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**\*Sears JM, Edmonds AT, and Coe NB. Coverage gaps and cost-shifting for work-related injury and illness: who bears the financial burden? *Medical Care Research and Review*. 2020; 77(3):223-235.**

<https://doi.org/10.1177/1077558719845726>

Abstract: The heavy economic burden of work-related injury/illness falls not only on employers and workers' compensation systems, but increasingly on health care systems, health and disability insurance, social safety net programs, and workers and their families. We present a flow diagram illustrating mechanisms responsible for the financial burden of occupational injury/illness borne by social safety net programs and by workers and their families, due to cost-shifting and gaps in workers' compensation coverage. This flow diagram depicts various pathways leading to coverage gaps that may shift the burden of occupational injury/illness-related health care and disability costs ultimately to workers, particularly the most socioeconomically vulnerable. We describe existing research and important research gaps linked to specific pathways in the flow diagram. This flow diagram was developed to facilitate more detailed and comprehensive research into the financial burden imposed by work-

related injury/illness, in order to focus policy efforts where improvement is most needed

**Aarhus L and Engdahl B. Occupational noise exposure and asymmetric hearing loss: results from the HUNT population study in Norway. American Journal of Industrial Medicine. 2020; 63(6):535-542.**

<https://doi.org/10.1002/ajim.23105>

**Abstract:** **BACKGROUND:** A large population study with adequate data on confounders is required to determine whether asymmetric hearing loss (AHL) is associated with occupational noise exposure. **METHODS:** We performed a cross-sectional population study in Norway (the Health Investigation in Nord-Trondelag: HUNT) with 24 183 participants, using pure-tone audiometry and questionnaires. AHL was defined as a difference in hearing threshold between the right and left ears of greater than or equal to 15 dB for the pure-tone average of 0.5 to 2 or 3 to 6 kHz. **RESULTS:** The mean age of the participants was 53 years (range, 19-99); 53% were women. The prevalence of AHL in this general Norwegian population was 6% for the 0.5 to 2 kHz range and 15% for 3 to 6 kHz. In unadjusted regression models, subjects reporting prolonged occupational noise exposure to high-level noise sources (N = 1652) had a higher risk of AHL at 3 to 6 kHz than those reporting no prior exposure (odds ratio [OR], 1.98; 95% confidence interval [CI], 1.75-2.25). After adjustment for age and sex, OR was 1.08; (95% CI, 0.95-1.24). After additional adjustment for head trauma, ear infections, blasting or shooting (all associated with AHL), smoking, and diabetes, OR was 1.00 (95% CI, 0.87-1.16). No association between occupational noise and right-ear hearing threshold advantage (left-right ear difference) was observed after adjustment for confounders. **CONCLUSION:** Our study suggests that AHL is relatively common in the general population, especially at the high-frequency range in men and elderly subjects. Our study showed no relation between occupational noise exposure and AHL after confounder adjustment

**Andersen LL, Jensen PH, and Sundstrup E. Barriers and opportunities for prolonging working life across different occupational groups: the SeniorWorkingLife study. European Journal of Public Health. 2020; 30(2):241-246.**

<https://doi.org/10.1093/eurpub/ckz146> [open access]

**Abstract:** BACKGROUND: Increasing retirement age is a pivotal issue in labour market reforms. This study analyses factors conditioning retirement intentions. METHODS: In SeniorWorkingLife, 11 444 employed workers  $\geq 50$  years replied to questions in random order about expected reasons for leaving and potential reasons for staying longer at the labour market. Respondents were stratified based on the Danish version of International Standard Classification of Occupations (ISCO). Representative estimates were produced using the SurveyFreq and SurveyLogistic procedures of SAS combined with model-assisted weights based on national registers. RESULTS: For ISCO groups 1-4 (seated work) main expected reasons for retiring were freedom to choose and desire for more leisure time, but many would consider staying longer if there were better possibilities for additional senior days, longer vacations and flexible working hours. For ISCO groups 5-9 (physical work), poor physical health and not being capable of doing the job were common expected reasons for retiring, but many would consider staying longer if the work were less physically demanding and there were more senior days. Possibility for pension was a general expected reason for retiring. Expected reasons differed to a less extent between genders than between ISCO groups, e.g. economic factors were more important for men and high work demands more important for women. CONCLUSION: Different barriers and opportunities for prolonging working life exist across different occupational groups of the labour market-with most consistent differences between those with seated and physical work. Targeting these specifically seems opportune for policy makers and future interventions

