IWH Research Alert April 20, 2018

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\*Lay AM, Kosny A, Aery A, Flecker K, and Smith PM. The occupational health and safety vulnerability of recent immigrants accessing settlement services. Canadian Journal of Public Health. 2018; [Epub ahead of print]. <u>http://dx.doi.org/10.17269/s41997-018-0063-4</u>

Abstract: To compare occupational health and safety (OHS) vulnerability of recent Canadian immigrants and workers born in Canada

Chaikumarn M, Nakphet N, and Janwantanakul P. Impact of rest-break interventions on the neck and shoulder posture of symptomatic VDU operators during prolonged computer work. International Journal of Occupational Safety and Ergonomics. 2018; 24(2):251-259. http://dx.doi.org/10.1080/10803548.2016.1267469

Abstract: There is limited research on the effects of different types of rest-break interventions for visual display unit (VDU) operators on neck and shoulder postures. This study examined the effect of rest-break interventions on the neck and shoulder postures of symptomatic VDU operators during prolonged computer work. Thirty subjects were randomly and equally assigned to breaks with stretching, breaks with dynamic movement and passive breaks. Subjects performed the typing task for 60 min and received 3-min breaks after 20 min of work. The craniovertebral and forward shoulder angles were obtained from a 3D motion analysis system. Results showed that there were no significant differences in the craniovertebral and forward shoulder angles among any types of rest breaks. It can be concluded that the three types of rest-break interventions had positive effects on neck and shoulder posture during prolonged computer terminal work



| Research Excellence | Advancing Employee | Health Coutu MF, Legare F, Durand MJ, Stacey D, Labrecque ME, Corbiere M, and Bainbridge L. Acceptability and feasibility of a shared decision-making model in work rehabilitation: a mixed-methods study of stakeholders' perspectives. Journal of Occupational Rehabilitation. 2018; [Epub ahead of print].

#### http://dx.doi.org/10.1007/s10926-018-9770-1

Abstract: Purpose To establish the acceptability and feasibility of implementing a shared decision-making (SDM) model in work rehabilitation. Methods We used a sequential mixed-methods design with diverse stakeholder groups (representatives of private and public employers, insurers, and unions, as well as workers having participated in a work rehabilitation program). First, a survey using a self-administered questionnaire enabled stakeholders to rate their level of agreement with the model's acceptability and feasibility and propose modifications, if necessary. Second, eight focus groups representing key stakeholders (n = 34) and four one-on-one interviews with workers were conducted, based on the questionnaire results. For each stakeholder group, we computed the percentage of agreement with the model's acceptability and feasibility and performed thematic analyses of the transcripts. Results Less than 50% of each stakeholder group initially agreed with the overall acceptability and feasibility of the model. Stakeholders proposed 37 modifications to the objectives, 17 to the activities, and 39 to improve the model's feasibility. Based on in-depth analysis of the transcripts, indicators were added to one objective, an interview guide was added as proposed by insurers to ensure compliance of the SDM process with insurance contract requirements, and one objective was reformulated. Conclusion Despite initially low agreement with the model's acceptability on the survey, subsequent discussions led to three minor changes and contributed to the model's ultimate acceptability and feasibility. Later steps will involve assessing the extent of implementation of the model in real rehabilitation settings to see if other modifications are necessary before assessing its impact

Erdogan B, Ozyilmaz A, Bauer TN, and Emre O. Accidents happen: psychological empowerment as a moderator of accident involvement and its outcomes. Personnel Psychology. 2018; 71(1):67-83. http://dx.doi.org/10.1111/peps.12228

Fechtner S and Bethge M. Effects of rehabilitation aftercare on work participation in patients with musculoskeletal disorders: a propensity score-matched analysis. International Journal of Rehabilitation Research. 2018; 41(1):74-80.

