

IWH Research Alert
January 20, 2017

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***Jetha A, Kernan L, and Kurowski A. Conceptualizing the dynamics of workplace stress: a systems-based study of nursing aides. BMC Health Services Research. 2017; 17(1):12.**

<http://dx.doi.org/10.1186/s12913-016-1955-8> [open access]

Abstract: BACKGROUND: Workplace stress is a complex phenomenon that may often be dynamic and evolving over time. Traditional linear modeling does not allow representation of recursive feedback loops among the implicated factors. The objective of this study was to develop a multidimensional system dynamics model (SDM) of workplace stress among nursing aides and conduct simulations to illustrate how changes in psychosocial perceptions and workplace factors might influence workplace stress over time. METHODS: Eight key informants with prior experience in a large study of US nursing home workers participated in model building. Participants brainstormed the range of components related to workplace stress. Components were grouped together based on common themes and translated into feedback loops. The SDM was parameterized through key informant insight on the shape and magnitude of the relationship between model components. Model construction was also supported utilizing survey data collected as part of the larger study. All data was entered into the software program, Vensim. Simulations were conducted to examine how adaptations to model components would influence workplace stress. RESULTS: The SDM included perceptions of organizational conditions (e.g., job demands and job control), workplace social support (i.e., managerial and coworker social support), workplace safety, and demands outside of work (i.e. work-family conflict). Each component was part of a reinforcing feedback loop. Simulations exhibited that scenarios with increasing job control and decreasing job demands led to a decline in workplace stress. Within the context of the system, the effects of workplace social support, workplace safety, and work-family conflict were relatively minor. CONCLUSION: SDM methodology offers a unique perspective for researchers and practitioners to view workplace stress as a dynamic process. The portrayal of multiple recursive feedback loops can guide the development of

policies and programs within complex organizational contexts with attention both to interactions among causes and avoidance of adverse unintended consequences. While additional research is needed to further test the modeling approach, findings might underscore the need to direct workplace interventions towards changing organizational conditions for nursing aides

***Padkapayeva K, Chen C, Bielecky A, Ibrahim S, Mustard C, Beaton D, and Smith P. Male-female differences in work activity limitations: examining the relative contribution of chronic conditions and occupational characteristics. Journal of Occupational & Environmental Medicine. 2017; 59(1):6-11.**

<http://dx.doi.org/10.1097/JOM.0000000000000906>

Abstract: OBJECTIVE: The aim of this study was to examine differences in activity limitations at work among men and women, and the relative contributions that chronic conditions and occupational characteristics have on these differences. METHODS: Secondary data from the Canadian Community Health Surveys were used. Path analysis examined the role of mediating variables (chronic conditions and occupational characteristics) in male-female differences in work activity limitations. RESULTS: The prevalence of activity limitations at work was higher in women (15.0%) than in men (12.3%). Arthritis, migraines, diabetes, heart disease, and mood disorders, as well as high physical demands and prolonged standing were associated with an increased risk of work activity limitations. The increased risk of work activity limitations among women was completely explained by mediating variables. CONCLUSIONS: This study suggests that male-female differences in work activity limitations can be explained by differences in chronic conditions and occupational characteristics

***Salbach NM, O'Brien KK, Brooks D, Irvin E, Martino R, Takhar P, Chan S, and Howe JA. Considerations for the selection of time-limited walk tests poststroke: a systematic review of test protocols and measurement properties. Journal of Neurologic Physical Therapy. 2017; 41(1):3-17.**

<http://dx.doi.org/10.1097/NPT.0000000000000159>

Abstract: BACKGROUND AND PURPOSE: Systematic reviews of research evidence describing the quality and methods for administering standardized outcome measures are essential to developing recommendations for their clinical application. The purpose of this systematic review was to synthesize the research literature describing test protocols and measurement properties of time-limited walk tests in people poststroke. METHODS: Following an electronic search of 7 bibliographic data-bases, 2 authors independently screened titles and abstracts. One author identified eligible articles, and performed quality appraisal and data extraction. RESULTS: Of 12 180 records identified, 43 articles were included. Among 5 walk tests described, the 6-minute walk test (6MWT) was most frequently evaluated (n = 36). Only 5 articles included participants in the acute phase (<1 month) poststroke. Within tests, protocols varied. Walkway length and walking aid, but not turning direction, influenced 6MWT performance.

