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***Sears JM, Wickizer TM, Franklin GM, Fulton-Kehoe D, Hannon PA, Harris JR, et al. Development and maturation of the occupational health services research field in the United States over the past 25 years: challenges and opportunities for the future. *American Journal of Industrial Medicine*. 2023; [epub ahead of print].**

<https://doi.org/10.1002/ajim.23532>

Abstract: Work is an important social determinant of health; unfortunately, work-related injuries remain prevalent, can have devastating impact on worker health, and can impose heavy economic burdens on workers and society. Occupational health services research (OHSR) underpins occupational health services policy and practice, focusing on health determinants, health services, healthcare delivery, and health systems affecting workers. The field of OHSR has undergone tremendous expansion in both definition and scope over the past 25 years. In this commentary, focusing on the US, we document the historical development and evolution of OHSR as a research field, describe current doctoral-level OHSR training, and discuss challenges and opportunities for the OHSR field. We also propose an updated definition for the OHSR field: Research and evaluation related to the determinants of worker health and well-being; to occupational injury and illness prevention and surveillance; to healthcare, health programs, and health policy affecting workers; and to the organization, access, quality, outcomes, and costs of occupational health services and related health systems. Researchers trained in OHSR are essential contributors to improvements in healthcare, health systems, and policy and programs to improve worker health and productivity, as well as equity and justice in job and employment conditions. We look

forward to the continued growth of OHSR as a field and to the expansion of OHSR academic training opportunities

Badarin K, Hemmingsson T, Almroth M, Falkstedt D, Hillert L, and Kjellberg K. Combined exposure to heavy physical workload and low job control and the risk of disability pension: a cohort study of employed men and women in Sweden. *International Archives of Occupational & Environmental Health*. 2023; 96(7):973-984.

<https://doi.org/10.1007/s00420-023-01983-8> [open access]

Abstract: OBJECTIVE: To investigate the separate and combined effects of overall heavy physical workload (PWL) and low decision authority on all-cause disability pension (DP) or musculoskeletal DP. METHODS: This study uses a sample of 1,804,242 Swedish workers aged 44-63 at the 2009 baseline. Job Exposure Matrices (JEMs) estimated exposure to PWL and decision authority. Mean JEM values were linked to occupational codes, then split into tertiles and combined. DP cases were taken from register data from 2010 to 2019. Cox regression models estimated sex-specific Hazard Ratios (HR) with 95% confidence intervals (95% CI). The Synergy Index (SI) estimated interaction effects. RESULTS: Heavy physical workload and low decision authority were associated with an increased risk of DP. Workers with combined exposure to heavy PWL and low decision authority often had greater risks of all-cause DP or musculoskeletal DP than when adding the effects of the single exposures. The results for the SI were above 1 for all-cause DP (men: SI 1.35 95%CI 1.18-1.55, women: SI 1.19 95%CI 1.05-1.35) and musculoskeletal disorder DP (men: SI 1.35 95%CI 1.08-1.69, women: 1.13 95%CI 0.85-1.49). After adjustment, the estimates for SI remained above 1 but were not statistically significant. CONCLUSION: Heavy physical workload and low decision authority were separately associated with DP. The combination of heavy PWL and low decision authority was often associated with higher risks of DP than would be expected from adding the effects of the single exposures. Increasing decision authority among workers with heavy PWL could help reduce the risk of DP

Brandt M, Andersen LL, Kines P, and Ajslev JZN. Safety climate at work and risk of long-term sickness absence: prospective cohort with register follow-up among 63,500 workers. *Safety Science*. 2023; 166:106217.

