10.1016/j.ssci.2022.105856>

Asare BY, Robinson S, Powell D, and Kwasnicka D. Health and related behaviours of fly-in fly-out workers in the mining industry in Australia: a cross-sectional study. *International Archives of Occupational & Environmental Health*. 2022; [epub ahead of print].

<https://doi.org/10.1007/s00420-022-01908-x> [open access]

Abstract: Background: Fly-In Fly-Out (FIFO), which entails travelling mostly from the urban areas to stay and work in remote areas for designated periods and travel back home to spend designated days of leave, has become a common work arrangement in the mining sector globally. This study examined the mental and physical health of FIFO workers and described their health-related behaviours during on-and off-shift periods. Methods: A cross-sectional study was conducted with FIFO workers (N = 216) in the mining industry in Australia who completed an online survey. Paired t-test and McNemer's analysis examined the differences in health-related behaviours during workers' on-and off-shift days. Logistic regression examined the predictors of physical health and psychological distress status of FIFO workers. Results: Workers reported longer sleep duration (7.5 ± 1.5 h vs 6.3 ± 1.2 h, $p < 0.001$) and better sleep quality (78.2% vs 46.3%, $p < 0.001$) during off-shift nights than on on-shift nights. Smoking prevalence was 26.4%, and workers reported smoking a similar number of cigarettes

per day during on-and off-shift days. Most workers reported drinking alcohol (86.1%) and more often at risky levels during off-shift than on-shift days (57.9% vs 34.3%, $p < 0.001$). Fruits and vegetable consumption was low but with higher vegetable intake during off-shift days (2.8 ± 1.4 vs 2.3 ± 1.3 serves, $p < 0.001$). Workers had good physical health status (91.2%), but 71.4% were overweight/obese and 33.4% indicated high levels of psychological distress. Working on long shifts (OR 6.63, 95% CI 1.84-23.91) and smoking (OR 7.17, 95% CI 2.67-19.26) were linked to high psychological distress. Conclusions: The prevalence of psychological distress and risky health behaviours was high. Interventions should aim to reduce psychological distress and support multiple behaviour changes, considering FIFO work-related characteristics including long shift hours.

Dean EE, Garrels V, Sigstad HM, and Wendelborg C. Employer willingness to hire people with intellectual disability: the influence of employer experience, perception of work, and social responsibility. *Journal of Vocational Rehabilitation*. 2022; 57(1):85-95.

<https://doi.org/10.3233/JVR-221201> [open access]

Abstract: BACKGROUND: For people with intellectual disability (ID), competitive integrated employment (CIE) offers many important benefits, including opportunities for inclusion as well as enhanced mental health and quality of life. Yet, CIE outcomes for people with ID are low. One systemic issue that has not been completely studied is employer willingness to hire workers with ID. OBJECTIVE: The aim of this study was to understand factors that effect employer willingness to hire people with ID, including employers' personal experience with ID, corporate social responsibility, and perceptions of work performance. METHOD: This study was conducted in Norway and used a survey design to understand factors that contribute to employer willingness to hire. RESULTS: Four hundred seventy-eight employers responded to the survey. Our findings suggest that employers' perception of work performance, corporate social responsibility, and prior experience hiring employees with ID are key predictors of willingness to hire. CONCLUSIONS: Supporting employers to gain experience with employees with ID in the workplace and understand the benefits of hiring employees with ID is a critical task in the endeavor to promote competitive integrated employment for people with ID.

Dugan AG, Namazi S, Cavallari JM, El GM, Rinker RD, Preston JC, et al. Participatory assessment and selection of workforce health intervention priorities for correctional supervisors. *Journal of Occupational & Environmental Medicine*. 2022; 64(7):578-592.

<https://doi.org/10.1097/JOM.0000000000002525> [open access]

Abstract: OBJECTIVE: A team of academics and unionized correctional supervisors collaborated to assess workforce health and determine intervention priorities using participatory methods and tools. METHODS: Correctional supervisors took a web-based survey. Univariate and bivariate tests examined attitudes/behaviors, exposures, and outcomes most strongly associated with health; risk based on rank within chain-of-command; and health behaviors amenable to change. We used a voting process tool to prioritize

intervention topics. RESULTS: Some health behaviors and outcomes were poor (89% overweight/ obese, 41% poor-quality sleep). We also found favorable health behaviors (annual check-ups) and psychosocial conditions (meaningful work). Some health risks (excessive overtime) were not amenable to change or resisted acknowledgment (poor mental health). The team voted to develop interventions on sleep, mental health, and obesity. CONCLUSIONS: Comprehensive health assessment informed the prioritization process, enabling the team to quickly reach consensus on intervention priorities

Emal LM, Tamminga SJ, Daams JG, Kezic S, Timmermans DRM, Schaafsma FG, et al. Risk communication about work-related stress disorders in healthcare workers: a scoping review. *International Archives of Occupational & Environmental Health*. 2022; 95(6):1195-1208.