Intraclass correlation coefficients for reliability were 0.68 to 0.71 (12MWT) and 0.80 to 1.00 (2-, 3-, 5- and 6MWT). Minimal detectable change values at the 90% confidence level were 11.4 m (2MWT), 24.4 m (5MWT), and 27.7 to 52.1 m (6MWT; n = 6). Moderate-to-strong correlations (≥ 0.5) between 6MWT distance and balance, motor function, walking speed, mobility, and stair capacity were consistently observed (n = 33). Moderate-to-strong correlations between 5MWT performance and walking speed/independence (n = 1), and between 12MWT performance and balance, motor function, and walking speed (n = 1) were reported. **DISCUSSION AND CONCLUSIONS:** Strong evidence of the reliability and construct validity of using the 6MWT poststroke exists; studies in the acute phase are lacking. Because protocol variations influence performance, a standardized 6MWT protocol poststroke for use across the care continuum is needed. Video Abstract available for more insights from the authors (see Supplemental Digital Content 1, <http://links.lww.com/JNPT/A150>)

***Steenstra I, Cullen K, Irvin E, Van Eerd D, Alavinia M, Beaton D, Geary J, Gignac M, Gross D, Mahood Q, Macdonald S, Puts M, Scott-Marshall H, and Yazdani A. A systematic review of interventions to promote work participation in older workers. Journal of Safety Research. 2016; [epub ahead of print].**

<http://dx.doi.org/10.1016/j.jsr.2016.12.004>

Andersen LL, Fallentin N, Ajslev JZ, Jakobsen MD, and Sundstrup E. Association between occupational lifting and day-to-day change in low-back pain intensity based on company records and text messages. Scandinavian Journal of Work, Environment & Health. 2017; 43(1):68-74.

<http://dx.doi.org/10.5271/sjweh.3592>

Abstract: Objective This study aimed to investigate the association between occupational lifting and day-to-day change in low-back pain (LBP) intensity. **Methods** Each day for three consecutive weeks, 95 full-time workers from 51 Danish supermarkets with frequent occupational lifting replied to daily text messages about LBP intensity (scale 0-10). Supervisors at the supermarkets provided information about daily working hours and load (number of different pallets handled) for each worker during the three weeks. Linear mixed models with repeated measures tested the association between variables controlled for LBP during the previous day and various confounders. **Results** Workers handled on average 1212 [standard deviation (SD) 861] kg and worked 8.5 (SD 1.8) hours per workday. LBP intensity was higher in the morning after work- compared with non-workdays [difference of 0.55, 95% confidence interval (95% CI) 0.39-0.71]. A cumulative effect of consecutive workdays existed, ie, pain intensity increased approximately 0.30 points per day for up to three days. For three consecutive work- compared with non-workdays, the difference was 0.92 (95% CI 0.50-1.34). Higher load resulted in higher pain intensity in the morning after workdays [0.16 (95% CI 0.02-0.31) per ton lifted], while no effect was found for number of daily working hours. **Conclusion** Among workers with frequent

occupational lifting, workdays are associated, in a cumulative manner, with increased LBP intensity. Furthermore, an exposure-response association exists between workload and increased LBP intensity. However, the increase in pain intensity was small and future studies should assess whether long-term consequences exist

Ardahan M and Simsek H. Analyzing musculoskeletal system discomforts and risk factors in computer-using office workers. *Pakistan Journal of Medical Sciences*. 2016; 32(6):1425-1429.

