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**\*Gignac MAM, Kristman V, Smith PM, Beaton DE, Badley EM, Ibrahim S, and Mustard CA. Are there differences in workplace accommodation needs, use and unmet needs among older workers with arthritis, diabetes and no chronic conditions? Examining the role of health and work context. *Work, Aging and Retirement*. 2018; [epub ahead of print].**

**<http://dx.doi.org/10.1093/workar/way004> [open access]**

Abstract: The aging of workforces combined with the prevalence of age-related chronic diseases has generated interest in whether large numbers of older workers will need workplace accommodations. This research applied work functioning theory to examine accommodation availability, need and use in workers with arthritis, diabetes, or no chronic disabling diseases; factors associated with accommodation needs; and the relationship of accommodation needs met, unmet or exceeded to job outcomes. Participants were aged 50-67 years, employed, and had arthritis (n = 631), diabetes (n = 286), both arthritis/diabetes (n = 111) or no chronic disabling conditions (healthy controls n = 538). They were recruited from a national panel of 80,000 individuals and a cross-sectional survey was administered online or by telephone. Questionnaires assessed demographics, health, work context, workplace accommodations, and job outcomes. Chi-square analyses, analyses of variance, and regression analyses compared groups. Respondents were similar in many demographic and work context factors. As expected, workers with arthritis and/or diabetes often reported poorer health and employment outcomes. Yet, there were few differences across health conditions in need for or use of accommodations with most participants reporting accommodations needs met. In keeping with work functioning theory, unmet accommodation needs were largely related to work context, not health. Workers whose accommodation needs were exceeded

reported better job outcomes than those with accommodation needs met. Findings highlight both work context and health in understanding workplace accommodations and suggest that many older workers can meet accommodation needs with existing workplace practices. However, additional research aimed at workplace support and the timing of accommodation use is needed.

**Ameri M, Schur L, Adya M, Bentley FS, McKay P, and Kruse D. The disability employment puzzle: a field experiment on employer hiring behavior. ILR Review. 2018; 71(2):329-364.**

<http://dx.doi.org/10.1177/0019793917717474>

**Beland D and Katapally TR. Shaping policy change in population health: policy entrepreneurs, ideas, and institutions. International Journal of Health Policy and Management. 2018; 7(5):369-373.**

<http://dx.doi.org/10.15171/ijhpm.2017.143> [open access]

Abstract: Political realities and institutional structures are often ignored when gathering evidence to influence population health policies. If these policies are to be successful, social science literature on policy change should be integrated into the population health approach. In this contribution, drawing on the work of John W. Kingdon and related scholarship, we set out to examine how key components of the policy change literature could contribute towards the effective development of population health policies. Shaping policy change would require a realignment of the existing school of thought, where the contribution of population health seems to end at knowledge translation. Through our critical analysis of selected literature, we extend recommendations to advance a burgeoning discussion in adopting new approaches to successfully implement evidence-informed population health policies

**Bernard A. Results from the 2016 Census: work activity of families with children in Canada. 2018; Catalogue no. 75-006-X. Ottawa, Statistics Canada.**

<http://www.statcan.gc.ca/pub/75-006-x/2018001/article/54969-eng.htm>

**Christensen JO, Nielsen MB, Finne LB, and Knardahl S. Comprehensive profiles of psychological and social work factors as predictors of site-specific and multi-site pain. Scandinavian Journal of Work, Environment & Health. 2018; 44(3):291-302.**

<http://dx.doi.org/10.5271/sjweh.3706;3706> [open access]

Abstract: Objective Despite the multifactoriality of work and health, studies of psychosocial work factors with pain are typically limited to a few factors. This study examined a wide range of factors to determine (i) typical combinations of work factor levels ("work situations") and (ii) whether "work situations" predicted pain complaints of six anatomic regions. Methods Questionnaires were distributed to 6175 employees twice over a two-year period. Latent profile

analysis was conducted to group employees into profiles of work factor levels. Twelve work factors were measured, reflecting six themes: demands, control, role expectations, leadership, predictability, and organizational climate. Logistic and Poisson regressions compared the groups' risk of pain of the neck, head, back, shoulders, legs and arms, as well as multi-site pain (>1 pain site). Results Four latent profiles emerged based on relative levels of work factors. Profile 1 reflected relatively "desirable" levels of all factors, demonstrating the lowest risk of pain. Profile 2 exhibited the highest, and profile 3 the lowest levels of both demands and control with similar risks of pain, suggesting high levels of control were insufficient to buffer the impact of the combination of the other factors. Profile 4 exhibited "undesirable" levels of all factors and the highest risk, most notably for multi-site pain [odds ratio (OR) 2.32, 95% confidence intervals (CI) 1.80-2.85 compared with profile 1]. Conclusions Different compositions of psychosocial exposures were differentially related to pain. Future studies should take the complexity of work into account by studying comprehensive arrays of co-occurring work factors with health

