

IWH Research Alert
October 9, 2020

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***Sears JM, Haight JR, Fulton-Kehoe D, Wickizer TM, Mai J, and Franklin GM. Changes in early high-risk opioid prescribing practices after policy interventions in Washington State. *Health Services Research*. 2020; [epub ahead of print].**

<https://doi.org/10.1111/1475-6773.13564>

Abstract: Objective: To test associations between several opioid prescribing policy interventions and changes in early (acute/subacute) high-risk opioid prescribing practices. Data sources: Population-based workers' compensation pharmacy billing and claims data, Washington State Department of Labor and Industries (January 2008-June 2015). Study design: We used interrupted time series analysis to test associations between three policy intervention timepoints and monthly proportions of population-based measures of high-risk, low-risk, and any workers' compensation-related opioid prescribing. We also tested associations between the policy intervention timepoints and five high-risk opioid prescribing indicators among workers prescribed any opioids within 3 months after injury: (a) >7 cumulative (not necessarily consecutive) days' supply of



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opioids during the acute phase, (b) high-dose opioids, (c) concurrent sedatives, (d) chronic opioids, and (e) a composite high-risk opioid prescribing indicator. Principal findings: Within 3 months after injury, 9 percent of workers were exposed to high-risk and 12 percent to low-risk workers' compensation-related opioid prescribing; 79 percent filled no workers' compensation-related opioid prescription. Among workers prescribed any early (acute/subacute) opioids, the indicator for >7 days' supply of opioids during the acute phase was present for 30 percent, high-dose opioids for 18 percent, concurrent sedatives for 3 percent, and chronic opioids for 2 percent. Beyond a general shift toward more infrequent and lower-risk workers' compensation-related opioid prescribing, each policy intervention timepoint was significantly associated with reductions in specific acute/subacute high-risk opioid prescribing indicators; each of the four specific high-risk opioid prescribing indicators had significant reductions associated with at least one policy. Conclusions: Several state-level opioid prescribing policies were significantly associated with safer workers' compensation-related opioid prescribing practices during the first 3 months after injury (acute/subacute phase), which should in turn reduce transition to chronic opioids and associated negative health outcomes.

Beuermann DW and Pecha CJ. The effect of eliminating health user fees on adult health and labor supply in Jamaica. *Journal of Health Economics*. 2020; 73:102355

<https://doi.org/10.1016/j.jhealeco.2020.102355>

Abstract: This paper estimates the effects of Jamaica's elimination of user fees in public health facilities on the health and labor supply of working-age individuals. The policy change affected about 83 percent of the population, that is, those who lack health insurance and mainly rely on the public health system. The analysis finds no effects among individuals younger than 40 years old. However, for individuals within the 40-64 age range, the analysis finds that the policy reduced the number of lost days due to illness by 44.3 percent. No effects were found on employment or labor formality at the extensive margin. However, consistent with a reduced number of lost days, the analysis identified a positive effect on labor supply at the intensive margin equivalent to 3.04 weekly hours. Finally, overall benefits are relatively



stronger for women, thereby reducing the observed baseline disadvantages relative to men

Bowrin K, Briere JB, Levy P, Toumi M, and Millier A. Use of real-world evidence in meta-analyses and cost-effectiveness models. Journal of Medical Economics. 2020; 23(10):1053-1060.

<https://doi.org/10.1080/13696998.2020.1792917>

Abstract: Real-world evidence (RWE) provides external validity, supplementing and enhancing the randomized controlled trial data with valuable information on patient behaviors and outcomes, turning efficacy and safety results into real-world effectiveness and risks, but the use of RWE is associated with challenges. The objectives of this communication were to (1) summarize all guidance on how to conduct an RWE meta-analysis (MA) and how to develop an RWE cost-effectiveness model, (2) to describe our experience, challenges faced and solutions identified, (3) to provide recommendations on how to conduct such analyses. No formal guidelines on how to conduct an RWE MA or to develop an RWE cost-effectiveness model were identified. Using the context of non-vitamin K antagonist oral anticoagulants in stroke prevention in atrial fibrillation, we conducted an RWE MA, after having identified sources of uncertainty. We then implemented the results in an RWE cost-effectiveness model, defined as a model where all inputs come from RWE, including all parameters related to treatment effect. Based on challenges faced, our first recommendation relates to the necessity of conducting sensitivity analyses, either based on clinical or methodological considerations. Our second recommendation is the need for extensive collaboration with a wide range of experts, during the development of the analyses protocols, the implementation of the analyses and the interpretation of the results. RWE may address a number of gaps related to the treatment effect, and RWE economic evaluations for the treatment effect can provide extremely valuable insights into real-world economic value of interventions. As the increased recognition of the value of RWE could influence health technology assessment decision, and current practices, this communication supports the urgent need of more formal guidelines

