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April 7, 2017

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***Canizares M, Hogg-Johnson S, Gignac MA, Glazier RH, and Badley EM. Increasing trajectories of multimorbidity over time: birth cohort differences and the role of changes in obesity and income. Journals of Gerontology. Series B, Psychological Sciences and Social Sciences. 2017; [Epub Ahead of Print].**

<http://dx.doi.org/10.1093/geronb/gbx004>

***Robson LS, Ibrahim S, Hogg-Johnson S, Steenstra IA, Van Eerd D, and Amick III BC. Developing leading indicators from OHS management audit data: determining the measurement properties of audit data from the field. Journal of Safety Research. 2017; 61:93-103.**

<http://dx.doi.org/10.1016/j.jsr.2017.02.008>

***Schieir O, Tosevski C, Glazier RH, Hogg-Johnson S, and Badley EM. Incident myocardial infarction associated with major types of arthritis in the general population: a systematic review and meta-analysis. Annals of the Rheumatic Diseases. 2017; [Epub Ahead of Print].**

<http://dx.doi.org/10.1136/annrheumdis-2016-210275>

Abstract: OBJECTIVE: To synthesise, quantify and compare risks for incident myocardial infarction (MI) across five major types of arthritis in population-based studies. METHODS: A systematic search was performed in MEDLINE, EMBASE and CINAHL databases with additional manual/hand searches for population-based cohort or case-control studies published in English or French between January 1980 and January 2015 with a measure of effect and variance for associations between incident MI and five major types of arthritis: rheumatoid arthritis (RA), psoriatic arthritis (PsA), ankylosing spondylitis (AS), gout or

osteoarthritis (OA), adjusted for at least age and sex. All search screening, data abstraction quality appraisals were performed independently by two reviewers. Where appropriate, random-effects meta-analysis was used to pool results from studies with a minimum of 10 events. RESULTS: We identified a total of 4, 285 articles; 27 met review criteria and 25 criteria for meta-analyses. In studies adjusting for age and sex, MI risk was significantly increased in RA (pooled relative risk (RR): 1.69, 95% CI 1.50 to 1.90), gout (pooled RR: 1.47, 95% CI 1.24 to 1.73), PsA (pooled RR: 1.41, 95% CI 1.17 to 1.69), OA (pooled RR: 1.31, 95% CI 1.01 to 1.71) and tended towards increased risk in AS (pooled RR: 1.24, 95% CI 0.93 to 1.65). Traditional risk factors were more prevalent in all types of arthritis. MI risk was attenuated for each type of arthritis in studies adjusting for traditional risk factors and remained significantly increased in RA, PsA and gout. CONCLUSIONS: MI risk was consistently increased in multiple types of arthritis in population-based studies, and was partially explained by a higher prevalence of traditional risk factors in all types of arthritis. Findings support more integrated cardiovascular (CV) prevention strategies for arthritis populations that target both reducing inflammation and enhancing management of traditional CV risk factors

Walker TJ, Tullar JM, Diamond PM, Kohl HW, III, and Amick III BC. Association of self-reported aerobic physical activity, muscle-strengthening physical activity, and stretching behavior with presenteeism. Journal of Occupational and Environmental Medicine. 2017; [Epub Ahead of Print].

<http://dx.doi.org/10.1097/JOM.0000000000000978>

Bengtsson S and Datta Gupta N. Identifying the effects of education on the ability to cope with a disability among individuals with disabilities. PLoS ONE. 2017; 12(3):e0173659.

<http://dx.doi.org/10.1371/journal.pone.0173659> [open access]

Abstract: The literature on disability has suggested that an educated individual with a disability is more likely to better cope with her/his disability than those without education. However, few published studies explore whether the relationship between education and ability to cope with a disability is anything more than an association. Using data on disability and accommodation from a large Danish survey from 2012-13 and exploiting a major Danish schooling reform as a natural experiment, we identified a potential causal effect of education on both economic (holding a job) as well as social (cultural activities, visiting clubs/associations, etc.) dimensions of coping among individuals with a disability, controlling for background factors, functioning, and disability characteristics. We found that endogeneity bias was only present in the case of economic participation and more educated individuals with a disability indeed had higher levels of both economic and social coping. To some extent, having more knowledge of public support systems and higher motivation explained the better coping among the group of individuals with disabilities who were educated. Our results indicated, however, that a large part of the effect of education on the

ability to cope with a disability among individuals with disabilities was suggestive of a causal relationship

Besen E, Gaines B, Linton SJ, and Shaw WS. The role of pain catastrophizing as a mediator in the work disability process following acute low back pain. Journal of Applied Biobehavioral Research. 2017; 22(1):e12085.