<http://dx.doi.org/10.12669/pjms.326.11436> [open access]

Abstract: OBJECTIVE: This study analyzed the prevalence of work-related computer-user musculoskeletal discomforts, personal and computer-related risk factors. METHODS: A cross-sectional survey on 395 office workers was made between July-September 2015. Musculoskeletal symptoms and risk factors were evaluated for participants' demographics and job attributes on the 21-item questionnaire and the Turkish-Cornell Musculoskeletal Discomfort Questionnaire. RESULTS: Participants reported musculoskeletal symptoms in the neck (67.85%), back (66.33%), lower back (59.49%), right shoulder (45.32%) and left shoulder (43.54%) during the past week and work interference was 33.6%, 28.5%, 30.6%, 31.3% and 31.9%, respectively. Musculoskeletal discomfort risks were being male, increasing daily computer usage, feeling computer-usage discomfort, hours working at desk and having knowledge about ergonomic exercises. CONCLUSION: Musculoskeletal symptoms are common in Turkish office workers and indicated the need for more attention to musculoskeletal disorders and designing effective preventive interventions

Ballard M and Montgomery P. Risk of bias in overviews of reviews: a scoping review of methodological guidance and four-item checklist. *Research Synthesis Methods*. 2017; [epub ahead of print].

<http://dx.doi.org/10.1002/jrsm.1229>

Abstract: OBJECTIVE: To assess the conditions under which employing an overview of systematic reviews is likely to lead to a high risk of bias. STUDY DESIGN: To synthesise existing guidance concerning overview practice, a scoping review was conducted. Four electronic databases were searched with a pre-specified strategy (PROSPERO 2015:CRD42015027592) ending October 2015. Included studies needed to describe or develop overview methodology. Data were narratively synthesised to delineate areas highlighted as outstanding challenges or where methodological recommendations conflict. RESULTS: Twenty-four papers met the inclusion criteria. There is emerging debate regarding overlapping systematic reviews; systematic review scope; quality of included research; updating; and synthesizing and reporting results. While three functions for overviews have been proposed-identify gaps, explore heterogeneity, summarize evidence-overviews cannot perform the first; are unlikely to achieve the second and third simultaneously; and can only perform the third under specific circumstances. Namely, when identified systematic reviews meet the

following four conditions: (1) include primary trials that do not substantially overlap, (2) match overview scope, (3) are of high methodological quality, and (4) are up-to-date. CONCLUSION: Considering the intended function of proposed overviews with the corresponding methodological conditions may improve the quality of this burgeoning publication type. Copyright (c) 2017 John Wiley & Sons, Ltd

Borenstein M, Higgins JP, Hedges LV, and Rothstein HR. Basics of meta-analysis: I2 is not an absolute measure of heterogeneity. Research Synthesis Methods. 2017; [epub ahead of print].

<http://dx.doi.org/10.1002/jrsm.1230>

Abstract: When we speak about heterogeneity in a meta-analysis, our intent is usually to understand the substantive implications of the heterogeneity. If an intervention yields a mean effect size of 50 points, we want to know if the effect size in different populations varies from 40 to 60, or from 10 to 90, because this speaks to the potential utility of the intervention. While there is a common belief that the I2 statistic provides this information, it actually does not. In this example, if we are told that I2 is 50%, we have no way of knowing if the effects range from 40 to 60, or from 10 to 90, or across some other range. Rather, if we want to communicate the predicted range of effects, then we should simply report this range. This gives readers the information they think is being captured by I2 and does so in a way that is concise and unambiguous. Copyright (c) 2017 John Wiley & Sons, Ltd

Chang Y, Zhu KL, Florez ID, Cho SM, Zamir N, Toma A, Mirza RD, Guyatt GH, Buckley N, and Busse JW. Attitudes toward the Canadian guideline for safe and effective use of opioids for chronic non-cancer pain: a qualitative study. Journal of Opioid Management. 2016; 12(6):377-387.

<http://dx.doi.org/10.5055/jom.2016.0357>

Abstract: BACKGROUND: Chronic noncancer pain (CNCP) refers to all pain disorders, not due to cancer, that persist for ≥ 3 months. The point prevalence of CNCP in the general population of Western countries is between 19 and 33 percent. Opioids are commonly prescribed for CNCP and are associated with both benefits and harms. The Canadian Guideline for Safe and Effective Use of Opioids for CNCP was published in 2010 to provide guidance for optimal opioid prescribing in patients with CNCP. OBJECTIVES: To investigate the attitudes toward, and use of, the Canadian Opioids Guideline among pain physicians. DESIGN: A qualitative study using one-on-one, semistructured interviews with 12 pain physicians in Ontario, Canada, and thematic analysis of verbatim transcripts. RESULTS: Major themes that emerged from interviews included: (1) generally positive attitudes toward the 2010 Canadian Opioids Guideline, but limited use-half (six of 12) reported they did not use the guideline in practice; (2) strongly contrasting views regarding the 200 mg/d morphine equivalent watchful dose; (3) recognition of gaps in the guideline, especially recommendations for urine drug screening and pain severity-specific therapy; (4) the guideline is

excessively long and the format suboptimal; and (5) improved dissemination and education are needed to enhance guideline uptake. **CONCLUSIONS:** Despite its merits, the Canadian Opioids Guideline suffers from information gaps and from limited uptake, at least in part due to suboptimal format and suboptimal dissemination