<https://doi.org/10.1016/j.ssci.2023.106217> [open access]

Abstract: Objective Safety climate at work is a known predictor of accidents and may therefore have consequences for absenteeism. This study investigates the relevance of safety climate at work as a predictor for the risk of long-term sickness absence (LTSA). Methods We followed 63,500 employees of the general working population in Denmark, without prior LTSA, in four biannual national cohort surveys in the period 2012–2018 for two years in a national register of social transfer payments. Weighted Cox-regression was used to control for age, gender, survey year, education, lifestyle, psychosocial work factors, occupational group, and depressive symptoms. We determined the prospective association of the number of safety climate problems (0–5) with the risk of LTSA of six or more week's absence. Results

During follow-up, 5,743 employees developed LTSA (weighted percentage: 8.6%). Compared with individuals not reporting any safety climate problems, those reporting 1, 2, 3 and 4–5 problems experienced significantly increased risk of LTSA with hazard ratios of 1.13, 1.18, 1.20 and 1.44, respectively. Sensitivity analyses, including only those with physically demanding work and stratifying for gender, showed the same tendencies, although only reaching statistical significance for 4–5 safety climate problems. Interaction analyses showed that gender, age and education, did not modify the association between number of safety climate problems and risk of LTSA. Conclusion The presence of safety climate problems at work increases the risk of LTSA in the general working population. The presence of safety climate problems can be considered a proactive indicator that actions need to be taken to improve safety, health, and wellbeing in the workplace.

van Doorn N, Ferrari F, and Graham M. Migration and migrant labour in the gig economy: an intervention. *Work, Employment & Society*. 2023; 37(4):1099-1111.

<https://doi.org/10.1177/09500170221096581> [open access]

Abstract: In urban gig economies around the world, platform labour is predominantly migrant labour, yet research on the intersection of the gig economy and labour migration remains scant. Our experience with two action research projects, spanning six cities on four continents, has taught us how platform work impacts the structural vulnerability of migrant workers. This leads us to two claims that should recalibrate the gig economy research agenda. First, we argue that platform labour simultaneously degrades working conditions while offering migrants much-needed opportunities to improve their livelihoods. Second, we contend that the reclassification of gig workers as employees is by itself not sufficient to counter the precarisation of migrant gig work. Instead, we need ambitious policies at the intersection of immigration, social welfare, and employment regulation that push back against the digitally mediated commodification of migrant labour worldwide

Durand-Moreau QV. Towards more inclusive practices for gender-diverse people in occupational health research. *Occupational and Environmental Medicine*. 2023; 80(9):526-527.

<https://doi.org/10.1136/oemed-2023-109084>

Gomez-Garcia AR, Cordova Falconi KP, Merino-Salazar P, and Garcia-Arroyo J. Fatal work accidents in Ecuador from 2014 to 2020: how the age of the deceased worker relates to the accidents' temporal and geographical characteristics. *Archives of Environmental & Occupational Health*. 2023; 78(5):305-311.

<https://doi.org/10.1080/19338244.2023.2196051>

Abstract: This article analyzes the relationship between the age of male workers deceased in work accidents and temporal (year, month, day of the week, working shifts), geographic (provinces), and economic sector characteristics in which the accidents occurred in Ecuador between 2014 and 2020. Available data on fatal accidents from the Ecuadorian Social

Security Institute (IESS) were collected. The results, which report both frequencies and proportions (rates), indicate that fatal accidents have decreased in the period, although the average age of deceased workers has increased. No significant differences were found regarding the month, day of the week, and work shift, nor in the frequency of accidents or the age of the deceased workers. However, differences were found in terms of geographical areas and sectors of economic activity. This study contributes to the literature as it is the first to analyze the temporal and geographical characteristics of fatal accidents about the age of the deceased worker

Goodman JM and Schneider D. Racial/ethnic and gender inequities in the sufficiency of paid leave during the COVID-19 pandemic: evidence from the service sector. American Journal of Industrial Medicine. 2023; [epub ahead of print].

