IWH Research Alert
August 23, 2019

Missed an issue? Catch up on previous *Research Alerts* available on the IWH website   https://www.iwh.on.ca/journal-articles/research-alerts

*Beaton DE, Maxwell LJ, Shea BJ, Wells GA, Boers M, Grosskleg S, et al. Instrument selection using the OMERACT filter 2.1: the OMERACT methodology. Journal of Rheumatology. 2019; 46(8):1028-1035.
https://doi.org/10.3899/jrheum.181218

Abstract: OBJECTIVE: Outcome Measures in Rheumatology (OMERACT) Filter 2.1 revised the process used for core outcome measurement set selection to add rigor and transparency in decision making. This paper describes OMERACT's methodology for instrument selection. METHODS: We presented instrument selection processes, tools, and reporting templates at OMERACT 2018, introducing the concept of "3 pillars, 4 questions, 7 measurement properties, 1 answer." Truth, discrimination, and feasibility are the 3 original OMERACT pillars. Based on these, we developed 4 signaling questions. We introduced the Summary of Measurement Properties table that summarizes the 7 measurement properties: truth (domain match, construct validity), discrimination [test-retest reliability, longitudinal construct validity (responsiveness), clinical trial discrimination, thresholds of meaning], and feasibility. These properties address a set of standards which, when met, answer the one question: Is there enough evidence to support the use of this instrument in clinical research of the benefits and harms of treatments in the population and study setting described? The OMERACT Filter 2.1 was piloted on 2 instruments by the Psoriatic Arthritis Working Group. RESULTS: The methodology was reviewed in a full plenary session and facilitated breakout groups. Tools to facilitate retention of the process (i.e., "The OMERACT Way") were provided. The 2 instruments were presented, and the recommendation of the working group was endorsed in the first OMERACT Filter 2.1 Instrument Selection votes. CONCLUSION: Instrument selection using OMERACT Filter 2.1 is feasible and is now being implemented

Institute for Work & Health | Research Excellence
Advancing Employee Health

*Kokorelias KM, Gignac MAM, Naglie G, and Cameron JI. Towards a universal model of family centered care: a scoping review. BMC Health Services Research. 2019; 19(1):564.
https://doi.org/10.1186/s12913-019-4394-5   **[open access]**

Abstract: BACKGROUND: Families play an important role meeting the care needs of individuals who require assistance due to illness and/or disability. Yet, without adequate support their own health and wellbeing can be compromised. The literature highlights the need for a move to family-centered care to improve the well-being of those with illness and/or disability and their family caregivers. The objective of this paper was to explore existing models of family-centered care to determine the key components of existing models and to identify gaps in the literature. METHODS: A scoping review guided by Arksey & O'Malley (2005) examined family-centered care models for diverse illness and age populations. We searched MEDLINE, PsycINFO, CINAHL and EMBASE for research published between 1990 to August 1, 2018. Articles describing the development of a family-centered model in any patient population and/or healthcare field or on the development and evaluation of a family-centered service delivery intervention were included. RESULTS: The search identified 14,393 papers of which 55 met our criteria and were included. Family-centered care models are most commonly available for pediatric patient populations (n = 40). Across all family-centered care models, the consistent goal is to develop and implement patient care plans within the context of families. Key components to facilitate family-centered care include: 1) collaboration between family members and health care providers, 2) consideration of family contexts, 3) policies and procedures, and 4) patient, family, and health care professional education. Some of these aspects are universal and some of these are illness specific. CONCLUSIONS: The review identified core aspects of family-centred care models (e.g., development of a care plan in the context of families) that can be applied to all populations and care contexts and some aspects that are illness specific (e.g., illness-specific education). This review identified areas in need of further research specifically related to the relationship between care plan decision making and privacy over medical records within models of family centred care. Few studies have evaluated the impact of the various models on patient, family, or health system outcomes. Findings can inform movement towards a universal model of family-centered care for all populations and care contexts

Batevik FO. From school to work: long-term employment outcomes for former special educational needs students. Scandinavian Journal of Disability Research. 2019; 21(1):158-166.
https://doi.org/10.16993/sjdr.595