<http://dx.doi.org/10.1111/jabr.12085> [open access]

Abstract: The purpose of this study was to assess pain catastrophizing as a mediator in the relationships between pain and recovery expectations with work limitations and functional disability in a working population experiencing acute low back pain (LBP). Workers (n=241) with acute, work-related LBP completed measures of pain and injury at medical intake and then the Pain Catastrophizing Scale (PCS) shortly after the initial intake visit. At 3-months follow-up, measures of work limitations and functional disability were administered. Structural equation modeling was used to assess whether the PCS mediated longitudinal associations between pain and recovery expectations with perceived disability and work limitations. The PCS score completely mediated the relationship between initial pain intensity and 3-month perceptions of disability (40% explained) and work limitations (29% explained). The PCS also completely mediated the longitudinal relationship between pain recovery expectations and 3-month disability (50% explained) and work limitations (40% explained). Effective clinical management during this acute phase of LBP might be improved by incorporating early interventions to reduce catastrophizing in cases where pain catastrophizing may be especially problematic

Chen L, Zhao N, Fan H, and Coyte PC. Informal care and labor market outcomes: evidence from Chinese married women. Research on Aging. 2017; 39(2):345-371.

<http://dx.doi.org/10.1177/0164027515611184>

Abstract: Data were used from the 1991-2009 China Health and Nutrition Survey to examine the influence of informal care on labor market outcomes for married women of working age, with emphasis on caregiving intensity. After accounting for potential endogeneity between caregiving and labor force participation (LFP) through simultaneous equations modeling, caregivers who provided more than 15 or 20 hr of caregiving per week were 4.5-7.7% less likely to be LFPs. Intensive caregivers who remained working had significantly lower (4.97-7.20) weekly hours of work. The significant positive effect of informal care on LFP only existed in the rural sample, and these women also had much lower hours of work than their urban counterparts. Opportunities exist for policy interventions that target intensive caregivers in order to allow them to balance both work and caregiving

Chin WS, Shiao JS, Liao SC, Kuo CY, Chen CC, and Guo YL. Depressive, anxiety and post-traumatic stress disorders at six years after occupational injuries. European Archives of Psychiatry and Clinical Neuroscience. 2017;

[Epub Ahead of Print].

<http://dx.doi.org/10.1007/s00406-016-0762-x>

Abstract: The aim of this study is to determine the prevalence rates of depressive, anxiety and PTSDs, and the risk factors for psychological symptoms at 6 years after occupational injury. This longitudinal study followed workers who were occupationally injured in 2009. Psychological symptoms and return to work were assessed at 3 and 12 months after injury. Injured workers who had completed the initial questionnaire survey at 3 or 12 months after injury were recruited. A self-administered questionnaire was mailed to the participants. For workers with high Brief Symptom Rating Scale and Post-traumatic Symptom Checklist scores, an in-depth psychiatric evaluation was performed using the Mini-international Neuropsychiatric Interview. A total of 570 workers completed the questionnaire (response rate, 28.7%). Among them, 243 (42.6%) had high psychological symptom scores and were invited for a phone interview; 135 (55.6%) completed the interview. The estimated rates of major depression and post-traumatic stress disorder (PTSD)/partial PTSD were 9.2 and 7.2%, respectively, and both these rates were higher at 6 years after injury than at 12 months after injury (2.0 and 5.1%). After adjustment for family and social factors, the risk factors for high psychological scores were length of hospitalization immediately after injury, affected physical appearance, repeated occupational injuries, unemployment, and number of quit jobs after the injury. At 6 years after occupational injury, the re-emergence of psychiatric disorders was observed. Relevant factors for poor psychological health were severity of injury and instability of work. Periodic monitoring of psychological and physical health and economic stability are warranted

Gaines B, Besen E, and Pransky G. The influence of geographic variation in socio-cultural factors on length of work disability. *Disability and Health Journal*. 2016; [Epub Ahead of Print].

<http://dx.doi.org/10.1016/j.dhjo.2016.12.009>

Abstract: BACKGROUND: Previous research has largely concentrated on how individual-level factors explain work disability duration. However, growing evidence suggests socio-cultural factors may significantly influence length of work disability. OBJECTIVE: This study examined whether socio-cultural factors that vary by location of residence influence length of disability. METHODS: This study utilized 216,162 non-work-related disability claims from a private US insurance company and matched these data with socio-cultural factors at the census tract level. OLS regression was used to model findings. RESULTS: Higher unemployment rates, greater median household income, increased poverty status, increased length of the work commute, lower educational attainment, lower percentage of residents living alone, higher percentage of residents age 55 and older, higher percentage of disabled adults (35-64), a lower percentage of whites, and a larger Hispanic population were associated with a longer length of disability. CONCLUSIONS: The findings showed that socio-cultural factors varying by location were associated with the length of disability,

suggesting that the socioeconomic context of the areas in which individuals reside are likely to influence the work disability process

Memish K, Martin A, Bartlett L, Dawkins S, and Sanderson K. Workplace mental health: an international review of guidelines. Preventive Medicine. 2017; [Epub Ahead of Print].