<https://doi.org/10.1002/ajim.23533>

Abstract: BACKGROUND: Access to paid family and medical leave (PFML), including leave to care for a seriously ill loved one or recover from one's own serious illness, conveys health and economic benefits for workers and their families. However, without a national PFML policy, access to paid leave remains limited and unequal. Previous work documenting inequitable access by socioeconomic status and race/ethnicity primarily focuses on parental leave, measures theoretical access to paid leave rather than actual leave uptake, and lacks an accounting for why workers of color and women may have less access to PFML. We extend this literature by looking at leave-taking for medical needs or caregiving among a high-risk population during the COVID-19 pandemic. METHODS: We draw on data from 2595 service-sector workers surveyed by the Shift Project in 2020 and 2021 to estimate inequities in leave uptake among workers who experienced qualifying events. We then estimate the relative importance of worker demographic characteristics, qualifying event types (medical vs. caregiving leave), proxies for access to state and employer PFML policies, job characteristics, and ultimately within-firm differences to these gaps. RESULTS: Overall, one-fifth of workers reported sufficient leave. Women are significantly more likely than men to report insufficient or no leave. Hispanic and Black workers are more likely to take insufficient or no leave, respectively, but these differences were attenuated when controlling for covariates. CONCLUSIONS: The dearth of PFML laws leaves women and workers of color without access to leave that is paid and of sufficient duration when facing a qualifying event

Kwon S and Lee SJ. Underreporting of work-related low back pain among registered nurses: a mixed method study. American Journal of Industrial Medicine. 2023; [epub ahead of print].

<https://doi.org/10.1002/ajim.23530>

Abstract: Background: Identifying and addressing work-related health problems early is crucial, but workers often perceive barriers in reporting these to management. This study aimed to investigate the factors associated with nurses' reporting of work-related low back pain to their managers and explored the reasons why nurses with patient handling injuries

did not report them. **Methods:** This study is a concurrent mixed-method analysis of data from two statewide cross-sectional surveys of California registered nurses conducted in 2013 and 2016. The reporting of work-related low back pain to management (n = 288) was examined for associations with individual, occupational, and organizational factors. For qualitative analysis, the reasons for not reporting patient handling injuries were explored using open-ended responses (n = 42). **Results:** Reporting was associated with BIPOC (Black, Indigenous, and People of Color) men (adjusted odds ratio [AOR]: 1.31, 95% confidence interval [CI]: 1.07-1.59) compared to non-Hispanic White women; being a non-US educated nurse (AOR: 0.90, 95% CI: 0.80-1.01); experiencing greater low back pain (AOR: 1.07, 95% CI: 1.02-1.12); missing work (AOR: 1.38, 95% CI: 1.21-2.62); perceiving high physical workload (AOR: 0.89, 95% CI: 0.81-0.98); perceiving high people-oriented culture (AOR: 1.14, 95% CI: 1.04-1.25); and perceiving high ergonomic practices (AOR: 0.89, 95% CI: 0.81-0.98). Identified themes on the reasons for not reporting injuries included organizational-culture attitudes toward work-related injuries and injury characteristics of musculoskeletal disorders. **Conclusions:** The findings indicate a need for management to remove structural barriers and improve organizational practices, and for a culture that promotes trust and open communication between workers and management.

Leung L, Lavoue J, Siemiatycki J, Guenel P, and Koushik A. Occupational environment and ovarian cancer risk. *Occupational and Environmental Medicine*. 2023; 80(9):489-497.

<https://doi.org/10.1136/oemed-2022-108557>

Abstract: Objectives: To investigate employment in an occupation or industry and specific occupational exposures in relation to ovarian cancer risk. **Methods:** In a population-based case-control study conducted in Montreal, Canada (2011-2016), lifetime occupational histories were collected for 491 cases of ovarian cancer and 897 controls. An industrial hygienist coded the occupation and industry of each participant's job. Associations with ovarian cancer risk were estimated for each of several occupations and industries. Job codes were linked to the Canadian job-exposure matrix, thereby generating exposure histories to many agents. The relationship between exposure to each of the 29 most prevalent agents and ovarian cancer risk was assessed. Odds ratios and 95% confidence intervals (OR (95% CI)) for associations with ovarian cancer risk were estimated using logistic regression and controlling for multiple covariates. **Results:** Elevated ORs (95% CI) were observed for employment =10 years as Accountants (2.05 (1.10 to 3.79)); Hairdressers, Barbers, Beauticians and Related Workers (3.22 (1.25 to 8.27)); Sewers and Embroiderers (1.85 (0.77 to 4.45)); and Salespeople, Shop Assistants and Demonstrators (1.45 (0.71 to 2.96)); and in the industries of Retail Trade (1.59 (1.05 to 2.39)) and Construction (2.79 (0.52 to 4.83)). Positive associations with ORs above 1.42 were seen for high cumulative exposure versus never exposure to 18 agents: cosmetic talc, ammonia, hydrogen peroxide, hair dust, synthetic fibres, polyester fibres, organic dyes and pigments, cellulose, formaldehyde, propellant gases, aliphatic alcohols, ethanol, isopropanol, fluorocarbons, alkanes (C5-C17), mononuclear aromatic hydrocarbons, polycyclic aromatic hydrocarbons from petroleum and bleaches.