Cocker F, Sanderson K, and LaMontagne AD. Estimating the economic benefits of eliminating job strain as a risk factor for depression. Journal of Occupational & Environmental Medicine. 2017; 59(1):12-17.

<http://dx.doi.org/10.1097/JOM.0000000000000908>

Abstract: **OBJECTIVE:** The aim of this study was to quantify the economic benefits of eliminating job strain as a risk factor for depression, using published population-attributable risk estimates of depression attributable to job strain (13.2% for men, 17.2% for women). **METHODS:** Cohort simulation using state-transition Markov modeling estimated costs and health outcomes for employed persons who met criteria for lifetime DSM-IV major depression. A societal perspective over 1-year and lifetime time horizons was used. **RESULTS:** Among employed Australians, \$890 million (5.8%) of the annual societal cost of depression was attributable to job strain. Employers bore the brunt of these costs, as they arose from lost productive time and increased risk of job turnover among employees experiencing depression. **CONCLUSIONS:** Proven, practicable means exist to reduce job strain. The findings demonstrate likely financial benefits to employers for expanding psychosocial risk management, providing a financial incentive to complement and reinforce legal and ethical directives

Ervasti J, Mattila-Holappa P, Joensuu M, Pentti J, Lallukka T, Kivimaki M, Vahtera J, and Virtanen M. Predictors of depression and musculoskeletal disorder related work disability among young, middle-aged, and aging employees. Journal of Occupational & Environmental Medicine. 2017; 59(1):114-119.

<http://dx.doi.org/10.1097/JOM.0000000000000921>

Abstract: **OBJECTIVE:** The aim of this study was to investigate the level and predictors of work disability in different age groups. **METHODS:** We followed young (18 to 34 years), middle-aged (35 to 50 years), and aging (>50 years) employees (n = 70,417) for 7 years (2005 to 2011) for all-cause and cause-specific work disability (sickness absence and disability pension). Using negative binomial regression, we obtained both relative risk estimates and absolute rates, that is, days of work disability per person-year. **RESULTS:** The greatest relative difference in all-cause, and specifically depression-related work disability, was between young women and young men, and between employees with low versus high levels of education. Aging employees with a low education and chronic somatic disease had the highest levels of musculoskeletal disorder related work disability. **CONCLUSIONS:** The predictors of work disability vary by age and

diagnosis. These results help target age-specific measures for the prevention of permanent work disability

Feder K, Michaud D, McNamee J, Fitzpatrick E, Davies H, and Leroux T. Prevalence of hazardous occupational noise exposure, hearing loss, and hearing protection usage among a representative sample of working Canadians. Journal of Occupational & Environmental Medicine. 2017; 59(1):92-113.

<http://dx.doi.org/10.1097/JOM.0000000000000920> [open access]

Abstract: OBJECTIVE: The aim of this study was to estimate the prevalence of hearing loss (HL), self-reported occupational noise exposure, and hearing protection usage among Canadians. METHODS: In-person household interviews were conducted with 3666 participants, aged 16 to 79 years (1811 males) with 94% completing audiometry and distortion-product otoacoustic emission (DPOAE) evaluations. Occupational noise exposure was defined as hazardous when communicating with coworkers at an arm's length distance required speaking in a raised voice. RESULTS: An estimated 42% of respondents reported hazardous occupational noise exposure; 10 years or more was associated with HL regardless of age, sex or education. Absent DPOAEs, tinnitus, and the Wilson audiometric notch were significantly more prevalent in hazardous workplace noise-exposed workers than in nonexposed. When mandatory, 80% reported wearing hearing protection. CONCLUSIONS: These findings are consistent with other industrialized countries, underscoring the need for ongoing awareness of noise-induced occupational HL

Fernandez CA, Moore K, McClure LA, Caban-Martinez AJ, LeBlanc WG, Fleming LE, Cifuentes M, and Lee DJ. Occupational psychosocial hazards among the emerging US green collar workforce. Journal of Occupational & Environmental Medicine. 2017; 59(1):1-5.