<https://doi.org/10.1007/s00420-022-01851-x> [open access]

Abstract: PURPOSES: Healthcare workers are at risk of stress-related disorders. Risk communication can be an effective preventive health measure for some health risks, but is not yet common in the prevention of stress-related disorders in an occupational healthcare setting. The overall aim is to examine whether risk communication was part of interventions aimed at the prevention of stress-related disorders in healthcare workers. METHOD: We performed a scoping review using the framework of Arksey and O'Malley. We searched in Medline, Web of Science and PsychInfo for studies reporting on preventive interventions of stress-related disorders in healthcare workers between 2005 and December 2020. Studies were included when the intervention reported on at least one element of risk communication and one goal. We predefined four elements of risk communication: risk perception, communication of early stress symptoms, risk factors and prevention; and three goals: inform, stimulate informed decision-making and motivate action. RESULTS: We included 23 studies that described 17 interventions. None of the included interventions were primarily developed as risk communication interventions, but all addressed the goals. Two interventions used all four elements of risk communication. The prominent mode of delivery was face to face, mostly delivered by researchers. Early stress symptoms and risk factors were measured by surveys. CONCLUSIONS: Risk communication on risk factors and early signs of stress-related disorders is not that well studied and evaluated in an occupational healthcare setting. Overall, the content of the communication was not based on the risk perception of the healthcare workers, which limited the likelihood of them taking action

Hendricks KJ, Layne LA, Schleiff PL, and Javurek ABR. Surveillance of acute nonfatal occupational inhalation injuries treated in US hospital emergency departments, 2014-2017. *American Journal of Industrial Medicine*. 2022; 65(8):690-696.

<https://doi.org/10.1002/ajim.23400>

Abstract: Background: Acute nonfatal occupational inhalation injuries are caused by exposures to airborne toxicants and contaminants in the workplace. A 1990s study found that US emergency department (ED)-based inhalation injury rates were higher than those seen in

the United Kingdom and Canada. This study examines 4 years of hospital ED data to estimate current rates of occupational inhalation injuries. Methods: Data from the National Electronic Injury Surveillance System Occupational Supplement were used to identify nonfatal occupational inhalation injuries treated in US hospital EDs from 2014 to 2017. A workplace inhalation injury was defined as any worker treated in an ED as a result of inhaling a harmful substance at work. Results: From 2014 to 2017, there were an estimated 2.2 occupational inhalation injuries per 10,000 full-time equivalents (FTE) (95% confidence interval [CI]: 1.6-2.8) treated in EDs, a rate nearly four times that found in Bureau of Labor Statistics data. Although men incurred 60% (95% CI: 56%-64%) of the injuries, the overall injury rates for men and women were similar at 2.3 (95% CI: 1.7-2.9) and 2.1 (95% CI: 1.4-2.7) per 10,000 FTE, respectively. By age group, workers less than 25 years of age were at greater risk of injury at 4.1 injuries per 10,000 FTE (95% CI: 2.8-5.3). Conclusions: These results illustrate the burden of nonfatal occupational inhalation injuries, providing an understanding of how injuries are distributed based on demographics. While inhalation injury rates have declined over the last two decades, additional research is needed to determine whether interventions have reduced risk, or if the availability of alternate sources of medical treatment is a factor.

Rahrig Jenkins K, Stiehl E, Bales S, and Sherman B. Employee sources of stress and their associations with absenteeism: differences by wage category. *Journal of Occupational & Environmental Medicine*. 2022; 64(7):614-620.

<https://doi.org/10.1097/JOM.0000000000002546>

Abstract: Objective: The aim of this study was to examine the association between sources of stress and self-reported illness- or injury-related absenteeism (SRIRA) across three wage categories among participants in an employee health and well-being program. Methods: In multivariate analyses, linear regression models were analyzed separately by wage bands (low, <\$46,100; moderate, \$46,100 to \$62,800; high, >\$62,800). Results: In the low-wage category, child care concerns are positively associated ($b = 0.5$, $P = .05$), whereas illness or injury of a loved one is negatively associated ($b = -0.6$, $P = 0.05$) with SRIRA. Personal illness/injury is positively associated with SRIRA across all wage bands (in ascending order of wage bands: $b = 4.2$, $P < 0.001$; $b = 4.4$, $P < 0.001$; $b = 4.1$, $P < 0.001$). Conclusion: Results provide evidence that employees in different wage categories experience different home-based stressors, which may impact SRIRA. Employers collecting SRIRA data may be better able to respond to the needs of employees in different wage categories.