Conclusions: Certain occupations, industries and specific occupational exposures may be associated with ovarian cancer risk. Further research is needed to provide a more solid grounding for any inferences in this regard.

Lu Y, Okpani AI, McLeod CB, Grant JM, and Yassi A. Masking strategy to protect healthcare workers from COVID-19: an umbrella meta-analysis. *Infection, Disease and Health*. 2023; 28(3):226-238.

<https://doi.org/10.1016/j.idh.2023.01.004> [open access]

Abstract: BACKGROUND: The burden of severe disease and death due to SARS-CoV-2 (COVID-19) pandemic among healthcare workers (HCWs) worldwide has been substantial. Masking is a critical control measure to effectively protect HCWs from respiratory infectious diseases, yet for COVID-19, masking policies have varied considerably across jurisdictions. As Omicron variants began to be predominant, the value of switching from a permissive approach based on a point of care risk assessment (PCRA) to a rigid masking policy needed to be assessed. METHODS: A literature search was conducted in MEDLINE (Ovid platform), Cochrane Library, Web of Science (Ovid platform), and PubMed to June 2022. An umbrella review of meta-analyses investigating protective effects of N95 or equivalent respirators and medical masks was then conducted. Data extraction, evidence synthesis and appraisal were duplicated. RESULTS: While the results of Forest plots slightly favoured N95 or equivalent respirators over medical masks, eight of the ten meta-analyses included in the umbrella review were appraised as having very low certainty and the other two as having low certainty. CONCLUSION: The literature appraisal, in conjunction with risk assessment of the Omicron variant, side-effects and acceptability to HCWs, along with the precautionary principle, supported maintaining the current policy guided by PCRA rather than adopting a more rigid approach. Well-designed prospective multi-centre trials, with systematic attention to the diversity of healthcare settings, risk levels and equity concerns are needed to support future masking policies

Rasmussen PU, Uhrbrand K, Frederiksen MW, and Madsen AM. Work in nursing homes and occupational exposure to endotoxin and bacterial and fungal species. *Annals of Work Exposures and Health*. 2023; 67(7):831-846.

<https://doi.org/10.1093/annweh/wxad032> [open access]

Abstract: Indoor microbial exposure may cause negative health effects. Only little is known about the occupational microbial exposure in nursing homes and the factors that influence the exposure. The exposure in nursing homes may be increased due to close contact with elderly persons who may carry infectious or antimicrobial-resistant microorganisms and due to handling of laundry, such as used clothing and bed linen. We investigated the microbial exposure in 5 nursing homes in Denmark, by use of personal bioaerosol samples from different groups of staff members taken during a typical working day, stationary bioaerosol measurements taken during various work tasks, sedimented dust samples, environmental surface swabs, and swabs from staff members' hands. From the samples, we explored