<http://dx.doi.org/10.1097/JOM.0000000000000903>

Abstract: OBJECTIVE: To compare occupational psychosocial hazards in green collar versus non-green collar workers. METHODS: Standard Occupational Classification codes were used to link the 2010 National Health Interview Survey to the 2010 Occupational Information Network Database. Multivariable logistic regressions were used to predict job insecurity, work life imbalance, and workplace harassment in green versus non-green collar workers. RESULTS: Most participants were white, non-Hispanic, 25 to 64 years of age, and obtained greater than a high school education. The majority of workers reported no job insecurity, work life imbalance, or workplace harassment. Relative to non-green collar workers (n = 12,217), green collar workers (n = 2,588) were more likely to report job insecurity (Odds ratio [OR] = 1.13; 95% confidence interval [CI] = 1.02 to 1.26) and work life imbalance (1.19; 1.05 to 1.35), but less likely to experience workplace harassment (0.77; 0.62 to 0.95). CONCLUSIONS: Continuous surveillance of occupational psychosocial hazards is recommended in this rapidly emerging workforce

Halonen JI, Atkins S, Hakulinen H, Pesonen S, and Uitti J. Collaboration between employers and occupational health service providers: a systematic review of key characteristics. BMC Public Health. 2017; 17(1):22. <http://dx.doi.org/10.1186/s12889-016-3924-x> [open access]

Abstract: BACKGROUND: Employees are major contributors to economic development, and occupational health services (OHS) can have an important role in supporting their health. Key to this is collaboration between employers and OHS. We reviewed the evidence regarding the characteristics of good collaboration between employers and OHS providers that is essential to construct more effective collaboration and services. METHODS: A systematic review of the factors of good collaboration between employers and OHS providers was conducted. We searched five databases between January 2000 and March 2016 and back referenced included articles. Two reviewers evaluated 639 titles, 63 abstracts and 20 full articles, and agreed that six articles, all on qualitative studies, met the predetermined relevance and publication criteria and were included. Data were extracted by one reviewer and checked by a second reviewer and analysed using thematic analysis. RESULTS: Three themes and nine subthemes related to good collaboration were identified. The first theme included time, space and contract requirements for effective collaboration with three subthemes (i.e., key characteristics): flexible OHS/flexible contracts including tailor-made services accounting for the needs of the employer, geographical proximity of the stakeholders allowing easy access to services, and long-term contracts as collaboration develops over time. The second theme was related to characteristics of the dialogue in effective collaboration that consisted of shared goals, reciprocity, frequent contact and trust. According to the third theme the definition of roles of the stakeholders was important; OHS providers should have competence and knowledge about the workplace, become strategic partners with the employers as well as provide quality services. CONCLUSION: Although literature regarding collaboration between the employers and OHS providers was limited, we identified several key factors that contribute to effective collaboration. This information is useful in developing indicators of effective collaboration that will enable organisation of more effective OHS practices

Inkpen AC and Tsang EWK. Reflections on the 2015 decade award-social capital, networks, and knowledge transfer: an emergent stream of research. Academy of Management Review. 2016; 41(4):573-588. <http://dx.doi.org/10.5465/amr.2016.0140>

Mortensen J, Dich N, Lange T, Alexanderson K, Goldberg M, Head J, Kivimaki M, Madsen IE, Rugulies R, Vahtera J, Zins M, and Rod NH. Job strain and informal caregiving as predictors of long-term sickness absence: a longitudinal multi-cohort study. Scandinavian Journal of Work, Environment & Health. 2017; 43(1):5-14. <http://dx.doi.org/10.5271/sjweh.3587>