**Condon MJ and Edwards JB. A healthy workforce: how workers' compensation & wellness programs go together. Professional Safety. 2018; 63(3):32-37.**

[no doi available]

**Coole C, Nouri F, Narayanasamy M, Baker P, Khan S, and Drummond A. Engaging workplace representatives in research: what recruitment strategies work best? Occupational Medicine. 2018; 68(4):282-285.**

<http://dx.doi.org/10.1093/occmed/kqy047>

Abstract: Background: Workplaces are key stakeholders in work and health but little is known about the methods used to recruit workplace representatives (WRs), including managers, occupational health advisers and colleagues, to externally funded healthcare research studies. Aims: To detail the strategies used in recruiting WRs from three areas of the UK to a qualitative study concerning their experience of employees undergoing hip or knee replacement, to compare the strategies and inform recruitment methods for future studies. Methods: Six strategies were used to recruit WRs from organizations of different sizes and sectors. Data on numbers approached and responses received were analysed descriptively. Results: Twenty-five WRs were recruited. Recruitment had to be extended outside the main three study areas, and took several months. It proved more difficult to recruit from non-service sectors and small- and medium-sized enterprises. The most successful strategies were approaching organizations that had participated in previous research studies, or known professionally or personally to team members. Conclusions: Recruiting a diverse sample of WRs to healthcare research requires considerable resources and persistence, and a range of strategies. Recruitment is easier where local relationships already exist; the importance of building and maintaining these

relationships cannot be underestimated. However, the potential risks of bias and participant fatigue need to be acknowledged and managed. Further studies are needed to explore how WRs can be recruited to health research, and to identify the researcher effort and costs involved in achieving unbiased and representative samples

**Dadich A and Doloswala N. What can organisational theory offer knowledge translation in healthcare? A thematic and lexical analysis. BMC Health Services Research. 2018; 18(1):351.**

<http://dx.doi.org/10.1186/s12913-018-3121-y> [open access]

Abstract: BACKGROUND: Despite the relative abundance of frameworks and models to guide implementation science, the explicit use of theory is limited. Bringing together two seemingly disparate fields of research, this article asks, what can organisational theory offer implementation science? This is examined by applying a theoretical lens that incorporates agency, institutional, and situated change theories to understand the implementation of healthcare knowledge into practice. METHODS: Interviews were conducted with 20 general practitioners (GPs) before and after using a resource to facilitate evidence-based sexual healthcare. Research material was analysed using two approaches - researcher-driven thematic coding and lexical analysis, which was relatively less researcher-driven. RESULTS: The theoretical lens elucidated the complex pathways of knowledge translation. More specifically, agency theory revealed tensions between the GP as agent and their organisations and patients as principals. Institutional theory highlighted the importance of GP-embeddedness within their chosen specialty of general practice; their medical profession; and the practice in which they worked. Situated change theory exposed the role of localised adaptations over time - a metamorphosis. CONCLUSIONS: This study has theoretical, methodological, and practical implications. Theoretically, it is the first to examine knowledge translation using a lens premised on agency, institutional, and situated change theories. Methodologically, the study highlights the complementary value of researcher-driven and researcher-guided analysis of qualitative research material. Practically, this study signposts opportunities to facilitate knowledge translation - more specifically, it suggests that efforts to shape clinician practices should accommodate the interrelated influence of the agent and the institution, and recognise that change can be ever so subtle

**Eames S, Bennett S, Whitehead M, Fleming J, Low SO, Mickan S, and Caldwell E. A pre-post evaluation of a knowledge translation capacity-building intervention. Australian Occupational Therapy Journal. 2018; [epub ahead of print].**