**Barnett ML. Opioid prescribing in the midst of crisis: myths and realities. *New England Journal of Medicine*. 2020; 382(12):1086-1088.**

<https://doi.org/10.1056/NEJMp1914257>

**Choi G, Park SG, Won Y, Ju H, Jang SW, Kim HD, et al. The relationship between precarious employment and subjective well-being in Korean wage workers through the Cantril ladder Scale. *Annals of Occupational and Environmental Medicine*. 2020; 32(1):e11.**

<https://doi.org/10.35371/aoem.2020.32.e11> [open access]

**Abstract:** Background The global labor market is moving towards increasing job instability. Relatively few studies have examined the relationship between precarious employment and subjective well-being using quantitative scales. We evaluated the association between wage workers' employment status and their subjective well-being through the Cantril ladder scale using Korean Welfare Panel Survey data (KOWEPS). **Methods** This study used KOWEPS data. A total of 4,423 wage workers were divided into permanently employed workers, temporarily employed workers and daily employed workers. The relationship between precarious employment and subjective well-being was analyzed by multiple linear regression adjusted for potential confounding factors. **Results** The more unstable the employment status, the lower the subjective well-being, which can be expressed by the Cantril ladder scale. The mean score of both temporarily employed and daily employed workers were statistically significantly lower ( $B = -0.454, p < 0.001$ ;  $B = -0.994, p < 0.001$ , respectively) than permanently employed workers. This appeared to be the same when occupational and sociodemographic factors were adjusted ( $B = -0.153, p = 0.002$  for temporarily employed,  $B = -0.610, p < 0.001$  for daily employed). **Conclusions** The more unstable the employment status, the lower the subjective well-being score according to the Cantril ladder scale.

**Dreger S, Wollschlager D, Schafft T, Hammer GP, Blettner M, and Zeeb H. Cohort study of occupational cosmic radiation dose and cancer mortality in German aircrew, 1960-2014. Occupational and Environmental Medicine. 2020; 77(5):285-291.**

<https://doi.org/10.1136/oemed-2019-106165>

**Abstract:** **OBJECTIVES:** To determine cancer mortality compared with the general population and to examine dose-response relationships between cumulative occupational radiation dose and specific cancer outcomes in the German aircrew cohort. **METHODS:** For a cohort of 26 846 aircrew personnel, standardised mortality ratios (SMR) were calculated. Dose-response analyses were carried out using Poisson regression to assess dose-related cancer risks for the period 1960-2014. Exposure assessment comprises recently available dose register data for all cohort members and newly estimated retrospective cabin crew doses for 1960-2003. **RESULTS:**

SMR for all-cause, specific cancer groups and most individual cancers were reduced in all aircrew groups. The only increases were seen for brain cancer in pilots (n=23, SMR 2.01, 95% CI 1.15 to 3.28) and for malignant melanoma (n=10, SMR 1.88, 95% CI 0.78 to 3.85). Breast cancer mortality among female cabin crew was similar to the general population (n=71, SMR 1.06, 95% CI 0.77 to 1.44). Overall median cumulative effective dose was 34.2 mSv (max: 116 mSv) for 1960-2014. No dose-response associations were seen in any of the models. For brain cancer, relative risks were elevated across dose categories. An indicative negative trend with increasing dose category was seen for large intestine cancer in female cabin crew (n=23). CONCLUSIONS: There was no evidence for significant dose-response patterns for the considered cancer types. Interpretation of results remains difficult as cumulative dose is closely related to age. Future work should focus on investigating radiation jointly with other risk factors that may contribute to risks for specific cancers among aircrew

**Foroutan F, Guyatt G, Zuk V, Vandvik PO, Alba AC, Mustafa R, et al. GRADE Guidelines 28: use of GRADE for the assessment of evidence about prognostic factors: rating certainty in identification of groups of patients with different absolute risks. Journal of Clinical Epidemiology. 2020; 121:62-70.**