Abstract: Objectives The aim of this study was to investigate the individual, joint

and interactive effects of job strain and informal caregiving on long-term sickness absence with special attention to gender differences. **Methods** The study comprised a prospective cohort study of 6798 working adults from France, 14 727 from Finland, and 5275 from the UK. A total of 26 800 participants, age 52 (interquartile range 47-56) years participated in the study. Job strain was assessed using the demand-control model. Informal caregiving was defined as care for a sick, disabled, or elderly person. Long-term sickness absence spells defined as absence >14 consecutive days were registered during two years follow-up. We used recurrent-events Cox regression in random-effects meta-analyses. **Results** A total of 12% men and 21% women had ≥ 1 long-term sickness absence spell. Among women, both high job strain [hazard ratio (HR) 1.08, 95% confidence interval (95% CI) 1.00-1.17] and informal caregiving (HR 1.13, 95% CI 1.04-1.23) were associated with a modestly higher risk of sickness absence. Women doubly exposed to high job strain and informal caregiving also showed a moderately higher risk of sickness absence (HR 1.20, 95% CI 1.03-1.41), but the excess risk was not more than expected from joint exposure to caregiving and job strain. Neither job strain nor informal caregiving predicted sickness absence for men. **Conclusions** High job strain and informal caregiving predicted long-term sickness absence among women. However there was no noticeable interaction in the presence of both exposures

Mueller KF, Meerpohl JJ, Briel M, Antes G, von Elm E, Lang B, Motschall E, Schwarzer G, and Bassler D. Methods for detecting, quantifying, and adjusting for dissemination bias in meta-analysis are described. *Journal of Clinical Epidemiology*. 2016; 80:25-33.

<http://dx.doi.org/10.1016/j.jclinepi.2016.04.015>

Abstract: **OBJECTIVE:** To systematically review methodological articles which focus on nonpublication of studies and to describe methods of detecting and/or quantifying and/or adjusting for dissemination in meta-analyses. To evaluate whether the methods have been applied to an empirical data set for which one can be reasonably confident that all studies conducted have been included. **STUDY DESIGN AND SETTING:** We systematically searched Medline, the Cochrane Library, and Web of Science, for methodological articles that describe at least one method of detecting and/or quantifying and/or adjusting for dissemination bias in meta-analyses. **RESULTS:** The literature search retrieved 2,224 records, of which we finally included 150 full-text articles. A great variety of methods to detect, quantify, or adjust for dissemination bias were described. Methods included graphical methods mainly based on funnel plot approaches, statistical methods, such as regression tests, selection models, sensitivity analyses, and a great number of more recent statistical approaches. Only few methods have been validated in empirical evaluations using unpublished studies obtained from regulators (Food and Drug Administration, European Medicines Agency). **CONCLUSION:** We present an overview of existing methods to detect, quantify, or adjust for dissemination bias. It remains difficult to advise which method should be used as they are all limited and their validity has rarely been

assessed. Therefore, a thorough literature search remains crucial in systematic reviews, and further steps to increase the availability of all research results need to be taken

Nuckols T, Conlon C, Robbins M, Dworsky M, Lai J, Roth CP, Levitan B, Seabury S, Seelam R, and Asch SM. Quality of care for work-associated carpal tunnel syndrome. Journal of Occupational & Environmental Medicine. 2017; 59(1):47-53.

<http://dx.doi.org/10.1097/JOM.0000000000000916>

Abstract: OBJECTIVE: To evaluate the quality of care provided to individuals with workers' compensation claims related to Carpal tunnel syndrome (CTS) and identify patient characteristics associated with receiving better care. METHODS: We recruited subjects with new claims for CTS from 30 occupational clinics affiliated with Kaiser Permanente Northern California. We applied 45 process-oriented quality measures to 477 subjects' medical records, and performed multivariate logistic regression to identify patient characteristics associated with quality. RESULTS: Overall, 81.6% of care adhered to recommended standards. Certain tasks related to assessing and managing activity were underused. Patients with classic/probable Katz diagrams, positive electrodiagnostic tests, and higher incomes received better care. However, age, sex, and race/ethnicity were not associated with quality. CONCLUSIONS: Care processes for work-associated CTS frequently adhered to quality measures. Clinical factors were more strongly associated with quality than demographic and socioeconomic ones

Reeuwijk KG, van Klaveren D, van Rijn RM, Burdorf A, and Robroek SJ. The influence of poor health on competing exit routes from paid employment among older workers in 11 European countries. Scandinavian Journal of Work, Environment & Health. 2017; 43(1):24-33.

