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

Akinola OA and Doabler CT. Determinants of employment outcomes of transition-age youth with depressive disorders. *Journal of Vocational Rehabilitation*. 2022; 56(1):55-68. <https://doi.org/10.3233/JVR-211172>

Ayalon L and Rapoliene G. Changes in attitudes toward aging, older people and elder care from the perspective of former migrant care workers. *Research on Aging*. 2022; [epub ahead of print]. <https://doi.org/10.1177/01640275211069605>

Abstract: Research on migrant home care workers has focused mainly on working conditions in the recipient countries and on the relationships between care recipients and their family members. However, because migrant care workers often are transnational, going back and forth between countries, some return to their home country, bringing with them newly acquired attitudes and practices. Based on a theoretical model of the transfer of innovation, this study aims to explore changes in attitudes toward aging and elder care among former migrant care workers. We conducted 13 in-depth interviews with migrant care workers who permanently returned to Lithuania. Data were analyzed thematically. Findings revealed changes in workers' perceptions of aging, including perceptions of their own old age, older people, and elder care. These changes were mainly attributed to their personal connections and encounters with different cultural attitudes and practices in the host country. Our findings indicate that returning migrant home care workers may act as potential innovators who bring back to their home country new ideas about aging and elder care

Bryan ML, Bryce AM, and Roberts J. Employment related COVID-19 exposure risk among disabled people in the UK. SSM - Population Health. 2021; 16:100984.

<https://doi.org/10.1016/j.ssmph.2021.100984> [open access]

Abstract: We provide new evidence about the work-related exposure of disabled people to COVID-19 using household survey data combined with a novel occupational risk indicator. Despite their higher clinical vulnerability, disabled people in employment in the UK were significantly more likely to be going out to work during the pandemic rather than working from home, and were working in occupations that were more exposed to COVID-19 than the occupations of non-disabled workers. Our results raise questions about whether there are sufficient safeguards for disabled people in the workplace, and have longer-term implications for a labour market where COVID-19 is a persistent health issue

Calvet B, Vezina N, Laberge M, Nastasia I, Sultan-Taieb H, Toulouse G, et al. Integrative prevention and coordinated action toward primary, secondary and tertiary prevention in workplaces: a scoping review. Work. 2021; 70(3):893-908.

<https://doi.org/10.3233/WOR-213609>

Abstract: BACKGROUND: Integrated approaches are valued in several occupational health strategic programmatic orientations. A better understanding of the use of integrative prevention in coordinating measures is needed to develop its use in workplaces. OBJECTIVE: Identify workplace integrative prevention approaches and definitions of prevention (primary, secondary and tertiary) in the literature. METHODS: A scoping review was conducted following Arksey and O'Malley (2005). The literature search was carried out in three databases without date restrictions. In order to be retained, the articles needed to address at least two levels of prevention using an integrative approach in a workplace setting. A qualitative analysis was conducted. RESULTS: The review yielded 16 published articles between 1995 and 2017. The articles addressed mental health, musculoskeletal disorder prevention and comprehensive approaches. Integrative prevention approaches are diverse and are not always named as such. Prevention definitions are not homogenous. CONCLUSIONS: This review identified some of the integrative prevention characteristics aimed at coordinated action for prevention in the workplace and to clarify measures taken at different levels of prevention. Further studies are needed to elaborate on the implementation of integrative prevention in the workplace

Corso M, Cancelliere C, Mior S, Salmi LR, Cedraschi C, Nordin M, et al. Are nonpharmacologic interventions delivered through synchronous telehealth as effective and safe as in-person interventions for the management of patients with nonacute musculoskeletal conditions? A systematic rapid review. Archives of Physical Medicine & Rehabilitation. 2022; 103(1):145-154.