Kiema-Junes H, Saarinen A, Korpelainen R, Kangas M, Ala-Mursula L, Pyky R, et al. More physical activity, more work engagement? A Northern Finland birth cohort 1966 study. *Journal of Occupational & Environmental Medicine*. 2022; 64(7):541-549.

<https://doi.org/10.1097/JOM.0000000000002530> [open access]

Abstract: OBJECTIVE: To examine the role of physical activity (PA) and sedentary behavior (SED) for work engagement. METHODS: We used data from Northern Finland Birth Cohort 1966 Study ($n = 3046$ to 4356) to analyze self-reported weekly leisure-time physical activity

(LTPA), daily leisure-time sitting time (LTST) and work engagement. PA and SED 24-hour were also measured with accelerometer for 14 days. The data were analyzed using linear regression analyses. RESULTS: High self-reported LTPA and sports participation were associated with higher work engagement and its subdimensions. High self-reported ST was associated with lower work engagement, vigor, and absorption. Accelerometer-measured light PA was associated with higher work engagement and vigor, and accelerometer measured steps were linked to higher vigor. Accelerometer-measured SED was associated with lower work engagement, vigor, and dedication. CONCLUSIONS: Self-reported and accelerometer-measured PA and SED may play a role in people's work engagement

Lee NR, Kim SW, Joo JH, Lee JH, Lee JH, and Lee KJ. Relationship between workplace violence and work-related depression/anxiety, separating the types of perpetrators: a cross-sectional study using data from the fourth and fifth Korean Working Conditions Surveys (KWCS). *Annals of Occupational and Environmental Medicine*. 2022; 34(1):e13.

<https://doi.org/10.35371/aoem.2022.34.e13> [open access]

Abstract: Background Work is an inseparable element of a person's life, and violence in the workplace has various effects on individual workers and companies. While most studies have focused on specific industries, very few studies have investigated the influence of workplace violence by co-workers. Therefore, this study aimed to evaluate the association between workplace violence and work-related depression/anxiety in various occupations by differentiating the perpetrators of violence as co-workers and clients. Methods This study was conducted based on data from the 4th and 5th Korean Working Conditions Surveys (KWCS). The experience of workplace violence was classified in terms of the perpetrator: workplace violence by co-workers and that by clients. Work-related depression and anxiety were assessed using questions about health problems related to depression and anxiety and whether the problems were related to work. Descriptive statistics, X^2 tests, and multiple logistic regression analyses were performed using the SPSS 26.0. Results After adjusting for sociodemographic characteristics (age, education, income, subjective health status) and occupational characteristics (occupation, weekly working hours, type of employment, size of workplace, and shift work), male workers with experience of workplace violence by co-workers were found to be at a higher risk of work-related depression/anxiety (odds ratio [OR], 11.52; 95% confidence interval [CI], 8.65–15.36). The same was confirmed for female workers (OR, 10.89; 95% CI, 7.90–15.02). Conclusions Employees who experienced workplace violence from co-workers were found to be more vulnerable to work-related depression/anxiety. Continuous contact between the victim and the perpetrator may occur, and the possibility of a secondary assault can frighten the victim. Appropriate prevention and intervention measures that focus on the perpetrators of violence are needed.

Peccoralo LA, Pietrzak RH, Feingold JH, Syed S, Chan CC, Murrough JW, et al. A prospective cohort study of the psychological consequences of the COVID-19 pandemic on frontline healthcare workers in New York City. *International Archives of Occupational & Environmental Health*. 2022; 95(6):1279-1291.

<https://doi.org/10.1007/s00420-022-01832-0> [open access]