#### http://dx.doi.org/10.1097/MRR.000000000000268

Abstract: Meta-analyses of rehabilitation studies in chronic back pain patients in Germany showed a lack of sustainability of rehabilitation programs. The German Pension Insurance therefore developed an intensified aftercare program to support rehabilitation outcomes. The aim of this study was to compare disability



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pension rates, income from regular employment, and duration of welfare benefits in patients with and without rehabilitation aftercare. We used administrative data on finished rehabilitation services. Patients were included if they were aged 18-60 years, had musculoskeletal disorders, and attended an outpatient or an inpatient rehabilitation program during the first term of 2007. Patients were excluded if they received an old-age pension, started a disability pension before January 2008, or died during the follow-up period. Patients with rehabilitation aftercare were matched by propensity scores with patients without rehabilitation aftercare. Estimation of the propensity score considered 20 potential confounders. There were no differences in the cumulative probability of receiving a disability pension. Moreover, patients with and without aftercare did not differ in their income from regular employment and the duration of different types of welfare benefits during the follow-up period. However, stratified analyses found a positive effect of an aftercare program on income in patients who attended a postacute rehabilitation program and patients who were at least 3 months absent because of sickness during the year preceding the initial rehabilitation program. Only patients with strong impairments benefit from attending an aftercare program. Allocation to aftercare programs and the focus on exercise only have to be reconsidered and revised

#### Hamta A, Kazemnejad A, Gholami-Fesharaki M, and Rowzati M. Simultaneous effect of shift work on blood pressure and lipid profile: a path analysis. International Journal of Occupational Safety and Ergonomics. 2018; 24(1):68-72.

#### http://dx.doi.org/10.1080/10803548.2017.1314139

Abstract: The aim of this study was to assess the direct and indirect effects of shift work (SW) on the systolic blood pressure (SBP) and lipid profile of male workers. For this purpose, a cross-sectional study was conducted involving 6539 male workers of Esfahan Mobarakeh Steel Company. From all of the participants, 3065 (46.8%) were day workers and the remainder were shift workers. The results of path analysis revealed that the most effective variables on SBP were body mass index, fasting blood sugar, triglycerides and SW with a total effect of 0.241, 0.095, 0.064 and 0.056, respectively

## Laires PA, Canhao H, Rodrigues AM, Eusebio M, Gouveia M, and Branco JC. The impact of osteoarthritis on early exit from work: results from a population-based study. BMC Public Health. 2018; 18(1):472.

http://dx.doi.org/10.1186/s12889-018-5381-1 [open access] Abstract: BACKGROUND: Osteoarthritis (OA) is a leading cause of pain and disability, which may be a source of productivity losses. The objectives of this study were to describe the impact of OA, namely through pain and physical disability, on early exit from work and to calculate its economic burden. METHODS: We analysed data from the national, cross-sectional, populationbased EpiReumaPt study (Sep2011-Dec2013) in which 10,661 individuals were randomly surveyed in order to capture all cases of rheumatic diseases. We used



Research Excellence Advancing Employee Health all participants aged 50-64, near the official retirement age, who were clinically validated by experienced rheumatologists (n = 1286), including OA cases. A national database was used to calculate productivity values by gender, age and region, using the human capital approach. The impact of OA on the likelihood of early exit from work and the population attributable fractions used to calculate due economic burden (indirect costs) were obtained at the individual level by logistic regression. All results were based on weighted data. RESULTS: Almost one third of the Portuguese population aged 50-64 had OA (29.7%; men: 16.2%) and women: 43.5%) and more than half were out of paid work (51.8%). Only knee OA is associated with early exit from work (OR: 2.25; 95%CI: 1.42-3.59; p = 0.001), whereas other OA locations did not reach any statistical difference. Furthermore, we observed an association between self-reported longstanding musculoskeletal pain (OR: 1.55; 95%CI: 1.07-2.23; p = 0.02) and pain interference (OR: 1.35; 95%CI: 1.13-1.62; p = 0.001) with early exit from work. We also detected a clear relationship between levels of disability, measured by the Health Assessment Questionnaire (HAQ), and the probability of work withdrawal. The estimated annual cost of early exit from work attributable to OA was euro656 million (euro384 per capita; euro1294 per OA patient and euro2095 per OA patient out-of-work). CONCLUSIONS: In this study, we observed an association between OA and early exit from work, largely dependent on pain and disability. This relationship translates into a meaningful economic burden amounting to approximately 0.4% of the national Gross Domestic Product (GDP). The high prevalence and the impact of this disabling chronic disease highlight the need to prioritize policies targeting early exit from work in OA