<https://doi.org/10.1016/j.apmr.2021.09.007>

Abstract: OBJECTIVE: To determine whether nonpharmacologic interventions delivered through synchronous telehealth are as effective and safe compared with in-person

interventions for the management of patients with musculoskeletal conditions in improving pain, functioning, self-reported recovery, psychological outcomes, or health-related quality of life using rapid review methods. DATA SOURCES: We searched MEDLINE, CINAHL, Embase, and Cochrane Central Register of Controlled Trials from 2010 to August 2020 for randomized controlled trials (RCTs) published in English or French; we updated our search in January 2021. STUDY SELECTION: One reviewer screened citations in 2 phases (phase 1: title/abstract; phase 2: full-text) selecting RCTs comparing synchronous telehealth with in-person care for the management of musculoskeletal conditions. A random 10% sample was screened by 2 independent reviewers with minimum 95% agreement prior to full screening. One reviewer critically appraised and one reviewer validated appraisal for eligible RCTs. DATA EXTRACTION: One author extracted participant characteristics, setting, sample size, interventions, comparisons, follow-up period, and outcome data. A second author validated data extraction. DATA SYNTHESIS: We summarized the findings narratively. Low- to moderate-quality evidence suggests that synchronous telehealth (ie, videoconference or telephone calls) alone or in combination with in-person care leads to similar outcomes as in-person care alone for nonspecific low back pain, generalized osteoarthritis, hip or knee osteoarthritis, and nonacute headaches in adults. CONCLUSIONS: Synchronous telehealth may be an option for the management of nonacute musculoskeletal conditions in adults. However, our results may not be generalizable to rural or low socioeconomic populations. Future research should investigate the outcomes associated the use of new technologies, such as videoconference

Drydakis N. Adverse working conditions and immigrants' physical health and depression outcomes: a longitudinal study in Greece. *International Archives of Occupational & Environmental Health*. 2022; 95(2):539-556.

<https://doi.org/10.1007/s00420-021-01757-0>

Abstract: PURPOSE: The study examines whether adverse working conditions for immigrants in Greece bear an association with deteriorated physical health and increased levels of depression during 2018 and 2019. METHODS: A panel dataset resulted from the collaboration with centers providing free Greek language courses to immigrant population groups. Random Effects models assess the determinants of physical health and depression. RESULTS: Findings indicate that workers with no written contract of employment, receiving hourly wages lower than the national hourly minimum wages, and experiencing insults and/or threats in their present job experience worse physical health and increased levels of depression. Moreover, the study found that the inexistence of workplace contracts, underpayment, and verbal abuse in the workplace may coexist. An increased risk of underpayment and verbal abuse reveals itself when workers do not have a contract of employment and vice versa. CONCLUSION: Immigrant workers without a job contract might experience a high degree of workplace precariousness and exclusion from health benefits and insurance. Immigrant workers receiving a wage lower than the corresponding minimum potentially do not secure a living income, resulting in unmet needs and low investments in health. Workplace abuse might correspond with vulnerability related to humiliating treatment. These conditions can

negatively impact workers' physical health and foster depression. Policies should promote written employment contracts and ensure a mechanism for workers to register violations of fair practices

Guo AH, Diaz-Caturan MV, Reis C, Carritte D, Smith BMT, Wester YO, et al. Practical strategies and tools for use by occupational and environmental medicine departments during COVID-19 pandemic surges. *Journal of Occupational & Environmental Medicine*. 2022; 64(1):10-18.

<https://doi.org/10.1097/JOM.0000000000002390> [open access]

Abstract: OBJECTIVES: Occupational and environmental medicine (OEM) departments in healthcare institutions can be quickly overwhelmed when COVID-19 infection rates rapidly and simultaneously increase in the workforce and the patients served. Our goal is to present a detailed toolkit of practical approaches for use by front-line OEM specialists to address workforce management tasks during pandemic surges. METHODS: Specific focus is on tasks related to employee symptom triage, exposure risk assessment, workplace contact tracing, and work restrictions. RESULTS: Tools include strategies used by customer call centers, two decision support algorithms (exposure due to cohabitation or non-cohabitation), a color-coded employee case tracking tool, a contact tracing protocol, and documentation templates that serve as memory aids for encounters. CONCLUSIONS: These tools are created with commonly used software. Implementation is feasible in most front-line OEM settings, including those with limited resources

Hammer LB, Brady JM, Brossoit RM, Mohr CD, Bodner TE, Crain TL, et al. Effects of a Total Worker Health® leadership intervention on employee well-being and functional impairment. *Journal of Occupational Health Psychology*. 2021; 26(6):582-598.