<http://dx.doi.org/10.1111/1440-1630.12483>

Abstract: BACKGROUND/AIM: Knowledge translation (KT) aims to reduce research-practice gaps. Few studies have investigated methods to build clinicians' capacity for KT. To: (i) evaluate the impact of a multifaceted KT

capacity-building intervention; (ii) understand barriers and enablers to clinicians' use of KT; and (iii) identify useful strategies. **METHODS:** A pre-post study to develop KT capacity amongst occupational therapy clinicians (n = 46) in a large metropolitan hospital. A customised questionnaire (baseline and 18 months) identified KT-related behaviours and barriers and enablers guided by the Theoretical Domains Framework (TDF). McNemar's tests and Wilcoxon signed rank tests were completed on matched data (n = 20). At follow-up additional items explored perceptions of change and usefulness of strategies. **RESULTS:** At follow-up, participants had read more clinical guidelines (10 vs. 17) and more participants reported using strategies to increase the use of recommended clinical practices (P = 0.006). The main barriers at baseline were from the TDF domains of 'attention, memory and decision processes', 'knowledge' and 'environmental context and resources', while main enablers were from 'social/professional role and identity', 'reinforcement', 'social influence' and 'beliefs about consequences' domains. At follow-up, significant improvements were seen in 'knowledge' (p < 0.001), 'environmental context & resources' (P < 0.001), 'skills' (P = 0.008) 'beliefs about consequences' (P = 0.011), 'beliefs about capabilities' (P = 0.018), and 'memory, attention & decision processes' (P = 0.048) and participants agreed that KT had become part of the departments' culture. Strategies perceived most useful included working as a team, having a dedicated staff member, mentoring meetings, department leader support, learning about KT over time, and training sessions. **CONCLUSIONS:** The KT capacity-building intervention changed one clinician-reported behaviour and perceived impact of barriers across six domains. Clinicians reported perceived improvement in understanding of - and confidence in - KT, and changes in the culture to one of engaging with KT as part of clinical practice. Further research into KT capacity building is needed

**Hira-Friesen P. Immigrants and precarious work in Canada: trends, 2006-2012. Journal of International Migration and Integration. 2018; 19(1):35-57.**

<http://dx.doi.org/10.1007/s12134-017-0518-0>

**Jacobsen DP, Nielsen MB, Einarsen S, and Gjerstad J. Negative social acts and pain: evidence of a workplace bullying and 5-HTT genotype interaction. Scandinavian Journal of Work, Environment & Health. 2018; 44(3):283-290.**

<http://dx.doi.org/10.5271/sjweh.3704;3704> [open access]

**Abstract:** Objectives Long-term exposure to systematic negative acts at work, usually labeled workplace bullying, is a prevalent problem at many workplaces. The adverse effects of such exposure may range from psychological symptoms, such as depression and anxiety to somatic ailments like cardiovascular disease and musculoskeletal complaints. In this study, we examined the relationships among exposure to negative acts, genetic variability in the 5-HTT gene SLC6A4 and pain. **Methods** The study was based on a nationally representative survey of



987 Norwegian employees drawn from the Norwegian Central Employee Register by Statistics Norway. Exposure to bullying in the workplace was measured with the 9-item version of the Negative Acts Questionnaire - Revised (NAQ-R) inventory. Pain was rated using an 11-point (0-10) numeric rating scale (NRS). Genotyping with regard to SLC6A4 was carried out using a combination of gel-electrophoresis and TaqMan assay. Results The data revealed a significant interaction between exposure to negative acts and the SLC6A4 genotype with regard to pain (linear regression with 5000 resamples; age, sex, tobacco use and education were included as covariates). The relationship between negative acts and pain intensity was significantly stronger for subjects with the LALA genotype than for subjects with the SLA/LALG/SLG genotype. No significant difference between subjects with the LALA genotype and SS genotype was observed. Conclusions Our data demonstrated that the relationship between bullying and pain was modified by the 5-HTT genotype, ie, genetic variation in SLC6A4. The association between negative acts and health among vulnerable individuals appeared more potent than previously reported

**Airaksinen J, Jokela M, Virtanen M, Oksanen T, Koskenvuo M, Pentti J, Vahtera J, and Kivimaki M. Prediction of long-term absence due to sickness in employees: development and validation of a multifactorial risk score in two cohort studies. Scandinavian Journal of Work, Environment & Health. 2018; 44(3):274-282.**