<https://doi.org/10.1016/j.jclinepi.2019.12.023>

Abstract: OBJECTIVE: The objective of this study was to provide guidance on the use of the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach to determine certainty in estimates of association between prognostic factors and future outcomes. STUDY DESIGN AND SETTING: We developed our guidance through an iterative process that involved review of published systematic reviews and meta-analyses of prognostic factors, consultation with members, feedback, presentation, and discussion at the GRADE Working Group meetings. RESULTS: For questions of prognosis, a body of observational evidence (potentially including patients enrolled in randomized controlled trials) begins as high certainty in the evidence. The five domains of GRADE for rating down certainty in the evidence, that is, risk of bias, imprecision, inconsistency, indirectness, and publication bias, as well as the domains for rating up, also apply to

estimates of associations between prognostic factors and outcomes. One should determine if their ratings do not consider (noncontextualized) or consider (contextualized) the clinical context as this will may result in variable judgments on certainty of the evidence. CONCLUSIONS: The same principles GRADE proposed for bodies of evidence addressing treatment and overall prognosis work well in assessing individual prognostic factors, both in noncontextualized and contextualized settings

**Gouskova E. Why self-employment rates are higher among people with work limitations. Journal of Disability Policy Studies. 2020; 31(1):15-25.**

<https://doi.org/10.1177/1044207319851244>

**Hazlewood GS, Pokharel G, Deardon R, Marshall DA, Bombardier C, Tomlinson G, et al. Patient preferences for maintenance therapy in Crohn's disease: a discrete-choice experiment. PLoS ONE. 2020; 15(1):e0227635.**

<https://doi.org/10.1371/journal.pone.0227635> [open access]

Abstract: OBJECTIVE: To quantify patient preferences for maintenance therapy of Crohn's disease and understand the impact on treatment selection. METHODS: We conducted a discrete-choice experiment in patients with Crohn's disease (n = 155) to measure the importance of attributes relevant to choosing between different medical therapies for maintenance of Crohn's disease. The attributes included efficacy and withdrawals due to adverse events, as well as dosing and other rare risks of treatment. From the discrete-choice experiment we estimated the part-worth (importance) of each attribute level, and explored preference heterogeneity through latent class analysis. We then used the part-worths to apply weights across each outcome from a prior network meta-analysis to estimate patients' preferred treatment in pairwise comparisons and for the overall group of treatments. RESULTS: The discrete-choice experiment revealed that maintaining remission was the most important attribute. Patients would accept a rare risk of infection or cancer for a 14% absolute increased chance of remission. Latent class analysis demonstrated that 45% of the cohort was risk averse, either to adverse events or requiring a course of prednisone. When these preferences were used in modelling studies to compare pairs of



treatments, there was a  $\geq 78\%$  probability that all biologic treatments were preferred to azathioprine and methotrexate, based on the balance of benefits and harms. When comparing all treatments, adalimumab was preferred by 53% of patients, who were motivated by efficacy, and vedolizumab was preferred by 30% who were driven by the preference to avoid risks. However, amongst biologic treatment options, there was considerable uncertainty regarding the preferred treatment at the individual patient level. CONCLUSION: Patients with Crohn's disease from our population were, on average, focused on the benefits of treatment, supporting intensive treatment approaches aimed at maintaining remission. Important preference heterogeneity was identified, however, highlighting the importance of shared decision making when selecting treatments

**Keefe AR, Demers PA, Neis B, Arrandale VH, Davies HW, Gao Z, et al. A scoping review to identify strategies that work to prevent four important occupational diseases. American Journal of Industrial Medicine. 2020; 63(6):490-516.**

<https://doi.org/10.1002/ajim.23107>

Abstract: BACKGROUND: Despite being largely preventable, many occupational diseases continue to be highly prevalent and extremely costly. Effective strategies are required to reduce their human, economic, and social impacts. METHODS: To better understand which approaches are most likely to lead to progress in preventing noise-related hearing loss, occupational contact dermatitis, occupational cancers, and occupational asthma, we undertook a scoping review and consulted with a number of key informants. RESULTS: We examined a total of 404 articles and found that various types of interventions are reported to contribute to occupational disease prevention but each has its limitations and each is often insufficient on its own. Our principal findings included: legislation and regulations can be an effective means of primary prevention, but their impact depends on both the nature of the regulations and the degree of enforcement; measures across the hierarchy of controls can reduce the risk of some of these diseases and reduce exposures; monitoring, surveillance, and screening are effective prevention tools and for evaluating the impact of legislative/policy change; the effect of education and training is

context-dependent and influenced by the manner of delivery; and, multifaceted interventions are often more effective than ones consisting of a single activity. **CONCLUSIONS:** This scoping review identifies occupational disease prevention strategies worthy of further exploration by decisionmakers and stakeholders and of future systematic evaluation by researchers. It also identified important gaps, including a lack of studies of precarious workers and the need for more studies that rigorously evaluate the effectiveness of interventions