<http://dx.doi.org/10.1016/j.ypmed.2017.03.017>

Abstract: The aim of this systematic review was to determine the quality and comprehensiveness of guidelines developed for employers to detect, prevent, and manage mental health problems in the workplace. An integrated approach that combined expertise from medicine, psychology, public health, management, and occupational health and safety was identified as a best practice framework to assess guideline comprehensiveness. An iterative search strategy of the grey literature was used plus consultation with experts in psychology, public health, and mental health promotion. Inclusion criteria were documents published in English and developed specifically for employers to detect, prevent, and manage mental health problems in the workplace. A total of 20 guidelines met these criteria and were reviewed. Development documents were included to inform quality assessment. This was performed using the AGREE II rating system. Our results indicated that low scores were often due to a lack of focus on prevention and rather a focus on the detection and treatment of mental health problems in the workplace. When prevention recommendations were included they were often individually focused and did not include practical tools or advice to implement. An inconsistency in language, lack of consultation with relevant population groups in the development process and a failure to outline and differentiate between the legal/minimum requirements of a region were also observed. The findings from this systematic review will inform translation of scientific evidence into practical recommendations to prevent mental health problems within the workplace. It will also direct employers, clinicians, and policy-makers towards examples of best-practice guidelines

Neumark D, Song J, and Button P. Does protecting older workers from discrimination make it harder to get hired? Evidence from disability discrimination laws. Research on Aging. 2017; 39(1):29-63.

<http://dx.doi.org/10.1177/0164027516656142>

Abstract: We explore the effects of disability discrimination laws on hiring of older workers. A concern with antidiscrimination laws is that they may reduce hiring by raising the cost of terminations and-in the specific case of disability discrimination laws-raising the cost of employment because of the need to accommodate disabled workers. Moreover, disability discrimination laws can affect nondisabled older workers because they are fairly likely to develop work-related disabilities, but are generally not protected by these laws. Using state variation in disability discrimination protections, we find little or no evidence that stronger disability discrimination laws lower the hiring of nondisabled older workers. We similarly

find no evidence of adverse effects of disability discrimination laws on hiring of disabled older workers

O'Donoghue Jenkins L, Kelly PM, Cherbuin N, and Anstey KJ. Evaluating and using observational evidence: the contrasting views of policy makers and epidemiologists. *Frontiers in Public Health*. 2016; 4:267.

<http://dx.doi.org/10.3389/fpubh.2016.00267> [open access]

Abstract: BACKGROUND: Currently, little is known about the types of evidence used by policy makers. This study aimed to investigate how policy makers in the health domain use and evaluate evidence and how this differs from academic epidemiologists. By having a better understanding of how policy makers select, evaluate, and use evidence, academics can tailor the way in which that evidence is produced, potentially leading to more effective knowledge translation.

METHODS: An exploratory mixed-methods study design was used. Quantitative measures were collected via an anonymous online survey (n = 28), with sampling from three health-related government and non-government organizations. Semi-structured interviews with policy makers (n = 20) and epidemiologists (n = 6) were conducted to gather qualitative data. **RESULTS:** Policy makers indicated systematic reviews were the preferred research resource (19%), followed closely by qualitative research (16%). Neither policy makers nor epidemiologists used grading instruments to evaluate evidence. In the web survey, policy makers reported that consistency and strength of evidence (93%), the quality of data (93%), bias in the evidence (79%), and recency of evidence (79%) were the most important factors taken into consideration when evaluating the available evidence. The same results were found in the qualitative interviews.

Epidemiologists focused on the methodology used in the study. The most cited barriers to using robust evidence, according to policy makers, were political considerations (60%), time limitations (55%), funding (50%), and research not being applicable to current policies (50%). **CONCLUSION:** The policy maker's investigation did not report a systematic approach to evaluating evidence.