## Langi FLFG, Balcazar FE, and Suarez-Balcazar Y. Analysis of time in rehabilitation and incidence of successful rehabilitation within individuals with disabilities receiving occupational/vocational training. Journal of Occupational Rehabilitation. 2018; [Epub ahead of print]. http://dx.doi.org/10.1007/s10926-017-9753-7

Abstract: Objective To investigate the incidence of successful rehabilitation, defined as 90 successive days in employment, within individuals with disabilities receiving occupational/vocational training (OVT) service. Method The follow-up records between January 1, 2004 and December 31, 2012 of 5313 individuals aged 15-55 who obtained OVT in the vocational rehabilitation (VR) program of the State of Illinois were examined. Cox regression models were used to analyze the effect of study factors on VR outcomes. Results After controlling for the other factors, males (incidence ratio [IR] 1.11, 95% CI 1.03-1.20), individuals with learning disability (IR 1.14, 95% CI 1.03-1.26), had existing employment (IR 1.40, 95% CI 1.26-1.56), and persons who were referred from educational institutions (IR 1.17, 95% CI 1.01-1.36) or community agencies (IR 1.30, 95% CI 1.14-1.48) appeared to have a relatively high incidence of successful rehabilitation. In contrast, those who lived in densely populated areas (IR ranged from 0.56 to 0.89), had physical disability (IR 0.77, 95% CI 0.68-0.88), had disability of most significant degree (IR 0.85, 95% CI 0.79-0.93), and persons with Supplemental



Security Income/Social Security Disability Insurance supports (IR 0.84, 95% CI 0.76-0.94), tended to have a lower incidence of rehabilitation than their counterparts. Conclusion The incidence of successful rehabilitation seems to be related to the demographic, disability, and pre-service characteristics, but not necessarily the provider factors

Lombardi AR, Dougherty SM, and Monahan J. Students with intellectual disabilities and career and technical education opportunities: a systematic literature review. Journal of Disability Policy Studies. 2018; [Epub ahead of print].

http://dx.doi.org/10.1177/1044207318764863

Lyu S, Hon CKH, Chan APC, Wong FKW, and Javed AA. Relationships among safety climate, safety behavior, and safety outcomes for ethnic minority construction workers. International Journal of Environmental Research and Public Health. 2018; 15(3):E484.

http://dx.doi.org/10.3390/ijerph15030484 [open access] Abstract: In many countries, it is common practice to attract and employ ethnic minority (EM) or migrant workers in the construction industry. This primarily occurs in order to alleviate the labor shortage caused by an aging workforce with a lack of new entrants. Statistics show that EM construction workers are more likely to have occupational fatal and nonfatal injuries than their local counterparts; however, the mechanism underlying accidents and injuries in this vulnerable population has been rarely examined. This study aims to investigate relationships among safety climate, safety behavior, and safety outcomes for EM construction workers. To this end, a theoretical research model was developed based on a comprehensive review of the current literature. In total, 289 valid questionnaires were collected face-to-face from 223 Nepalese construction workers and 56 Pakistani construction workers working on 15 construction sites in Hong Kong. Structural equation modelling was employed to validate the constructs and test the hypothesized model. Results show that there were significant positive relationships between safety climate and safety behaviors, and significant negative relationships between safety behaviors and safety outcomes for EM construction workers. This research contributes to the literature regarding EM workers by providing empirical evidence of the mechanisms by which safety climate affects safety behaviors and outcomes. It also provides insights in order to help the key stakeholders formulate safety strategies for EM workers in many areas where numerous EM workers are employed, such as in the U.S., the UK, Australia, Singapore, Malaysia, and the Middle East

Meister SR. A review of workplace substance use policies in Canada: strengths, gaps and key considerations. Ottawa, Ontario: Canadian Centre on Substance Use and Addiction; 2018.