Duim E, Guimaraes MT, Ornelas RH, Brito NTG, Daher G, Seko CY, et al. Caring for the workforce of a health system during the



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COVID-19 epidemic in Brazil: strategies of surveillance and expansion of access to care. Journal of Occupational & Environmental Medicine. 2020; 62(10):e593-e597.

<https://doi.org/10.1097/JOM.0000000000002004>

Abstract: OBJECTIVES: To describe the strategies to monitor and expand access to care for a health system workers in the first 2 months of the COVID-19 epidemic in Brazil. METHODS: Description of the implemented strategy based on the guidelines developed to address the surveillance and care of a large health system's workforce in the COVID-19 epidemic. RESULTS: During phase 1, the surveillance strategy focused on monitoring suspected cases among employees. In phase 2, surveillance was restricted to employees with confirmed COVID-19, aiming at monitoring of symptoms and following hospitalizations. Access to care was expanded. A total of 1089 employees were diagnosed with COVID-19, 89 required hospitalizations and none had died. CONCLUSION: The strategies adopted were promptly implemented and could be adapted to the changing epidemic dynamics, allowing low rates of adverse outcomes in this high-risk population

Haro AY, Kuhn R, Rodriguez MA, Theodore N, Melendez E, and Valenzuela A, Jr. Beyond occupational hazards: abuse of day laborers and health. Journal of Immigrant & Minority Health. 2020; [epub ahead of print].

<https://doi.org/10.1007/s10903-020-01094-3>

Abstract: With the increase in labor market flexibility and worksite immigration enforcement, day labor is a common type of informal employment arrangement among immigrants. Our study contextualized day laborers' physical and mental health within work- and community-level factors. We use a nationally representative sample of 2015 day laborers from the National Day Labor Survey. Multivariable logistic regression models estimated the association of occupational and socioenvironmental abuses with self-rated health (SRH), a positive PHQ-2 screening, morbidities, and workplace injuries. Employer abuse was associated with fair/poor SRH, workplace injuries, morbidity, and PHQ-2; business owner abuse was associated with PHQ-2 and workplace injuries; and crime and having a dangerous job are both associated with workplace injuries. Health disadvantages stem from unsafe occupational conditions and an



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overlapping array of adverse social experiences. These findings highlight the need to develop and evaluate policies that protect all workers regardless of socioeconomic position and immigration status

Jahangiri M, Cousins R, and Gharibi V. Let's get back to work: preventive biological cycle management of COVID-19 in the workplace. *Work*. 2020; 66(4):713-716.

<https://doi.org/10.3233/WOR-203217>

Abstract: **BACKGROUND:** The primary response to the coronavirus (COVID-19) pandemic has been to minimize social contact through lockdown measures. The closure of non-essential businesses to tackle the spread of the coronavirus has had negative consequences for the global economy, production, and employment. **OBJECTIVE:** To outline how known occupational health principles can be used for preventative management of the coronavirus in workplaces to support resumption of work. **METHODS:** A discussion of current knowledge of COVID-19, the cost of the lockdown strategy, and preventative biological cycle management. **RESULTS:** The evidence-based literature indicates that biological cycle management can control the risk of coronavirus infection, provide a suitable and sufficient exit strategy from lockdown, and support getting employees back to work. Adherence to personal protective equipment standards has been insufficient, indicating a need for workplace investment and education. **CONCLUSION:** Imposed restrictions on workplace operations can be lifted without compromising worker health and safety when a workplace commits to practicing the three principles of biological cycle management

Karos K, McParland JL, Bunzli S, Devan H, Hirsh A, Kapos FP, et al. The social threats of COVID-19 for people with chronic pain. *Pain*. 2020; 161(10):2229-2235.