Abstract: Objectives: We sought to describe the course and correlates of psychological distress in frontline healthcare workers (FHCWs) during the COVID-19 pandemic in New York City (NYC). Methods: A prospective cohort study of FHCWs at the Mount Sinai Hospital was conducted during the initial 2020 surge (T1) and 7 months later (T2). Psychological distress [i.e., positive screen for pandemic-related post-traumatic stress disorder (PTSD), major depressive disorder (MDD), and/or generalized anxiety disorder (GAD)], occupational and personal exposures to COVID-19, coping strategies, and psychosocial characteristics were assessed. Four courses of psychological distress response were identified: no/minimal, remitted, persistent, and new-onset. Multinomial logistic regression and relative importance analyses were conducted to identify factors associated with courses of distress. Results: Of 786 FHCWs, 126 (16.0%) FHCWs had persistent distress; 150 (19.1%) remitted distress; 35 (4.5%) new-onset distress; and 475 (60.4%) no/minimal distress. Relative to FHCWs with no/minimal distress, those with persistent distress reported greater relationship worries [19.8% relative variance explained (RVE)], pre-pandemic burnout (18.7% RVE), lower dispositional optimism (9.8% RVE), less emotional support (8.6% RVE), and feeling less valued by hospital leadership (8.4% RVE). Relative to FHCWs with remitted symptoms, those with persistent distress reported less emotional support (29.7% RVE), fewer years in practice (28.3% RVE), and psychiatric history (23.6% RVE). Conclusions: One-fifth of FHCWs in our study experienced psychological distress 7 months following the COVID-19 surge in NYC. Pandemic-related worries, pre-pandemic burnout, emotional support, and feeling valued by leaders were linked to persistent distress. Implications for prevention, treatment, and organizational efforts to mitigate distress in FHCWs are discussed.

Pedersen JE, Strandberg-Larsen K, Andersson M, and Hansen J. Risk of breast cancer in Danish women occupationally exposed to organic solvents, including ethanol. *American Journal of Industrial Medicine*. 2022; 65(8):660-668.

<https://doi.org/10.1002/ajim.23397>

Abstract: Background: Organic solvents have been suggested to increase the risk of breast cancer although the epidemiologic evidence is limited. This study explored the association between organic solvents and breast cancer. Methods: This nested population-based case-control study comprised 845 women with primary breast cancer initially identified in the Danish Cancer Registry between 2000 and 2003, and 1500 controls matched on year of birth who were randomly selected from the Danish Civil Registration System. Information on occupational exposure to organic solvents, and specifically ethanol, as well as risk factors for breast cancer was collected through structured interviews. Results: For organic solvents, an increased risk was indicated for ever-exposure (odds ratio = 3.20, 95% confidence interval:

2.27-4.52), however, no noteworthy risk patterns were detected when exploring duration of exposure and cumulative exposure. Ever-exposure to organic solvents was associated with an increased risk of estrogen receptor negative and positive tumors as well as pre- and postmenopausal breast cancer. No associations were detected between occupational exposure to ethanol and breast cancer. Conclusions: This study indicates a positive association between organic solvents and breast cancer.

Ricciardelli R, McKendy L, Jamshidi L, and Carleton RN. Mental health disorders and suicidal behaviors among provincial correctional workers. *Journal of Occupational & Environmental Medicine*. 2022; 64(6):504-509.

<https://doi.org/10.1097/JOM.0000000000002488> [open access]

Abstract: OBJECTIVE: We examined the prevalence of mental health disorders and suicidal behaviors (ideation, planning, and attempts) among a sample of provincial correctional workers in Manitoba. METHODS: Self-reported mental health data from a survey on correctional worker mental health and well-being were analyzed for 491 correctional workers. RESULTS: Over half (57%) of respondents screened positive for mental health disorder, most commonly major depressive disorder, and over one-third of respondents (37%) screened positive for more than one disorder. Positive mental health screens for all mental health disorders were associated with statistically significantly increased odds of lifetime suicidal ideation, and positive screens for most disorders were associated with past year suicidal ideation. CONCLUSIONS: Relative to other public safety personnel and the general public, correctional workers appear have a higher prevalence of mental health disorders and suicidal behaviors. The association between positive screens for mental health disorders and suicidal behaviors highlights the vulnerability of correctional workers in regards to mental well-being

Schutz MA and Carter EW. Elevating the employment outcomes of transition-age youth with disabilities: four decades of intervention research. *Journal of Vocational Rehabilitation*. 2022; 57(1):1-21.

<https://doi.org/10.3233/JVR-221194> [open access]

Abstract: BACKGROUND: Preparing students with disabilities for future employment is a primary purpose of special education and secondary transition services. OBJECTIVE: Knowing which interventions lead to subsequent employment is essential for establishing a strong evidence base that can guide the field. METHODS: We systematically reviewed available experimental and quasi-experimental studies that evaluated interventions addressing employment outcomes for transition-age youth with disabilities (ages 14–22). RESULTS: These 25 studies were of varied methodological quality, and most interventions improved employment status for youth. Collectively, these findings emphasize the importance and impact of connecting youth with disabilities to career development experiences while they are still receiving transition supports. CONCLUSION: We offer recommendations for future

research focused on unpacking the key features of these multi-component interventions as well as guidance on assessing meaningful employment outcomes for youth with disabilities.