<https://doi.org/10.1037/ocp0000312>

Abstract: Although evidence has been mounting that supervisor support training interventions promote employee job, health, and well-being outcomes, there is little understanding of the mechanisms by which such interventions operate (e.g., Hammer et al., 2022; Inceoglu et al., 2018), nor about the integration of such organizational-level interventions with individual-level interventions (e.g., Lamontagne et al., 2007). Thus, the present study attempts to unpack the mechanisms through which supervisor support training interventions operate. In addition, the present study examines an integrated Total Worker Health® intervention that combines health protection in the form of supervisor support training (i.e., family supportive supervisor behaviors and supervisor support for sleep health) with a health promotion approach in the form of feedback to improve sleep health behaviors. Using a cluster randomized controlled trial drawing on a sample of 704 full-time employees, results demonstrate that the Total Worker Health intervention improves employee job well-being (i.e., increased job satisfaction and reduced turnover intentions), personal well-being (i.e., reduced stress before bedtime), and reduces personal and social functional impairment at 9 months postbaseline through employee reports of supervisors' support for sleep at 4

months postbaseline, but not through family supportive supervisor behaviors. Effects were not found for general stress or occupational functional impairment outcomes. Implications are discussed, including theoretical mechanisms by which leadership interventions affect employees, supervisor training, as well as the role of integrated organizational and individual-level interventions. (PsycInfo Database Record (c) 2022 APA, all rights reserved)

Keyaerts S, Godderis L, Delvaux E, and Daenen L. The association between work-related physical and psychosocial factors and musculoskeletal disorders in healthcare workers: moderating role of fear of movement. *Journal of Occupational Health*. 2022; 64(1):e12314. <https://doi.org/10.1002/1348-9585.12314> [open access]

Abstract: OBJECTIVES: Knowledge is lacking on the interaction between fear of movement (FOM) and work-related physical and psychosocial factors in the development and persistence of musculoskeletal disorders (MSDs). METHODS: In this cross-sectional study, 305 healthcare workers from several Belgian hospitals filled out a questionnaire including sociodemographic factors, work-related factors (social support, autonomy at work, workload, and physical job demands), FOM, and MSDs for different body regions during the past year. Path analysis was performed to investigate (1) the association between the work-related factors, FOM and MSDs, and (2) the moderating role of FOM on the association between the work-related factors and MSDs among healthcare workers. RESULTS: Complaints were most frequently located at the neck-shoulder region (79.5%) and lower back (72.4%). Physical job demands (odds ratio [OR] 2.38 and 95% confidence interval [CI] 1.52-3.74), autonomy at work (OR 1.64 CI [1.07-2.49]) and FOM (OR 1.07 CI [1.01-1.14] and OR 1.12 CI [1.06-1.19]) were positively associated with MSDs. Healthcare workers who experienced high social support at work (OR 0.61 CI [0.39-0.94]) were less likely to have MSDs. Fear of movement interacted negatively with workload (OR 0.92 CI [0.87-0.97]) and autonomy at work (OR 0.94 CI [0.88-1.00]) on MSDs. CONCLUSIONS: Work-related physical and psychosocial factors as well as FOM are related to MSDs in healthcare workers. FOM is an important moderator of this relationship and should be assessed in healthcare workers in addition to work-related physical and psychosocial factors to prevent or address MSDs

Macpherson RA, Neis B, and McLeod CB. Differences in workers' compensation claim rates for within-province and out-of-province workers in British Columbia, Canada, 2010-2017. *American Journal of Industrial Medicine*. 2022; 65(3):214-227. <https://doi.org/10.1002/ajim.23327>

Abstract: BACKGROUND: Little is known about the work-related injury and illness risk of out-of-province workers. This study examines whether there are differences in work-related injury and illness claim rates between within-province and out-of-province workers in British Columbia (BC), Canada. METHODS: Workers' compensation claim data for injuries and illnesses in BC from 2010 to 2017 were linked with denominator data from Statistics Canada. Multivariable negative binomial regression estimated the claim rate ratio (RR) and 95% confidence intervals (CI) for out-of-province workers with all, health care-only (HCO), short-