**Koroma ET and Kangbai JB. Agro-industrial accidents linked to length of service, operation site and confidence in employer adherence to safety rules. BMC Public Health. 2020; 20(1):591.**

<https://doi.org/10.1186/s12889-020-08733-2> [open access]

**Abstract:** **BACKGROUND:** The agriculture sector consistently ranks among the most hazardous occupational industries globally with high risk of job-related injuries, illnesses, disability, and death. In 2015, the agricultural fatal work injury rate in the United States was 22.8 per 100,000 full-time equivalent workers; seven times the all-worker fatal injury rate of 3.4 per 100,000 full-time equivalent workers. In this study we identified the factors that are associated with workplace accident and injuries at the Goldtree (SL) Limited Company - a private international agro-industrial palm kernel oil company operating in eastern Sierra Leone. **METHODS:** This is a descriptive research that made use of both qualitative and quantitative research techniques to collect and analyse agro-industrial occupation-related accident and injuries of workers attached to the Goldtree (SL) Limited Company, an international palm kernel oil producing and marketing company in Sierra Leone. We analyzed the responses of 100 workers at the Goldtree (SL) Limited Company that are related to their work safety, adherence to work safety guidelines as well as working habit. **RESULTS:** Thirty nine (39.0%) of the workers interviewed in this study said they had been involved in some forms of occupational accident; (33.3%) of those involved in some form of occupational-related accidents have been working in the company for 3-5 years, 22.0% have been working at the company for at least 2 years; 7.7% have been working for 6-8 years ( $X(2) = 9.88$ ,  $p\text{-value} = 0.02$ ). **CONCLUSION:** Workers who have spent few years in the job, and those workers who have confidence that management is committed



to addressing health and safety issues, believed that their working tools were in excellent condition, or agreed that they have the rights and responsibilities for an effective workplace health and safety system have decreased odds of experiencing occupational-related accidents or injury at the study site

**Odes R, Hong O, Harrison R, and Chapman S. Factors associated with physical injury or police involvement during incidents of workplace violence in hospitals: findings from the first year of California's new standard. American Journal of Industrial Medicine. 2020; 63(6):543-549.**

<https://doi.org/10.1002/ajim.23103>

Abstract: BACKGROUND: Workplace violence in healthcare settings is known to be a costly and often underreported problem. In California, hospitals are required to report incidents of violence towards workers to the California Occupational Safety and Health Administration (CalOSHA) using an online reporting system that went into effect in 2017. METHODS: Reports submitted to CalOSHA from July 2017 to September 2018 pursuant to this new requirement were analyzed using descriptive methods and logistic regression. RESULTS: Four hundred eight hospitals submitted reports using the new incident reporting system. Behavioral health units had 1.82 times the odds of the reported incident resulting in physical injury compared to inpatient medical units, and investor-owned facilities had 2.43 times the odds of the reported incident resulting in physical injury compared to city or county-owned facilities. Inpatient and behavioral health units had significantly reduced odds of a reported incident resulting in police involvement when compared to other locations within the hospital. CONCLUSIONS: These findings indicate that protections for healthcare workers deserve ongoing attention from stakeholders and legislators and provide insight into how healthcare facilities report incidents of violence towards workers

**Oliveri AN, Wang L, and Rosenman KD. Assessing the accuracy of the death certificate injury at work box for identifying fatal occupational injuries in Michigan. American Journal of Industrial Medicine. 2020; 63(6):527-534.**