Seed MJ, Fowler K, Byrne L, Carder M, Daniels S, Iskandar IYK, et al. Skin and respiratory ill-health attributed to occupational face mask use. *Occupational Medicine*. 2022; 72(5):339-342.

<https://doi.org/10.1093/occmed/kqac031>

Abstract: BACKGROUND: Face mask use in the workplace has become widespread since the onset of the Covid-19 pandemic and has been anecdotally linked to adverse health consequences. AIMS: To examine reports of adverse health consequences of occupational face mask use received by The Health and Occupation Research (THOR) network before and after the pandemic onset. METHODS: THOR databases were searched to identify all cases of ill-health attributed to 'face mask' or similar suspected causative agent between 1 January 2010 and 30 June 2021. RESULTS: Thirty two cases were identified in total, 18 reported by occupational physicians and 14 by dermatologists. Seventy-five per cent of cases were reported after the pandemic onset and 91% cases were in the health and social care sector. 25 of the 35 (71%) diagnoses were dermatological, the most frequent diagnoses being contact dermatitis (14 cases) and folliculitis/acne (6 cases). Of the seven respiratory diagnoses, four were exacerbation of pre-existing asthma. CONCLUSIONS: There is evidence of an abrupt increase in reports of predominantly dermatological ill-health attributed to occupational face mask use since the start of the pandemic. Respiratory presentations have also occurred

Speckemeier C, Niemann A, Wasem J, Buchberger B, and Neusser S. Methodological guidance for rapid reviews in healthcare: a scoping review. *Research Synthesis Methods*. 2022; 13(4):394-404.

<https://doi.org/10.1002/jrsm.1555>

Abstract: The aim of the present work was to identify published methodological guidance for rapid reviews (RRs) and to analyze the recommendations with regard to time-saving measures. A literature search was performed in PubMed and EMBASE in November 2020. In addition, a search based on Google Scholar and websites of governmental and non-governmental organizations was conducted. Literature screening was carried out by two researchers independently. A total of 34 publications were included. These describe 38 distinct RR types. The timeframe to complete the identified RR types ranges from 24 h to 6 months (mean time 2.2 months). For most RR types a specific research question (n = 21) and a prioritizing search (n = 25; preference for e.g., systematic reviews and meta-analyses) is employed. Different approaches such as reduced personnel in literature screening (n = 21) and data extraction (n = 21) are recommended. The majority of RR types include a bias assessment (n = 28) and suggest a narrative report focusing on safety and efficacy. The included RR types are heterogeneous in terms of completion time, considered domains and

strategies to alter the standard systematic review methods. A rationale for the recommended shortcuts is rarely presented.

Wilson TN, Nambiema A, Porro B, Descatha A, Aublet-Cuvelier A, Evanoff B, et al. Effectiveness of physical activity interventions on return to work after a cancer diagnosis: a systematic review and meta-analysis. Journal of Occupational Rehabilitation. 2022; [epub ahead of print].

<https://doi.org/10.1007/s10926-022-10052-9>

Abstract: Purpose The aim of this study was to assess the effectiveness of physical activity (PA) interventions on return to work (RTW) in cancer survivors, compared to usual care, and to determine the dose of PA needed to improve this outcome. Methods A systematic review and meta-analysis were conducted according to PRISMA guidelines. Six electronic databases including PubMed, Embase, Web of Science, CENTRAL, PsycINFO, and Scopus were searched to identify studies, and completed by a search of grey literature and health organization websites. Two authors performed screening, selection, and data extraction independently. Study and intervention characteristics were extracted and summarized. Pooled risk ratio (RR) was estimated using a weight random-effects model with 95% confidence intervals (CIs). Results A total of 2655 records were identified, of which 8 intervention studies were included. The sample size of the included studies varied between 41 and 240, giving a total of 1087 participants aged between 18 and 75 years. Compared with usual care, PA interventions had a significant positive effect on RTW among cancer survivors with a pooled RR of 1.29 (95% CI 1.17, 1.42). We found that PA interventions (aerobic and resistance exercises) with an exercise dose between 7.6 METs.h/week and 15 METs.h/week, consisting in 50-60 min per session of moderate to vigorous physical exercise, twice a week seems relevant in improving RTW. Conclusions Our results showed, with moderate quality evidence that PA interventions are more effective than usual care in increasing the rate of RTW in cancer survivors. SYSTEMATIC REVIEW REGISTRATION: PROSPERO Registration Number, CRD42020203614.

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