Although there was some overlap between what policy makers and epidemiologists identified as high-quality evidence, there was also some important differences. This suggests that the best scientific evidence may not routinely be used in the development of policy. In essence, the policy-making process relied on other jurisdictions' policies and the opinions of internal staff members as primary evidence sources to inform policy decisions. Findings of this study suggest that efforts should be directed toward making scientific information more systematically available to policy makers

Peters SE, Coppieters MW, Ross M, and Johnston V. Experts' perspective on a definition for delayed return-to-work after surgery for nontraumatic upper extremity disorders: recommendations and implications. *Journal of Hand Therapy*. 2017; [Epub Ahead of Print].

<http://dx.doi.org/10.1016/j.jht.2017.02.009>

Abstract: STUDY DESIGN: Descriptive study. **INTRODUCTION:** A delayed

return to work (RTW) is often associated with poorer outcomes after a workplace injury but is ill defined. **PURPOSE OF THE STUDY:** To define delayed RTW after surgery for nontraumatic upper extremity conditions. **METHODS:** Experts were consulted to define delayed RTW and whether a universal time point can determine the transition from early to delayed RTW. **RESULTS:** Forty-two experts defined a delayed RTW as either a worker not returning to preinjury (or similar) work within the expected time frame (45%); not returning to any type of work (36%); or recovering slower than expected (12%). Two-thirds of experts believed that universal time points to delineate delayed RTW should be avoided. **DISCUSSION:** Multiple factors complicate a uniform definition of delayed RTW. **CONCLUSION:** Defining delayed RTW should be individualized with due consideration to the type of work. Time-based cutoffs for outcome measurement may not be appropriate with continuous measures more appropriate in research. **LEVEL OF EVIDENCE:** Decision analysis V

Telwatte A, Anglim J, Wynton SK, and Moulding R. Workplace accommodations for employees with disabilities: a multilevel model of employer decision-making. *Rehabilitation Psychology*. 2017; 62(1):7-19. <http://dx.doi.org/10.1037/rep0000120>

Abstract: **PURPOSE:** Existing research suggests that the decision to grant or deny workplace accommodations for people with disabilities is influenced by a range of legal and nonlegal factors. However, less is known about how these factors operate at the within-person level. Thus, we proposed and tested a multilevel model of the accommodation decision-making process, which we applied to better understand why people with psychological disabilities often experience greater challenges in obtaining accommodations. **METHOD:** A sample of 159 Australian adults, composed mostly of managers and HR professionals, read 12 vignettes involving requests for accommodations from existing employees. The requests differed in whether they were for psychological or physical disabilities. For each vignette, participants rated their empathy with the employee, the legitimacy of the employee's disability, the necessity for productivity, the perceived cost, and the reasonableness, and indicated whether they would grant the accommodation. **RESULTS:** Multilevel modeling indicated that greater empathy, legitimacy, and necessity, and lower perceived cost predicted perceptions of greater reasonableness and greater granting. Accommodation requests from employees with psychological disabilities were seen as less reasonable and were less likely to be granted; much of this effect seemed to be driven by perceptions that such accommodations were less necessary for productivity. Ratings on accommodations were influenced both by general between-person tendencies and within-person appraisals of particular scenarios. **CONCLUSIONS:** The study points to a need for organizations to more clearly establish guidelines for how decision-makers should fairly evaluate accommodation requests for employees with psychological disabilities and disability more broadly. (PsycINFO Database Record)

Tricco AC, Zarin W, Rios P, Pham B, Straus SE, and Langlois EV. Barriers, facilitators, strategies and outcomes to engaging policymakers, healthcare managers and policy analysts in knowledge synthesis: a scoping review protocol. *BMJ Open*. 2016; 6(12):e013929.

<http://dx.doi.org/10.1136/bmjopen-2016-013929> [open access]

Abstract: INTRODUCTION: Engaging policymakers, healthcare managers and policy analysts in the conduct of knowledge synthesis can help increase its impact. This is particularly important for knowledge synthesis studies commissioned by decision-makers with limited timelines, as well as reviews of health policy and systems research. A scoping review will be conducted to assess barriers, facilitators, strategies and outcomes of engaging these individuals in the knowledge synthesis process. METHODS AND ANALYSIS: We will follow the Joanna Briggs Institute guidance for scoping reviews. Literature searches of electronic databases (eg, MEDLINE, EMBASE, Cochrane Library, ERIC, PsycINFO) will be conducted from inception onwards. The electronic search will be supplemented by searching for sources that index unpublished/difficult to locate studies (eg, GreyNet International database), as well as through scanning of reference lists of reviews on related topics. All study designs using either qualitative or quantitative methodologies will be eligible if there is a description of the strategies, barriers or facilitators, and outcomes of engaging policymakers, healthcare managers and policy analysts in the knowledge synthesis process. Screening and data abstraction will be conducted by 2 team members independently after a calibration exercise across the team. A third team member will resolve all discrepancies. We will conduct frequency analysis and thematic analysis to chart and characterise the literature, identifying data gaps and opportunities for future research, as well as implications for policy. ETHICS AND DISSEMINATION: This project was commissioned by the Alliance for Health Policy and Systems Research, WHO. The results will be used by Alliance Review Centers of health policy and systems research in low-income and middle-income countries that are conducting knowledge synthesis to inform health policymaking and decision-making. Our results will also be disseminated through conference presentations, train-the-trainer events, peer-reviewed publication and a 1-page policy brief that will be posted on the authors' websites