term disability, long-term disability, and fatality (SLF), and serious injury (SI) claims, compared to within-province workers. RESULTS: Compared to within-province workers, out-of-province workers had a lower total claim rate (RR: 0.54, 95% CI: 0.52-0.57), adjusting for sex, age, industry sector, and year. Differences in rates differed by claim type, with the largest differences for HCO claims (RR: 0.49, 95% CI: 0.47-0.52) and smallest differences for SI claims (RR: 0.85, 95% CI: 0.78-0.92). Sex-stratified models showed larger differences for males than females, with older female out-of-province workers having elevated SI claim rates. Industry-specific models showed that, even in sectors with high proportions of out-of-province workers' claims, these workers have lower claim rates than within-province workers. CONCLUSIONS: Out-of-province workers generally have lower claim rates than within-province workers. The overall duration of work exposure, and underreporting or underclaiming, are factors that may explain these lower claim rates. Understanding the determinants and differences of these claim rates may improve the administration and adjudication of claims while also identifying where further prevention measures may be merited

Malinska M, Bugajska J, and Bartuzi P. Occupational and non-occupational risk factors for neck and lower back pain among computer workers: a cross-sectional study. *International Journal of Occupational Safety & Ergonomics*. 2021; 27(4):1108-1115.

<https://doi.org/10.1080/10803548.2021.1899650>

Abstract: Objectives. The aim of this study was to identify major determinants for neck and lower back pain (LBP) among office workers of different ages. Methods. Computer workers (N=2000) responded to a questionnaire on demographics, musculoskeletal disorders (MSDs), lifestyle characteristics, ergonomics of computer work and psychosocial and physical job characteristics. Results. Over 48% of respondents complained of MSDs last year, in particular neck pain and LBP. The results of logistic regression analysis revealed that prolonged computer time (odds ratio [OR] 1.92) and increased job demands (OR 1.06) were likely to increase the risk of neck pain, while social support (OR 0.96) and the use of seat-plate height adjustment (OR 0.64) would help to reduce the risk. Risk factors for LBP included smoking more than 14 cigarettes a day (OR 2.21), long hours spent working with a computer (OR 1.94), increased physical exertion at work (OR 1.29), increased work demands (OR 1.03) and older age (OR 1.03). Conclusions. The most effective way to eliminate MSD hazards in the workplace is to develop health programmes aimed at advocating healthy lifestyle behaviours and raising workers' awareness of workstation ergonomics and work organization, especially for women and older workers

Menard AD, Soucie K, Freeman LA, and Ralph JL. "My problems aren't severe enough to seek help": stress levels and use of mental health supports by Canadian hospital employees during the COVID-19 pandemic. *Health Policy*. 2022; 126(2):106-111.

<https://doi.org/10.1016/j.healthpol.2022.01.002> [open access]

Abstract: Due to the unique set of stressors associated with the COVID-19 pandemic,

healthcare workers in acute care settings may be facing elevated rates of mental health symptomatology. The purpose of this study was to assess levels of depression, anxiety, and stress in a sample of healthcare employees working in hospitals and their use of formal and informal mental health supports. Data was gathered over a three-week period in December 2020 as COVID cases began to rise sharply in Ontario, Canada. Results from an online survey of 650 healthcare employees suggested that overall levels of depression, anxiety, and stress were mild. However, a significant minority of participants reported severe or extremely severe levels of depression (14.4%), anxiety (21.8%), and stress (13.5%). Levels of distress were higher among women, younger participants, those who did not work directly with COVID+ patients, and those who were redeployed. Use of formal mental health supports (e.g., Employee Assistance Plans, teletherapy) was very low (<10%), with the most frequently-reported reason for not using supports being "problems not severe enough to require this service". Implications are considered for healthcare policy decisions as hospital systems attempt to address the mental health needs of their employees

Noll L, Mallows A, and Moran J. Psychosocial barriers and facilitators for a successful return to work following injury within firefighters. *International Archives of Occupational & Environmental Health*. 2022; 95(2):331-339.