<http://dx.doi.org/10.5271/sjweh.3601>

Abstract: Objectives The study aimed to (i) determine the influence of poor health on competing exit routes from paid employment among older workers in Europe, (ii) assess whether these risks are different among welfare state regimes in Europe, and (iii) evaluate differences in estimates between two different competing risk approaches. Methods The study population consisted of 5273 respondents (6-years follow-up) from the Survey of Health, Ageing, and Retirement in Europe (SHARE). The effect of poor health on exit routes from paid employment was assessed with a cause-specific Cox model and a Fine & Gray (F&G) model. These two competing risk analyses were used to calculate absolute risks of labor force exit among welfare state regimes in Europe. Results In both models, poor health was a risk factor for disability benefit [hazard ratio (HR) 3.36; subdistribution hazard ratio (SHR) 3.22], and unemployment (HR 1.43, SHR 1.32). Both models produced similar absolute risks. In countries with a Bismarckian welfare state regime, low-educated older workers living alone and in poor health had an 11% risk of disability benefit, 7% of unemployment, 46% of early retirement, and 7% of becoming economically inactive. In countries with a

Scandinavian welfare state regime, the risks were 10%, 7%, 29%, and 3%, respectively, and in Southern European welfare state regimes 4%, 5%, 35%, and 7%. Conclusions Workers with poor health are more likely to leave the labor force than workers with good health. The absolute risks of early retirement and becoming economically inactive were lowest in countries with a Scandinavian welfare state regime. For disability benefit and unemployment, absolute risks were lowest in Southern European welfare state regimes. The direct estimation of absolute risks of leaving the labor force in the presence of competing exit routes is an appealing feature of the F&G model

Resnik DB, Konecny B, and Kissling GE. Conflict of interest and funding disclosure policies of environmental, occupational, and public health journals. Journal of Occupational & Environmental Medicine. 2017; 59(1):28-33.

<http://dx.doi.org/10.1097/JOM.0000000000000910>

Abstract: OBJECTIVE: The aim of this study was to analyze conflict of interest (COI) and funding disclosure policies of 224 journals listed in Journal Citation Reports as focusing on environmental, occupational, or public health research. METHODS: A survey of journal policies and content analysis. RESULTS: About 96.0% of the policies required COI disclosure, 92.4% required funding disclosure, 75.9% defined COIs, 69.6% provided examples of COIs, 68.8% addressed nonfinancial COIs, 33.9% applied to editors and reviewers, 32.1% required discussion of the role of the funding source, and 1.8% included enforcement mechanisms. Policies were significantly associated with journal impact factor and publisher. CONCLUSION: Although a high percentage of journals in our sample have COI policies that provide substantial guidance to authors, there is a room for improvement. Journals that have not done so should consider developing enforcement mechanisms and applying COI policies to editors and reviewers

Stafford M, Cooper R, Cadar D, Carr E, Murray E, Richards M, Stansfeld S, Zaninotto P, Head J, and Kuh D. Physical and cognitive capability in mid-adulthood as determinants of retirement and extended working life in a British cohort study. Scandinavian Journal of Work, Environment & Health. 2017; 43(1):15-23.

<http://dx.doi.org/10.5271/sjweh.3589>

Abstract: Objective Policy in many industrialized countries increasingly emphasizes extended working life. We examined associations between physical and cognitive capability in mid-adulthood and work in late adulthood. Methods Using self-reported physical limitations and performance-based physical and cognitive capability at age 53, assessed by trained nurses from the Medical Research Council (MRC) National Survey of Health and Development, we examined prospective associations with extended working (captured by age at and reason for retirement from main occupation, bridge employment in paid work after retirement from the main occupation, and voluntary work participation) up to age 68 among >2000 men and women. Results Number of reported physical

limitations at age 53 was associated with higher likelihood of retiring for negative reasons and lower likelihood of participating in bridge employment, adjusted for occupational class, education, partner's employment, work disability at age 53, and gender. Better performance on physical and cognitive tests was associated with greater likelihood of participating in bridge or voluntary work. Cognitive capability in the top 10% compared with the middle 80% of the distribution was associated with an odds ratio of bridge employment of 1.71 [95% confidence interval (95% CI) 1.21-2.42]. Conclusions The possibility for an extending working life is less likely to be realized by those with poorer midlife physical or cognitive capability, independently of education, and social class. Interventions to promote capability, starting in mid-adulthood or earlier, could have long-term consequences for extending working