Cooper C, Varley-Campbell J, and Carter P. Established search filters may miss studies when identifying randomized controlled trials. Journal of Clinical Epidemiology. 2019; 112:12-19.
https://doi.org/10.1016/j.jclinepi.2019.04.002

Institute for Work & Health | Research Excellence Advancing Employee Health

Abstract: OBJECTIVES: The authors were becoming increasingly aware of studies reporting randomized controlled trial (RCT), which reported trial phase but did not mention study design or randomization in the title or abstract. The objective of this study was to determine if established RCT literature search filters should include terms for trial phase. STUDY DESIGN AND SETTING: This study is a case study. A search filter for trial phase (the P3 filter) was developed, and its sensitivity, efficiency, and value were determined when compared with two established RCT literature search filters (The Cochrane Highly Sensitive Search Strategies [HSSS] and the Royle and Waugh Brief RCT Search Strategy [BRSS]) in the year 2015-improved sensitivity was determined where the P3 filter identified studies missed by either of the established filters; efficiency was determined by the number needed to read; and the Cochrane risk of bias tool was used to determine study quality as a proxy for value. RESULTS: Both established filters missed studies. The HSSS missed one RCT and four follow-up RCT studies. The BRSS missed one RCT and five follow-up RCT studies. Study quality was unclear. CONCLUSION: Established RCT literature search filters may miss studies where trial phase is reported instead of terms for study design or randomization. The P3 filter can be incorporated to improve sensitivity

Everson EM, Dilley JA, Maher JE, and Mack CE. Post-legalization opening of retail cannabis stores and adult cannabis use in Washington State, 2009-2016. American Journal of Public Health. 2019; 109(9):1294-1301.
https://doi.org/10.2105/AJPH.2019.305191

Abstract: Objectives. To assess the relationship between adult cannabis use and time-varying local measures of retail cannabis market presence before and after legalization (2012) and market opening (2014) in Washington State.Methods. We used 2009 to 2016 data on 85 135 adults' current (any) and frequent (20 or more days) past-month cannabis use from the Washington Behavioral Risk Factor Surveillance System linked to local retailer proximity and density. Multilevel models predicted use over time, accounting for nesting within communities.Results. Current and frequent cannabis use grew significantly between 2009 and 2016; use did not significantly change immediately after legalization but increased subsequently with greater access to cannabis retailers. Specifically, current use increased among adults living in areas within 18 miles of a retailer and, especially, within 0.8 miles (odds ratio [OR] = 1.45; 95% confidence interval [CI] = 1.24, 1.69). Frequent use increased among adults living within 0.8 miles of a retailer (OR = 1.43; 95% CI = 1.15, 1.77). Results related to geospatial retailer density were consistent.Conclusions. Increasing cannabis retail access was associated with increased current and frequent use.Public Health Implications. Policymakers might consider density limits as a strategy for preventing heavy cannabis use among adults

Haider T and Dunstan DA. Barriers to psychologists' adherence to evidence-based practice guidelines for treating musculoskeletal injuries within the state insurance regulatory authority compensation schemes.

Abstract: OBJECTIVES: An asbestos job-exposure matrix (AsbJEM) has been developed to systematically and cost-effectively evaluate occupational exposures in population-based studies. The primary aim of this study was to examine the accuracy of the AsbJEM in determining exposure-response relationships between asbestos exposure estimates and malignant mesothelioma (MM) incidence (indirect validation). The secondary aim was to investigate whether the assumptions used in the development of the original AsbJEM provided accurate asbestos exposure estimates. METHODS: The study population consisted of participants in an annual health surveillance program, who had at least 3-month occupational asbestos exposure. Calculated asbestos exposure indices included cumulative asbestos exposure and the average exposure intensity, estimated using the AsbJEM and duration of employment. Asbestos and MM exposure-response relationships were compared between the original AsbJEM and its variations based on manipulations of the intensity, duration and frequency of exposure. Twenty-four exposure estimates were calculated for both cumulative asbestos exposure and the average exposure intensity using three exposure intensities (50th, 75th and 90th percentile of the range of mode exposure), four peak durations (15, 30, 60 and 120 min) and two patterns of peak frequency (original and doubled). Cox proportional hazards models were used to describe the associations between MM incidence and each of the cumulative and average intensity estimates. RESULTS: Data were collected from 1602 male participants. Of these, 40 developed MM during the study period. There were significant associations between MM incidence and both cumulative and average exposure intensity for all estimates. The strongest association, based on the regression-coefficient from the models, was found for the 50th percentile of mode exposure, 15-min peak duration and the doubled frequency of peak exposure. Using these assumptions, the hazard ratios for mesothelioma were 1 (reference), 1.91, 3.24 and 5.37 for the quartiles of cumulative asbestos exposure and 1 (reference), 1.84, 2.31 and 4.40 for the quartiles of the average exposure intensity, respectively. CONCLUSION: The well-known positive exposure-response relationship between MM incidence and both estimated cumulative asbestos