<https://doi.org/10.1097/j.pain.0000000000002004> [open access]

Kincl LD, Hess JA, Weeks DL, Vaughan A, and Anton D. Efficacy of text messaging apprentices to reinforce ergonomics and safety voice training. *Journal of Safety Research*. 2020; 74:35-43.

<https://doi.org/10.1016/j.jsr.2020.04.007>

Abstract: Introduction: Injuries and work-related musculoskeletal disorders (MSDs) are common among masons. SAfety Voice for



Ergonomics (SAVE) integrates training in ergonomic and safety problem-solving skills into masonry apprenticeship training. The purpose of this study was to assess the efficacy of text messaging to reinforce SAVE program content. Method: SAVE effectiveness was evaluated at masonry apprenticeship training centers across the United States by comparing three experimental groups: (1) Ergonomics training, (2) Ergonomics and Safety Voice training, and a (3) Control. Apprentices received SAVE training with their standard instruction. To reinforce classroom training, refresher training was implemented by sending weekly text messages for six months. Half of the text messages required a response, which tested knowledge or assessed behavior, while the remaining reiterated knowledge. Apprentices (n = 119) received SAVE text messages. Response rates and percentage of correct responses were compared with chi-square tests and independent group t-tests. Multivariable logistic regression analysis predicted apprentice response with selected demographic and work experience variables. Finally, feedback on the use of text messaging was obtained. Result: Of 119 participants, 61% (n = 72) responded to at least one text message. Logistic regression revealed that being a high school graduate and a brick and block mason significantly affected the odds of responding. Sixty-nine percent of apprentices agreed that text messages reinforced SAVE content. Conclusion: Even though there was no training center requirement to respond, the high response rate suggests that text messaging can effectively be used to reinforce ergonomics and safety voice training for both knowledge and behavior. Practical Application: The prevalent use of text messaging creates opportunities to reinforce health and safety training and engage workers, especially for populations that may be at various locations over time such as construction sites. Instructors and practitioners should consider the utility of text messaging for supporting their training and safety programs.

de Macedo TAM, Cabral ELDS, Silva Castro WR, de Souza Junior CC, da Costa Junior JF, Pedrosa FM, et al. Ergonomics and telework: a systematic review. Work. 2020; 66(4):777-788.

<https://doi.org/10.3233/WOR-203224>

Abstract: BACKGROUND: Telework has been widely studied by public and private organizations; however, in ergonomics, studies that



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focused on this topic are still sporadic. **OBJECTIVE:** Thus, this article endeavours to systematize the qualified scientific research related to ergonomics and teleworking to determine the main benefits and disadvantages and to identify the main issues addressed by authors. **METHODS:** A thorough research was conducted in the Scopus/Embase and Web of Science databases for this review. The following descriptors were used for the cataloguing of articles: "teleworking", "telecommuting", "telecommuters", "home office", "ergonomics" and "human factors". 36 studies were selected. **RESULTS:** The study highlights four relevant questions in the scientific literature: a) where is the discussion of these themes consolidated; b) what are the main descriptors related to the discussion; c) which journals and conferences establish a scientific debate on the topic; and d) what are its main advantages and disadvantages. **CONCLUSIONS:** Results suggest that telecommuting can be a valuable tool for balancing professional and family life, which helps to improve the well-being of workers; however, several factors can influence the overall remote working experience which leads to the need for companies to adopt unique strategies reflecting their unique situation

Mavindidze E, van Niekerk L, and Cloete L. Professional competencies required by occupational therapists to facilitate the participation of persons with mental disability in work: a review of the literature. Work. 2020; 66(4):841-848.

<https://doi.org/10.3233/WOR-203229>

Abstract: **BACKGROUND:** Unemployment rates are generally higher among persons with mental disabilities who experience many barriers and challenges that limit their participation in work and employment. Occupational therapy can play a key role in promoting participation and engagement in work by persons with mental disabilities.