Tonnon SC, van der Veen R, Westerman MJ, Robroek SJ, van der Ploeg HP, van der Beek AJ, and Proper KI. The employer perspective on sustainable employability in the construction industry. *Journal of Occupational & Environmental Medicine*. 2017; 59(1):85-91.

<http://dx.doi.org/10.1097/JOM.0000000000000913>

Abstract: OBJECTIVE: To determine the measures employers in the construction industry take to promote sustainable employability, the barriers and facilitators that influence implementation and employer needs. METHODS: Questionnaire among 499 employers and interviews with 17 employers. RESULTS: Employers expressed a need for alternative jobs for workers who can no longer perform physically demanding tasks, as well as means to stimulate proactive employee behavior. Measures frequently targeted the work environment (95%) and employee health (79%), less frequently personal development (63%) and organization (65%). Implementation was influenced by economic factors, rules and regulations, client demands, employee demands, company vision, company culture, and time/manpower/expertise. CONCLUSIONS: Implementation of measures aimed at reducing physical load and the promotion of personal development are needed

Ubalde-Lopez M, Delclos GL, Benavides FG, Calvo-Bonacho E, and Gimeno D. Measuring multimorbidity in a working population: the effect on incident sickness absence. *International Archives of Occupational & Environmental Health*. 2016; 89(4):667-678.

<http://dx.doi.org/10.1007/s00420-015-1104-4> [open access]

Abstract: PURPOSE: Multimorbidity research typically focuses on chronic and common diseases in patient and/or older populations. We propose a multidimensional multimorbidity score (MDMS) which incorporates chronic conditions, symptoms, and health behaviors for use in younger, presumably healthier, working populations. METHODS: Cross-sectional study of 372,370 Spanish workers who underwent a standardized medical evaluation in 2006. We computed a MDMS (range 0-100) based on the sex-specific results of a multicorrespondence analysis (MCA). We then used Cox regression models to

assess the predictive validity of this MDMS on incident sickness absence (SA) episodes. RESULTS: Two dimensions in the MCA explained about 80% of the variability in both sexes: (1) chronic cardiovascular conditions and health behaviors, and (2) pain symptoms, in addition to sleep disturbances in women. More men than women had at least one condition (40 vs 15%) and two or more (i.e., multimorbidity) (12 vs 2%). The MDMS among those with multimorbidity ranged from 16.8 (SD 2.4) to 51.7 (SD 9.9) in men and 18.5 (SD 5.8) to 43.8 (SD 7.8) in women. We found that the greater the number of health conditions, the higher the risk of SA. A higher MDMS was also a risk factor for incident SA, even after adjusting for prior SA and other covariates. In women, this trend was less evident. CONCLUSIONS: A score incorporating chronic health conditions, behaviors, and symptoms provides a more holistic approach to multimorbidity and may be useful for defining health status in working populations and for predicting key occupational outcomes

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Abstract: BACKGROUND: A study of medical outcomes among 6857 elderly construction workers who received an initial and at least one periodic follow-up examination as a result of participating in a medical screening program was undertaken. METHODS: We compared results from the initial examination to follow-up examinations delivered at least 3 years after the initial examination for the following outcomes: body mass index (BMI); total serum cholesterol; nonhigh-density lipoprotein (non-HDL) cholesterol; hemoglobin A1c, hypertension; current cigarette smoking; and 10-year cardiovascular disease (CVD) risk scores. RESULTS: Statistically significant improvements ($P < 0.05$) were observed for all measures except BMI. CONCLUSIONS: Participation in a periodic medical screening program for elderly construction workers is associated with a favorable impact on common health outcomes. When presented with a program designed for them, blue-collar workers are motivated to seek improvements in their health status

*IWH authored publications.