bacterial and fungal concentrations and species composition, endotoxin levels, and antimicrobial resistance in *Aspergillus fumigatus* isolates. Microbial concentrations from personal exposure samples differed among professions, and geometric means (GM) were 2,159 cfu/m³ (84 to 1.5 × 10⁵) for bacteria incubated on nutrient agar, 1,745 cfu/m³ (82 to 2.0 × 10⁴) for bacteria cultivated on a *Staphylococcus* selective agar, and 16 cfu/m³ air for potential pathogenic fungi incubated at 37 °C (below detection limit to 257). Bacterial exposures were elevated during bed making. On surfaces, the highest bacterial concentrations were found on bed railings. The majority of bacterial species found were related to the human skin microflora, such as different *Staphylococcus* and *Corynebacterium* species. Endotoxin levels ranged from 0.02 to 59.0 EU/m³, with a GM of 1.5 EU/m³. Of 40 tested *A. fumigatus* isolates, we found one multiresistant isolate, which was resistant towards both itraconazole and voriconazole, and one isolate resistant towards amphotericin B. In conclusion, we give an overview of the general microbial exposure in nursing homes and show that microbial exposures are higher for staff with more care and nursing tasks compared with administrative staff.

Rossi MF, Beccia F, Cittadini F, Amantea C, Aulino G, Santoro PE, et al. Workplace violence against healthcare workers: an umbrella review of systematic reviews and meta-analyses. Public Health. 2023; 221:50-59.

<https://doi.org/10.1016/j.puhe.2023.05.021>

Abstract: OBJECTIVES: The aim of this umbrella review of systematic reviews and meta-analyses was to address workplace violence (WPV) against healthcare workers (HCWs). Several systematic reviews exist in the literature, but the diversity of settings, population considered, and type of violence investigated make it difficult to gain insight and use the vast amount of available data to implement policies to tackle WPV. With this in mind, we conducted an umbrella review of systematic reviews and meta-analyses on WPV against HCWs to examine the global prevalence of the phenomena and its features. STUDY DESIGN AND METHODS: Following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, PubMed, Scopus, and ISI Web of Science were searched for relevant systematic reviews and meta-analyses published in English up to November 2022. Data on authors, year, country, violence type, prevalence (pooled and not), setting, population, and specific considerations were extracted. RESULTS: A total of 32 systematic reviews were included, 19 of which performed a meta-analysis, investigating overall, physical, and non-physical violence. Even considering the variability of the data, the COVID-19 pandemic has exacerbated the scale of the problem. From our review, we found that overall violence prevalence among HCWs was reported to be as high as 78.9%, and nurses working in psychiatric wards were the professionals most impacted. CONCLUSION: In conclusion, this umbrella review revealed a high prevalence of WPV among HCWs, which varies between countries, population subgroups, and detection methods. Strengthening recognition of the problem could lead to appropriate local and international strategies to address it

Shamon S, Gill A, Meadows L, Kruizinga J, Kaasalainen S, and Pereira J. Providing palliative and end-of-life care in long-term care during the COVID-19 pandemic: a qualitative study of clinicians' lived experiences. CMAJ Open. 2023; 11(4):E745-E753.

<https://doi.org/10.9778/cmajo.20220238> [open access]

Abstract: BACKGROUND: A disproportionate number of COVID-19-related deaths in Canada occurred in long-term care homes, affecting residents, families and staff alike. This study explored the experiences of long-term care clinicians with respect to providing palliative and end-of-life care during the COVID-19 pandemic. METHODS: We used a qualitative research approach. Long-term care physicians and nurse practitioners (NPs) in Ontario, Canada, participated in semistructured interviews between August and September of 2021. Interviews were undertaken virtually, and results were analyzed using thematic analysis. RESULTS: Twelve clinicians (7 physicians and 5 NPs) were interviewed. We identified 5 themes, each with several subthemes: providing a palliative approach to care, increased work demands and changing roles, communication and collaboration, impact of isolation and visitation restrictions, and impact on the providers' personal lives. Clinicians described facing several concurrent challenges, including the uncertainty of COVID-19 illness, staffing and supply shortages, witnessing many deaths, and distress caused by isolation. These resulted in burnout and feelings of moral distress. Previous training and integration of the palliative care approach in the long-term care home, access to resources, increased communication and interprofessional collaboration, and strong leadership mitigated the impact and led to improved palliative care and a sense of pride while facing these challenges. INTERPRETATION: The pandemic had a considerable impact on clinicians caring for residents in long-term care homes at the end of life. It is important to address these lived experiences and use the lessons learned to identify strategies to improve palliative care in long-term care homes and reduce the impact of future pandemics with respect to palliative care

Strudwick J, Gayed A, Deady M, Haffar S, Mobbs S, Malik A, et al. Workplace mental health screening: a systematic review and meta-analysis. Occupational and Environmental Medicine. 2023; 80(8):469-484.