OBJECTIVE: This review sought to identify the barriers and facilitators to work participation for persons with mental disabilities globally in comparison to Zimbabwe, and to identify the competencies related to work practice in occupational therapy curricula internationally and regionally. **METHODS:** A narrative literature review was conducted using the SALSA (Search, Appraisal, Synthesis and Analysis) framework which informed retrieval and analysis of articles published between 2012 and 2018. **RESULTS:**



Fifty-one out of 227 articles were selected to inform the review. A synthesis of the literature provided insights and ideas on facilitators and barriers to work for persons with mental disabilities and the competencies related to work practice in occupational therapy curricula. **CONCLUSION:** Barriers to participation in work for persons with mental disabilities are real. However, occupational therapists from different contexts have a variety of competencies to facilitate participation in work. There is a need to develop work practice competencies particular to the Zimbabwean context

Minozzi S, Cinquini M, Gianola S, Gonzalez-Lorenzo M, and Banzi R. The revised Cochrane risk of bias tool for randomized trials (RoB 2) showed low interrater reliability and challenges in its application. Journal of Clinical Epidemiology. 2020; 126:37-44.

<https://doi.org/10.1016/j.jclinepi.2020.06.015>

Abstract: **OBJECTIVE:** The objective of the study is to assess the interrater reliability (IRR) and usability of the revised Cochrane risk of bias tool for randomized trials (RoB 2). **STUDY DESIGN AND SETTING:** This is a cross-sectional study. Four raters independently applied RoB 2 on the primary outcome of a random sample of individually randomized parallel-group trials (randomized controlled trials (RCTs)). We calculated the Fleiss' kappa for multiple raters, the time needed to complete the tool, and discussed the application of RoB 2 to identify difficulties and reasons for disagreement. **RESULTS:** A total of 70 outcomes from 70 RCTs were included. IRR was slight for overall judgment (IRR 0.16, 95% confidence interval (CI) 0.08-0.24); individual domain analysis gave IRR as moderate for "randomization process" (IRR 0.45, 95% CI 0.37-0.53), slight for "deviations from intended intervention" for RCTs assessing the effect of the assignment to an intervention (IRR 0.04, 95% CI -0.06 to 0.14), fair for those assessing the effect of adhering (IRR 0.21, 95% CI 0.11-0.31), and fair for the other domains, ranging from 0.22 (95% CI 0.14-0.30) for "missing outcome data" to 0.30 (95% CI 0.22-0.38) for "selection of reported results". Mean time to apply the tool was 28 minutes (standard deviation 13.4) per study outcome. The main difficulties were due to poor knowledge of the subject matter of primary studies, new terminology, different approaches for some domains compared with the previous tool, and way of formulating



signaling questions. **CONCLUSIONS:** RoB 2 is a detailed and comprehensive tool but difficult and demanding, even for raters with substantial expertise in systematic reviews. Calibration exercises and intensive training are needed before its application, to improve reliability

Parent-Lamarche A and Fernet C. The role of employee self-efficacy in top-down burnout crossover: a longitudinal study. Journal of Occupational & Environmental Medicine. 2020; 62(10):803-809.

<https://doi.org/10.1097/JOM.0000000000001924>

Abstract: : Burnout has been a prominent topic in the management research for over 30 years. Yet few studies have explored the conditions that foster burnout from managers to employees (indirect crossover). Based on the principle of behavioral plasticity, we propose that self-efficacy is an adaptive resource that enables employees to counter the potentially crossover effects of burnout (ie, emotional exhaustion and cynicism). This proposal is partially supported by the results of a longitudinal analysis of educators (principals and teachers): a moderating effect of employee self-efficacy was found, but only for emotional exhaustion, which is considered the basic individual stress dimension of burnout. More specifically, managerial emotional exhaustion was associated with lower emotional exhaustion over time in employees who reported higher self-efficacy, with the inverse association for employees with lower self-efficacy. This suggests that managers' emotional exhaustion can indirectly affect the experience of a congruent emotional state in their subordinates. Theoretical and practical implications are discussed

Pilbeam C, Denyer D, and Doherty N. Safety risk factors in two different types of routine outsourced work: a systematic literature review. Policy and Practice in Health and Safety. 2020; 18(2):140-154.

<https://doi.org/10.1080/14773996.2020.1787701>

Sault JD, Jayaseelan DJ, Mischke JJ, and Post AA. The utilization of joint mobilization as part of a comprehensive program to manage carpal tunnel syndrome: a systematic



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review. Journal of Manipulative and Physiological Therapeutics. 2020; 43(4):356-370.