Trolle N, Lund T, Winding TN, and Labriola M. Perceived stress among 20-21 year-olds and their future labour market participation - an eight-year follow-up study. *BMC Public Health*. 2017; 17(1):287.

<http://dx.doi.org/10.1186/s12889-017-4179-x>

Abstract: BACKGROUND: Labour market participation among young adults is essential for their future socioeconomic status and health. The aim of this study was to investigate the association between perceived stress among 20-21 year-olds and their labour market participation 8 years later as well as investigate any potential gender differences. METHODS: A cohort of 1640 young adults born in 1983 completed a questionnaire in 2004 in which perceived stress was measured. The cohort was followed in a register of social benefits for 12 months

in 2011-2012 and was categorized into active and passive labour market participation. Logistic regression was used to analyse the association between perceived stress and future labour market participation, taking into account effects of potential confounders. The analyses were stratified by gender. RESULTS: The effects of perceived stress on future labour market participation differed significantly among young women and young men ($p = 0.029$). For young men, higher levels of perceived stress reduced the risk of future passive labour market participation, when adjusting for socioeconomic factors, self-rated health and copings strategies ($p = 0.045$). For young women, higher levels of perceived stress increased the risk of future passive labour market participation, when adjusting for the same potential confounding factors, although unlike the men, this association was not statistically significant ($p = 0.335$). CONCLUSION: The observed gender difference has important implications from a public health point of view. Healthcare professionals might need to differentiate between the genders in terms of health communication, research and when developing preventive strategies

VanderKaay S, Moll SE, Gewurtz RE, Jindal P, Loyola-Sanchez A, Packham TL, and Lim CY. Qualitative research in rehabilitation science: opportunities, challenges, and future directions. Disability and Rehabilitation. 2016; [Epub Ahead of Print].

<http://dx.doi.org/10.1080/09638288.2016.1261414>

Abstract: PURPOSE: Qualitative research has had a significant impact within rehabilitation science over time. During the past 20 years the number of qualitative studies published per year in Disability and Rehabilitation has markedly increased (from 1 to 54). In addition, during this period there have been significant changes in how qualitative research is conceptualized, conducted, and utilized to advance the field of rehabilitation. The purpose of this article is to reflect upon the progress of qualitative research within rehabilitation to date, to explicate current opportunities and challenges, and to suggest future directions to continue to strengthen the contribution of qualitative research in this field. METHODS: Relevant literature searches were conducted in electronic data bases and reference lists. Pertinent literature was examined to identify current opportunities and challenges for qualitative research use in rehabilitation and to identify future directions. RESULTS: Six key areas of opportunity and challenge were identified: (a) paradigm shifts, (b) advancements in methodology, (c) emerging technology, (d) advances in quality evaluation, (e) increasing popularity of mixed methods approaches, and (f) evolving approaches to knowledge translation. Two important future directions for rehabilitation are posited: (1) advanced training in qualitative methods and (2) engaging qualitative communities of research. CONCLUSION: Qualitative research is well established in rehabilitation and has an important place in the continued growth of this field. Ongoing development of qualitative researchers and methods are essential. Implications for Rehabilitation Qualitative research has the potential to improve rehabilitation practice by addressing some of the most pervasive concerns in the

field such as practitioner-client interaction, the subjective and lived experience of disability, and clinical reasoning and decision making. This will serve to better inform those providing rehabilitation services thereby benefiting patients that are utilizing these services. Changes over time in how qualitative research is conceptualized, conducted, and utilized to advance rehabilitation science have resulted in a number of unique opportunities and challenges in using qualitative research that must be considered within this field. Advances in methodology and increased expectations for evaluation must be considered to ensure quality and credibility of qualitative rehabilitation research within rehabilitation. Improved quality and credibility may increase likelihood of research dissemination and use by clinicians intervening within the rehabilitation process in order to improve clinical practice. In order to maximize opportunities and mitigate challenges there are two principal future directions for rehabilitation scientists to consider: (1) advancing training in qualitative methods to adequately prepare future rehabilitation scientists and (2) engaging qualitative communities of research

*IWH authored publications.