<https://doi.org/10.1136/oemed-2022-108608> [open access]

Abstract: Workplaces are an important location for population mental health interventions. Screening to detect employees at risk of or experiencing mental ill health is increasingly common. This systematic review and meta-analysis examined the efficacy of workplace mental health screening programmes on employee mental health, work outcomes, user satisfaction, positive mental health, quality of life, help-seeking and adverse effects. PubMed, PsycINFO, EMBASE, CENTRAL, Global Index Medicus, Global Health and SciELO were searched (database inception-10 November 2022) and results screened by two independent reviewers. Controlled trials evaluating screening of workers' mental health as related to their employment were included. Random effects meta-analysis was performed to calculate pooled effect sizes for each outcome of interest. Grading of Recommendations Assessment, Development and Evaluation was conducted to evaluate the certainty of findings. Of the 12

328 records screened, 11 were included. These reported 8 independent trials collectively assessing 2940 employees. Results indicated screening followed by advice or referral was ineffective in improving employee mental health symptoms ($n=3$; $d=-0.07$ (95% CI -0.29 to 0.15)). Screening followed by facilitated access to treatment interventions demonstrated a small improvement in mental health ($n=4$; $d=-0.22$ (95% CI -0.42 to -0.02)). Limited effects were observed for other outcomes. Certainty ranged from low to very low. The evidence supporting workplace mental health screening programmes is limited and available data suggest mental health screening alone does not improve worker mental health. Substantial variation in the implementation of screening was observed. Further research disentangling the independent effect of screening alongside the efficacy of other interventions to prevent mental ill health at work is required

Varin M, Venugopal J, Li L, MacEachern KH, Weeks M, Baker MM, et al. Heavy episodic drinking and self-reported increased alcohol use during the COVID-19 pandemic: a spotlight on frontline and essential workers in Canada. Health Promotion and Chronic Disease Prevention in Canada. 2023; 43(8):375-384.

<https://doi.org/10.24095/hpcdp.43.8.03> [open access]

Abstract: INTRODUCTION: There is evidence that some frontline and essential workers have increased their alcohol use during the COVID-19 pandemic; however, this has not been examined in Canada. METHODS: Using the Survey on COVID-19 and Mental Health 2020, weighted prevalence and 95% confidence intervals of self-reported increased alcohol consumption and heavy episodic drinking were calculated for each of the population groups: frontline workers, essential workers, and nonfrontline or essential workers (NFEW). Logistic regression was used to examine the associations between social determinants of health, mental health and alcohol use for each group. RESULTS: The prevalence of increased alcohol consumption and past-month heavy episodic drinking did not differ across frontline workers, essential workers and NFEW. For the three groups, nonracialized group members had significantly higher odds for both outcomes. Screening positive for either generalized anxiety disorder or mood disorder was significantly associated with increased alcohol consumption across the three groups. For frontline and essential workers, females had significantly lower odds of heavy episodic drinking compared to males. For essential workers only, living in a rural area was significantly associated with lower odds of increased alcohol use, and screening positive for posttraumatic stress disorder was significantly associated with increased odds of heavy episodic drinking. For frontline workers only, living in a rural area was significantly associated with lower odds of heavy episodic drinking. CONCLUSION: While frontline and essential workers were not more likely to report increased alcohol consumption and heavy episodic drinking compared to NFEW, there were some differences in factors associated with alcohol use. Such findings demonstrate the benefit of examining each group separately to provide information for targeted prevention strategies

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