<https://doi.org/10.1016/j.jmpt.2020.02.001>

Abstract: OBJECTIVE: The purpose of this review is to identify the role of joint mobilization for individuals with Carpal tunnel syndrome (CTS). METHODS: A systematic search of 5 electronic databases (PubMed, CINAHL, Scopus, Cochrane Central Register of Controlled Trials, and SPORTDiscus) was performed to identify eligible full-text randomized clinical trials related to the clinical question. Joint mobilization had to be included in one arm of the randomized clinical trials to be included. Two reviewers independently participated in each step of the screening process. A blinded third reviewer assisted in cases of discrepancy. The PEDro scale was used to assess quality. RESULTS: Ten articles were included after screening 2068 titles. In each article where joint mobilization was used, positive effects in pain, function, or additional outcomes were noted. In most cases, the intervention group integrating joint mobilization performed better than the comparison group not receiving joint techniques. CONCLUSION: In the articles reviewed, joint mobilization was associated with positive clinical effects for persons with CTS. No studies used joint mobilization in isolation; therefore, results must be interpreted cautiously. This review indicates that joint mobilization might be a useful adjunctive intervention in the management of CTS

Tricco AC, Garritty CM, Boulos L, Lockwood C, Wilson M, McGowan J, et al. Rapid review methods more challenging during COVID-19: commentary with a focus on 8 knowledge synthesis steps. Journal of Clinical Epidemiology. 2020; 126:177-183.

<https://doi.org/10.1016/j.jclinepi.2020.06.029>

Warsted M, Koch M, and Veiersted KB. Work above shoulder level and shoulder complaints: a systematic review. International Archives of Occupational & Environmental Health. 2020; 93(8):925-954.

<https://doi.org/10.1007/s00420-020-01551-4>

Abstract: Objective: To investigate the association and the exposure-response relationship between work above shoulder height and shoulder pain or disorders. Methods: A systematic search was



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performed in Medline, Embase, and Health and Safety Science Abstracts. Included were articles with prospective cohort, case-control, cross-sectional, or intervention study designs. Quality assessment was based on an evaluation scheme adjusted to study design and normalized to 100%. The cut-off for sufficient quality to include articles was above 40% and cut-off for high-quality articles was above 50% of maximal score. The level of strength of evidence for an association between exposure and effect was assessed according to the GRADE guidelines. Results: Thirty-four articles were included. Articles that document large effects (higher risk estimates; OR = 2) have higher quality score, include analyses of severe arm elevation, more often use clinical outcome, and report an exposure-response relationship compared to studies reporting lower risk estimates. The studies that reported large effects were all significant. An exposure-response relationship was found in many high-quality studies when relating exposure intensity of arm elevation (level of arm elevation, amplitude) as well as duration of arm elevation, especially > 90°. Conclusion: We conclude on a limited evidence for an association between arm elevation at work and shoulder disorders. Severe arm elevation with elbows above shoulder level (i.e., > 90°) shows a moderate evidence for an association with shoulder disorders.

Zack O, Strul I, Segal N, Eden I, Rinsky-Halivni L, and Moshe S. The association between PHQ-9 and fitness for work among depressive patients. Journal of Occupational & Environmental Medicine. 2020; 62(9):706-711.

<https://doi.org/10.1097/JOM.0000000000001931>

Abstract: Objective: One of the tools to assess depression severity is the Patient Health Questionnaire (PHQ-9). Our aim was to investigate the correlation between PHQ-9 scores and fitness for work (FFW) in major depressive disorder (MDD). Methods: A cross-sectional study in patients who were evaluated for their FFW and later compared with PHQ-9. Results: Questionnaires were collected for 125 patients. A negative correlation between depression severity and absolute working ability (WA) was found for both women ($\beta = -0.4$, $P < 0.001$) and men ($\beta = -0.4$, $P = 0.05$). Multivariate linear regression revealed a negative correlation between WA and depression severity based on PHQ-9 scores ($\beta = -0.4$, $P < 0.05$). Conclusions: A negative



correlation exists between absolute and relative WA and depression severity, meaning, with the higher severity of depression the lower the WA.

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