<https://doi.org/10.1007/s00420-021-01712-z> [open access]

Abstract: OBJECTIVE: The aim was to explore firefighter's experiences during their recovery from injury. Focused specifically on exploring perceived psychosocial barriers and facilitators firefighters faced during recovery and return to work. METHODS: Semi-structured interviews were used to provide an in-depth understanding of the firefighter's experiences. The semi-structured interviews were informed by a topic guide. The topic guide focused on five main themes, (1) overall experience of returning to operational duties following an injury, (2) perceived barriers experienced during their return to work, (3) perceived facilitators experienced during their return to work, (4) confidence in participating in physical activity following injury and (5) where they felt areas of improvement could be made with the return to work process. Thematic analysis of the data collected was undertaken using The Framework Method. RESULTS: Two main themes were sought after transcription: barriers and facilitators. From these, nine subthemes were identified (1) communication, (2) confidence in physical activity participation, (3) modified duties, (4) physiotherapy, (5) return to operational duties, (6) support, (7) inconsistency, (8) use of station gyms, (9) detachment from the watch. CONCLUSIONS: Consideration should be made for the consistency of procedures followed during an individual's return to work following an injury. Further research is needed to understand if the themes identified in this study are the same for other fire services. Further research is also needed to understand how the findings may be best implemented within the fire service

Oakman J, Weale V, Kinsman N, Nguyen H, and Stuckey R. Workplace physical and psychosocial hazards: a systematic review of evidence informed hazard identification tools.

Applied Ergonomics. 2022; 100:103614.

<https://doi.org/10.1016/j.apergo.2021.103614>

Abstract: Prevention of musculoskeletal disorders (MSDs) requires the identification of physical and psychosocial hazards. This systematic review aimed to identify accessible and validated tools, for the assessment of workplace physical and psychosocial hazards, and consolidate the results into a matrix for use by work health and safety (WHS) professionals. Web of Science, Medline, ProQuest Central, and PsychInfo electronic databases, along with grey literature, were searched (Jan 1990 to July 2020). Studies that included tools with evidence of validity for the identification of physical hazards, psychosocial hazards, or both were included. A total of 83 tools were identified and then reviewed to ensure the tools were accessible. The final matrix included a total of 26 tools (16 physical, 4 psychosocial, and 6 comprehensive [physical and psychosocial]). Evidence on best practice for MSD mitigation supports the need for a comprehensive approach; however, the current review identified limitations in the availability of such tools to support WHS professionals

Okawara M, Ishimaru T, Tateishi S, Hino A, Tsuji M, Ogami A, et al. Treatment interruption is a risk factor for sickness presenteeism: a large-scale cross-sectional study during the COVID-19 pandemic. Journal of Occupational Health. 2022; 64(1):e12313.

<https://doi.org/10.1002/1348-9585.12313> [open access]

Abstract: OBJECTIVES: This study examined the relationship between interruption to routine medical care during the coronavirus disease 2019 pandemic and sickness presenteeism among workers in Japan. METHODS: A cross-sectional study using data obtained from an internet monitor questionnaire was conducted. Interruption to medical care was defined based on the response "I have not been able to go to the hospital or receive treatment as scheduled." The fraction of sickness presenteeism days in the past 30 days was employed as the primary outcome. A fractional logit model was used for analysis to treat bounded data. RESULTS: Of the 27036 participants, 17526 (65%) were workers who did not require routine medical care, 8451 (31%) were using medical care as scheduled, and 1059 (4%) experienced interrupted medical care. The adjusted odds ratio (aOR) of sickness presenteeism was significantly higher among workers who experienced interrupted medical care (3.44; 95% confidence interval [CI]: 3.04-3.89) than those who did not require routine medical care. In terms of symptoms, the highest aOR was observed among workers with mental health symptoms (aOR: 5.59, 95% CI: 5.04-6.20). CONCLUSIONS: This study suggests the importance of continuing necessary treatment during a pandemic to prevent presenteeism

Soler-Font M, Ramada JM, Montero-Moraga JM, Palencia-Sanchez F, Merelles A, Macdonald EB, et al. What is meant by case management for the return-to-work of workers with musculoskeletal disorders? A scoping review. Work. 2021; 70(4):1069-1087.