<https://doi.org/10.1002/ajim.23100>

Abstract: BACKGROUND: Death certificates contain a box labeled

"Injury at Work" which is to be marked "Yes" for all fatal occupational injuries. The accuracy of this box in Michigan is not fully characterized. METHODS: The accuracy of the Injury at Work box on the Michigan death certificate was compared to deaths identified from 2001 through 2016 by the Michigan Fatality Assessment and Control Evaluation multi-source surveillance system. The sensitivity was calculated across this time period, while specificity and positive and negative predictive values were derived for 2011-2016. Univariate and multivariate regression were used to examine differences in the sensitivity over time and across demographic variables, industry, and the type of death. RESULTS: We found a sensitivity for the Injury at Work box of 73.1% among 2156 deaths. The sensitivity showed a significant declining trend over the 17 years, from 79.8% to 63.1%. Sensitivity varied significantly across incident type (aircraft, animal-related, drug overdose, motor vehicle, and suicides having particularly lower sensitivities, and electrocutions, falls, and machine-related incidents having higher sensitivities), and industry sector (construction, manufacturing, public safety, transportation, and trade sectors having higher sensitivities, and agriculture and services sectors showing lower sensitivities). Across nearly all categories the sensitivity was significantly below 1. CONCLUSIONS: The Injury at Work box on the Michigan death certificate was often incorrectly completed and has become less accurate with time, though the degree of this inaccuracy varies by the industry of the victim and the type of incident

**Sonne C, Ok YS, Lam SS, Rinklebe J, Alstrup AKO, and Kim KH. First predatory journals, now conferences: the need to establish lists of fake conferences. Science of the Total Environment. 2020; 715:136990.**

<https://doi.org/10.1016/j.scitotenv.2020.136990>

Abstract: Science of the Total Environment recently discussed how open access and predatory journals affect the flow of scientific knowledge in an unfortunate way. Now, South Korea's Ministry of Education is intervening to establish a system that will help its researchers avoid the growing global number of fake conferences of low academic and scientific merit. Here, we discuss solutions to this problem with respect to what is needed. Particularly, a list similar to

that of Beall's for predatory conferences, without restricting researchers' academic freedom

**Varianou-Mikellidou C, Boustras G, Nicolaidou O, Dimopoulos C, Anyfantis I, and Messios P. Work-related factors and individual characteristics affecting work ability of different age groups. Safety Science. 2020; 128:104755.**

<https://doi.org/10.1016/j.ssci.2020.104755>

**Penning de Vries BBL, van Smeden M, Rosendaal FR, and Groenwold RHH. Title, abstract, and keyword searching resulted in poor recovery of articles in systematic reviews of epidemiologic practice. Journal of Clinical Epidemiology. 2020; 121:55-61.**

<https://doi.org/10.1016/j.jclinepi.2020.01.009> [open access]

Abstract: OBJECTIVE: Article full texts are often inaccessible via the standard search engines of biomedical literature, such as PubMed and Embase, which are commonly used for systematic reviews. Excluding the full-text bodies from a literature search may result in a small or selective subset of articles being included in the review because of the limited information that is available in only title, abstract, and keywords. This article describes a comparison of search strategies based on a systematic literature review of all articles published in 5 top-ranked epidemiology journals between 2000 and 2017. STUDY DESIGN AND SETTING: Based on a text-mining approach, we studied how nine different methodological topics were mentioned across text fields (title, abstract, keywords, and text body). The following methodological topics were studied: propensity score methods, inverse probability weighting, marginal structural modeling, multiple imputation, Kaplan-Meier estimation, number needed to treat, measurement error, randomized controlled trial, and latent class analysis. RESULTS: In total, 31,641 Hypertext Markup Language (HTML) files were downloaded from the journals' websites. For all methodological topics and journals, at most 50% of articles with a mention of a topic in the text body also mentioned the topic in the title, abstract, or keywords. For several topics, a gradual decrease over calendar time was observed of reporting in the title, abstract, or keywords. CONCLUSION: Literature searches based on title, abstract, and keywords alone may not be sufficiently sensitive for

studies of epidemiological research practice. This study also illustrates the potential value of full-text literature searches, provided there is accessibility of full-text bodies for literature searches

**Zamani V, Banihashemi SY, and Abbasi A. How can communication networks among excavator crew members in construction projects affect the relationship between safety climate and safety outcomes? Safety Science. 2020; 128:104737. <https://doi.org/10.1016/j.ssci.2020.104737>**

\*IWH authored publication.