Perez FJ, Romeo M, and Yepes-Baldo M. The corporate social responsibility policies for the inclusion of people with disabilities as



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predictors of employees' identification, commitment and absenteeism. Anales de Psicología. 2018; 34(1):101-107. <u>http://hdl.handle.net/2445/120575</u>

Sabariego C, Coenen M, Ito E, Fheodoroff K, Scaratti C, Leonardi M, Vlachou A, Stavroussi P, Brecelj V, Kovacic DS, and Esteban E. Effectiveness of integration and re-integration into work strategies for persons with chronic conditions: a systematic review of European strategies. International Journal of Environmental Research and Public Health. 2018; 15(3):E552.

http://dx.doi.org/10.3390/ijerph15030552 [open access]

Abstract: Due to low employment rates associated to chronic conditions in Europe, it is essential to foster effective integration and re-integration into work strategies. The objective of this systematic review is to summarize the evidence on the effectiveness of strategies for integration and re-integration to work for persons with chronic diseases or with musculoskeletal disorders, implemented in Europe in the past five years. A systematic search was conducted in MedLine, PsycINFO, CDR-HTA, CDR-DARE and Cochrane Systematic Reviews. Overall, 32 relevant publications were identified. Of these, 21 were considered eligible after a methodological assessment and included. Positive changes in employment status, return to work and sick leave outcomes were achieved with graded sickness-absence certificates, part-time sick leave, early ergonomic interventions for back pain, disability evaluation followed by information and advice, and with multidisciplinary, coordinated and tailored return to work interventions. Additionally, a positive association between the co-existence of active labour market policies to promote employment and passive support measures (e.g., pensions or benefits) and the probability of finding a job was observed. Research on the evaluation of the effectiveness of strategies targeting integration and re-integration into work for persons with chronic health conditions needs, however, to be improved and strengthened

#### Serra MVGB, Camargo PR, Zaia JE, Tonello MGM, and Quemelo PRV. Effects of physical exercise on musculoskeletal disorders, stress and quality of life in workers. International Journal of Occupational Safety and Ergonomics. 2018; 24(1):62-67.

#### http://dx.doi.org/10.1080/10803548.2016.1234132

Abstract: BACKGROUND: The effect of physical exercise in the workplace (PEW) on health promotion of workers is contradictory. OBJECTIVE: To evaluate the effects of the PEW in musculoskeletal disorders (MSDs), perception of stress and quality of life in workers. METHODS: The participants were divided into two groups: control group (n = 46) including non-participant workers of the PEW program, and PEW group (n = 50) including workers who regularly participate in the exercise program. All workers answered the Nordic general questionnaire, the perceived stress scale and the quality-of-life questionnaire. RESULTS: The PEW group reported a lower prevalence of MSDs for the trunk in the last 7 days



| Research Excellence Advancing Employee | Health and 12 months (p = 0.021 and p = 0.001, respectively), and for the upper limbs in the last 12 months (p = 0.001) compared with the control group. The results for the perception of stress and quality of life showed no significant differences between the groups. CONCLUSION: PEW is a potential method to reduce MSDs in workers, but it was not efficient in reducing stress levels or improving the quality of life of the workers

# Smith TD. An assessment of safety climate, job satisfaction and turnover intention relationships using a national sample of workers from the USA. International Journal of Occupational Safety and Ergonomics. 2018; 24(1):27-34.

#### http://dx.doi.org/10.1080/10803548.2016.1268446

Abstract: The association between safety climate, job satisfaction and turnover intention has not been thoroughly researched. This research is needed so that safety researchers and practitioners can begin to delineate the impact of safety on organizational and business outcomes. A path analysis was completed using data from a national sample of workers from the USA (n = 1525). The overall fit of the model was excellent and analyses determined that both training and resource adequacy positively affected safety climate and job satisfaction. Safety climate also positively influenced job satisfaction. Both safety climate and job satisfaction were negatively associated with respondents' turnover intention. In the study, the relationship between job satisfaction and turnover intention is reiterated in a sample of workers across many industries. This study is novel because it is one of the first studies to confirm that turnover intention is reduced with increased safety climate in a diverse sample of workers

### Susca PT. Making safety more efficient & effective. Professional Safety. 2018; 63(4):20-22.

[doi unavailable on April 20, 2018]

Test DW, Terrell M, Clark KA, and Rusher DE. A summary of NCSER-funded projects in the area of transition outcomes for secondary students with disabilities. Journal of Disability Policy Studies. 2018; [Epub ahead of print].

http://dx.doi.org/10.1177/1044207318759447

\*IWH authored publication.