exposure and average exposure intensity was confirmed. The strongest relationship was found when the frequency of peak exposure in the AsbJEM was doubled from the originally published estimates

Laeeque SH, Bilal A, Hafeez A, and Khan Z. Violence breeds violence: burnout as a mediator between patient violence and nurse violence. International Journal of Occupational Safety & Ergonomics. 2019; 25(4):604-613.
https://doi.org/10.1080/10803548.2018.1429079

Abstract: The present study examines whether patient-perpetrated violence triggers anger, hatred and other negative emotions that, under certain circumstances, might motivate nurses to behave violently with patients. In doing so, this study considers burnout as a mediator in the patient violence-nurse violence relationship. To test the causal paths, data were collected from 182 nurses working in two government-sector teaching hospitals of Pakistan's Punjab province. Results confirm that patient violence toward nurses leads to nurse violence toward patients through the mediating effect of burnout. The study advises hospitals to provide wellness and stress management programs to nurses who regularly experience events involving patient violence. Hospitals may consider allowing nurses to take short breaks after an encounter with violently behaving patients. In addition, hospitals should conduct empathy-promoting training, emotional intelligence training and 'lens of the patient' training programs to sensitize their nursing staff

Lui JNM and Johnston JM. Working while sick: validation of the multidimensional presenteeism exposures and productivity survey for nurses (MPEPS-N). BMC Health Services Research. 2019; 19(1):542.
https://doi.org/10.1186/s12913-019-4373-x   [open access]

Abstract: BACKGROUND: Presenteeism is the employee behaviour of physically attending work with reduced performance due to illness or for other reasons. Nurses are four times more likely to exhibit presenteeism compared to other occupations, threatening patient safety through increased patient falls, medication errors and staff-to-patient disease transmission. There is a paucity of standardized instruments that quantify the association between presenteeism with its exposures and related productivity. This study aims to validate an instrument that comprehensively measures presenteeism workplace and personal exposures specifically for Asian nurses. METHODS: Questionnaire domain items were selected based on the JD-R framework and a previously conducted systematic review of pre-existing validated scales measuring work attendance exposures used in previous healthcare studies. The preliminary questionnaire consisted of two outcomes (presenteeism frequency, productivity) and five exposure domains: work resources, work demands, work stress, work engagement, personal traits and health. Content validation and back translation (English-Cantonese Chinese-English) were carried out. Responses from full-time nurses working in two acute care hospitals (Preliminary questionnaire at Hospital

1: N = 295 and main round questionnaire at Hospital 2: N = 1146) were included in the validation study to ensure an adequate sample size of ten cases per indicator variable for CFA analysis. A random sample of 80 nurses from Hospital 1 were selected for test-retest reliability 4 weeks post the initial survey. Internal consistency, convergent and discriminant validity tests were also tested. RESULTS: Satisfactory internal consistency (Cronbach's alpha > 0.7), test-retest reliability (ICC > 0.4); and construct validity - convergent and discriminant validity was achieved. Confirmatory factor analysis yielded satisfactory fitness indices (CFI and TLI > 0.95, RMSEA < 0.08). Presenteeism and productivity significantly associated with all work resources, work engagement and work stress constructs in Hospital 2. CONCLUSION: A reliable Multidimensional Presenteeism Exposures and Productivity Survey (MPEPS-N) has been validated in two distinct hospital environments. The instrument helps to identify and quantify organizational or individual exposures that significantly associate with presenteeism and its related productivity, thus allowing hospital managers to set evidence-based intervention targets for wellness programs and formulate human resource policies in reducing presenteeism-related productivity loss