<https://doi.org/10.3233/WOR-205172>

Abstract: BACKGROUND: Case management interventions have shown to be effective to prevent musculoskeletal pain and disability, but a single definition has not been achieved, nor

an agreed profile for case managers. **OBJECTIVE:** To describe the elements that define case management and case managers tasks for return-to-work of workers with musculoskeletal disorders (MSDs). **METHODS:** A comprehensive computerized search of articles published in English until February 16, 2021 was carried out in several bibliographic databases. Grey literature was obtained through a search of 13 key websites. A peer-review screening of titles and abstracts was carried out. Full text in-depth analysis of the selected articles was performed for data extraction and synthesis of results. **RESULTS:** We identified 2,422 documents. After full-text screening 31 documents were included for analysis. These were mostly European and North American and had an experimental design. Fifteen documents were published between 2010 to 2021 and of these 7 studies were published from 2015. Fifteen elements were identified being the commonest "return-to-work programme" (44.4%) and "multidisciplinary assessment/interdisciplinary intervention" (44.4%). Of 18 tasks found, the most frequent was "establishing goals and planning return-to-work rehabilitation" (57.7%). Eighteen referral services were identified. **CONCLUSIONS:** Despite there were several elements frequently reported, some elements with scientific evidence of their importance to deal with MSDs (e.g. early return-to-work) were almost not mentioned. This study proposes key points for the description of case management and case managers tasks

Sutarto AP, Wijayanto T, and Afiah IN. Exploring the mediation role of employees' well-being in the relationship between psychosocial factors and musculoskeletal pain during the COVID-19 pandemic. Work. 2022; 71(1):65-78.

<https://doi.org/10.3233/WOR-210922>

Abstract: **BACKGROUND:** The COVID-19 pandemic has increased some psychosocial risks which may aggravate the development of musculoskeletal disorders (MSDs) and reduced psychological well-being, two leading global occupational health problems. **OBJECTIVE:** This study aims to investigate whether an employee's psychological well-being mediates the relationship between the psychosocial factors (job strain, work-life balance, and job security) and the prevalence of musculoskeletal pain in the Indonesian general working population during the pandemic. **METHODS:** A cross-sectional study design was employed using an online questionnaire. A total of 406 from 465 respondents were included in the final analysis. **RESULTS:** It was found that 73.9% of respondents suffered from upper body part pain, 25.15% from low back pain, and 39.7% reported pain in the lower limb. Process Macro Model 4 analysis showed the significant role of well-being as a mediator in the association between work-life balance and the odds of experiencing the upper body and low back pains. However, neither the direct nor mediating effect on the relationship between job strain or job security and any musculoskeletal pains were observed. These findings suggest that specific psychosocial factors may be more relevant to be investigated in the particular context. **CONCLUSION:** The use of a mediation model was able to link work-life balance to musculoskeletal complaints through well-being states in the context of the pandemic.

Organizations need to mitigate poor well-being triggered by psychosocial stressors which could affect physical complaints to maintain employee's health and productivity

Vieten L, Wohrmann AM, and Michel A. Boundaryless working hours and recovery in Germany. *International Archives of Occupational & Environmental Health*. 2022; 95(1):275-292.

<https://doi.org/10.1007/s00420-021-01748-1> [open access]

Abstract: **OBJECTIVE:** Due to recent trends such as globalization and digitalization, more and more employees tend to have flexible working time arrangements, including boundaryless working hours. The aim of this study was to investigate the relationships of various aspects of boundaryless working hours (overtime, Sunday work, and extended work availability) with employees' state of recovery. Besides, we examined the mediating and moderating role of recovery experiences (psychological detachment, relaxation, mastery, and control) in these relationships. **METHODS:** We used data from 8586 employees (48% women; average age of 48years) who took part in the 2017 BAuA-Working Time Survey, a representative study of the German working population. Regression analyses were conducted to test main effects as well as mediation and moderation. **RESULTS:** Overtime work, Sunday work, and extended work availability were negatively related to state of recovery. Psychological detachment mediated these relationships. Furthermore, we found that relaxation and control mediated the association between extended work availability and state of recovery. However, no relevant moderating effects were found. **CONCLUSIONS:** Altogether, our findings indicate that various aspects of boundaryless working hours pose a risk to employees' state of recovery and that especially psychological detachment is a potential mechanism in these relationships. In addition, the results suggest that a high level of recovery experiences cannot attenuate these negative relationships in leisure time. Therefore, employers and employees alike should try to avoid or minimize boundaryless working hours

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