Lunde LK, Koch M, Merkus SL, Knardahl S, Waersted M, and Veiersted KB. Associations of objectively measured forward bending at work with low-back pain intensity: a 2-year follow-up of construction and healthcare workers. Occupational & Environmental Medicine. 2019; 76(9):660-667. https://doi.org/10.1136/oemed-2019-105861   [open access]

Abstract: OBJECTIVES: This study aimed to determine possible associations between objectively measured forward bending at work (FBW) and low-back pain intensity (LBPi) among Norwegian construction and healthcare workers. METHODS: One-hundred and twenty-five workers wore two accelerometers for 3-4 consecutive days, during work and leisure to establish duration of >/=30 degrees and >/=60 degrees forward bending. The participating workers reported LBPi (0-3) at the time of objective measurements and after 6, 12, 18 and 24 months. We investigated associations using linear mixed models with significance level p</=0.05 and presented results per 100 min. RESULTS: The duration of >/=30 degrees and >/=60 degrees FBW was not associated with average LBPi during follow-up, neither for the total sample nor stratified on work sector. Furthermore, analyses on all workers and on construction workers only found no significant association between >/=30 degrees or >/=60 degrees FBW and change in LBPi over the 2-year follow-up. For healthcare workers we found a consistent significant association between the duration of >/=30 degrees FBW at baseline and the change in LBPi during follow-up, but this was not found for >/=60 degrees FBW. CONCLUSIONS: This study suggests that objectively measured duration of FBW in minutes is not associated with average levels of, or change in LBPi in construction workers over a 2-year period. In healthcare workers, exposure to >/=30 degrees FBW was associated with change in LBPi, while we did not find this for >/=60 degrees FBW. Results may indicate that the

associations between FWB and LBP vary depending on type of work tasks, gender or sector-specific factors

Peng J, He Y, Deng J, Zheng L, Chang Y, and Liu X. Emotional labor strategies and job burnout in preschool teachers: psychological capital as a mediator and moderator. Work. 2019; 63(3):335-345.
https://doi.org/10.3233/WOR-192939

Abstract: BACKGROUND: Preschool teachers can easily become exhausted and worn out, otherwise known as job burnout. Studies have explored the effects of emotional labor strategies and psychological capital on job burnout; however, few have examined their trilateral relationship, especially the role of psychological capital with respect to emotional labor strategies and job burnout. OBJECTIVE: This study explored the mediating and moderating effects of psychological capital in the relationship between three kinds of emotional labor strategies and job burnout in preschool teachers. METHODS: A cross-sectional study was conducted among preschool teachers in China. A total of 355 preschool teachers completed a self-report questionnaire, including three scales that measured emotional labor strategies, psychological capital, and job burnout. Resultant data were analyzed based on correlations, multiple regressions, and structural equation modeling. RESULTS: Results showed that for preschool teachers, two emotional labor strategies (deep acting and expression of natural emotion) were found to be negatively correlated with psychological capital and positively correlated with job burnout. However, surface acting was positively correlated with psychological capital and negatively correlated with job burnout. Psychological capital partially mediated the effects of the three emotional labor strategies on job burnout. Additionally, psychological capital significantly moderated the effects of surface acting and deep acting on job burnout. CONCLUSIONS: Psychological capital can significantly mediate and moderate the effects of emotional labor strategies on job burnout

Prism Economics and Analysis. The underground economy in Ontario's construction industry: estimates of the revenue losses to governments. Toronto: The Ontario Construction Secretariat; 2019.

Ropponen A, Narusyte J, Mittendorfer-Rutz E, and Svedberg P. Number of pain locations as a predictor of cause-specific disability pension in Sweden: do common mental disorders play a role? Journal of Occupational & Environmental Medicine. 2019; 61(8):646-652.
https://doi.org/10.1097/JOM.0000000000001635   [open access]

Abstract: OBJECTIVE: The aim of this study was to investigate the associations between number of pain locations, common mental disorders (CMDs), and disability pension (DP). METHODS: Survey data in 1998 to 2003 for 27,165 Swedish twins born in 1935 to 1958 were linked to national DP data until 2013. Pain locations were evaluated for back, low back, sciatica, shoulder, or neck pain, and CMDs for lifetime major depression and 1-month anxiety. RESULTS:

The number of pain locations was associated with DP in a dose-response manner. One pain location had a hazard ratio of 1.50 (95% confidence interval 1.35 to 1.68) and five pain locations hazard ratio 4.67 (95% confidence interval 4.11 to 5.30) for DP. Also, CMDs were associated with DP. CONCLUSION: The number of pain locations has a dose-response association with the risk of DP. CMDs predict DP. In strategies to prevent DP, early signs of pain or CMDs should be taken into consideration

Schofield K, Ryan AD, and Dauner KN. Comparing disability and return to work outcomes between alternative and traditional workers' compensation programs. American Journal of Industrial Medicine. 2019; 62(9):755-765.
Abstract: BACKGROUND: The Union Construction Workers' Compensation Program (UCWCP) was developed in 1996 as an alternative workers' compensation arrangement. The program includes use of a preapproved medical and rehabilitation network and alternative dispute resolution (ADR), and prioritizes a quick and safe return-to-work. The aim of this study is to determine if differences in recovery-related outcomes exist between UCWCP and the statutory workers' compensation system (SWCS). METHODS: Claims data from 2003 to 2016 were classified as processed through UCWCP or SWCS. Outcomes included: temporary total disability (TTD), vocational rehabilitation (VR), claim duration and costs, and permanent partial disability (PPD). The relative risk of incurring TTD, VR, and PPD in UCWCP vs SWCS was calculated using log-binomial regression. Linear regression examined the relationship between programs and continuous outcomes including costs and duration. Estimates were adjusted for age, sex, wage, and severity. RESULTS: The UCWCP processed 15.8% of claims; higher percentages of UCWCP claimants were older and earned higher wages. Results point to positive findings of decreased TTD incidence and cost, lower risk of TTD extending over time, higher likelihood of VR participation, and less attorney involvement and stipulation agreements associated with UCWCP membership. Differences were more apparent in workers who suffered permanent physical impairment. CONCLUSION: Findings suggest that the defining programmatic elements of the UCWCP, including its medical provider and rehabilitation network and access to ADR, have been successful in their aims. Claims with increased severity exhibited more pronounced differences vs SWCS, potentially due, in part, to greater use of programmatic elements

Walston Z, Niles P, Spiker L, and Yake D. Use of cognitive behavioural therapy with usual physical therapy intervention for individuals who are unemployed secondary to chronic low back pain: a case series. Musculoskeletal Care. 2019; [epub ahead of print].
Abstract: BACKGROUND: Low back pain (LBP) is a leading cause of work absence and may influence the development of fear-avoidance behaviours. The

purpose of this case series was to examine the use of cognitive behavioural therapy (CBT) with physical therapy (PT) for the treatment of fear-avoidance behaviours in patients with chronic LBP who are disabled or in a period of work absence. CASE DESCRIPTION: Four patients with high-irritability chronic LBP who were considered as being on work absence or disability were treated in outpatient PT clinics. The intervention consisted of fundamental CBT concepts utilized in combination with a traditional PT intervention. OUTCOMES: Patients were treated until the achievement of functional goals and normalized movement patterns. Pain, disability and function were measured via a numerical pain rating scale, the Oswestry Disability Index and Focus on Therapeutic Outcomes. All patients achieved the minimally clinically important difference for these measures. Fear-avoidance behaviours decreased, as observed by an average 15-point change in Fear-Avoidance Behaviour Questionnaire (Physical Activity) outcomes. Patients on work absence returned to work. DISCUSSION: This case series describes the use of CBT in combination with a traditional PT intervention for the treatment of high-irritability, fear-avoidant individuals who are on disability or in a period of work absence. The results indicated that CBT may be a useful and feasible adjunct to PT and may positively influence a return to work. Further studies are needed to determine effectiveness, including randomized controlled trials

Wong V and Au-Yeung TC. Expediting youth's entry into employment whilst overlooking precariousness: flexi-employability and disciplinary activation in Hong Kong. Social Policy & Administration. 2019; 53(5):793-809. https://doi.org/10.1111/spol.12418

*IWH authored publications.

Institute for Work & Health | Research Excellence Advancing Employee Health