<http://dx.doi.org/10.5271/sjweh.3713;3713> [open access]

**Abstract:** Objectives This study aimed to develop and validate a risk prediction model for long-term sickness absence. Methods Survey responses on work- and lifestyle-related questions from 65 775 public-sector employees were linked to sickness absence records to develop a prediction score for medically-certified sickness absence lasting >9 days and  $\geq 90$  days. The score was externally validated using data from an independent population-based cohort of 13 527 employees. For both sickness absence outcomes, a full model including 46 candidate predictors was reduced to a parsimonious model using least-absolute-shrinkage-and-selection-operator (LASSO) regression. Predictive performance of the model was evaluated using C-index and calibration plots. Results Variance explained in  $\geq 90$ -day sickness absence by the full model was 12.5%. In the parsimonious model, the predictors included self-rated health (linear and quadratic term), depression, sex, age (linear and quadratic), socioeconomic position, previous sickness absences, number of chronic diseases, smoking, shift work, working night shift, and quadratic terms for body mass index and Jenkins sleep scale. The discriminative ability of the score was good (C-index 0.74 in internal and 0.73 in external validation). Calibration plots confirmed high correspondence between the predicted and observed risk. In >9-day sickness absence, the full model explained 15.2% of the variance explained, but the C-index of the parsimonious model was poor (<0.65). Conclusions Individuals' risk of a long-term sickness absence that lasts  $\geq 90$

days can be estimated using a brief risk score. The predictive performance of this score is comparable to those for established multifactorial risk algorithms for cardiovascular disease, such as the Framingham risk score

**Kelly D, Shorthouse F, Roffi V, and Tack C. Exercise therapy and work-related musculoskeletal disorders in sedentary workers. Occupational Medicine. 2018; 68(4):262-272.**

<http://dx.doi.org/10.1093/occmed/kgy054>

Abstract: Background: Work-related upper limb disorders (WRULDs) are a syndrome of symptoms affecting the upper quadrant of the body and are a significant cause of pain, disability and sickness absence among workers. Exercise therapy is considered to be a clinical and cost-effective strategy in WRULD management. Aims: To evaluate the effectiveness of exercise therapy for WRULDs in sedentary workers. Methods: This review follows an a priori protocol to maintain internal validity describing essential procedures to be followed (e.g. a comprehensive search strategy, dual extraction and critical appraisal). The methodological quality of the studies were assessed using Cochrane Risk of Bias Tool for all randomized controlled trials and the Assessing the Methodological Quality of Systematic Reviews (AMSTAR) tool for systematic reviews. Results: A total of 11 articles were selected for inclusion. There was moderate evidence to suggest exercise is effective in reducing the symptoms of pain and improved function in WRULDs in sedentary workers when compared to a control group. Conclusions: The results were comparable to recent systematic reviews, which have found evidence to support the use of exercise therapy, in mixed populations of workers. There is a need for further research to highlight the most effective form of exercise, optimal dosage and delivery method

**Li SA, Jeffs L, Barwick M, and Stevens B. Organizational contextual features that influence the implementation of evidence-based practices across healthcare settings: a systematic integrative review. Systematic Reviews. 2018; 7(1):72.**

<http://dx.doi.org/10.1186/s13643-018-0734-5> [open access]

Abstract: BACKGROUND: Organizational contextual features have been recognized as important determinants for implementing evidence-based practices across healthcare settings for over a decade. However, implementation scientists have not reached consensus on which features are most important for implementing evidence-based practices. The aims of this review were to identify the most commonly reported organizational contextual features that influence the implementation of evidence-based practices across healthcare settings, and to describe how these features affect implementation. METHODS: An integrative review was undertaken following literature searches in CINAHL, MEDLINE, PsycINFO, EMBASE, Web of Science, and Cochrane databases from January 2005 to June 2017. English language, peer-reviewed empirical studies exploring organizational context in at least one implementation initiative within a healthcare

setting were included. Quality appraisal of the included studies was performed using the Mixed Methods Appraisal Tool. Inductive content analysis informed data extraction and reduction. RESULTS: The search generated 5152 citations. After removing duplicates and applying eligibility criteria, 36 journal articles were included. The majority (n = 20) of the study designs were qualitative, 11 were quantitative, and 5 used a mixed methods approach. Six main organizational contextual features (organizational culture; leadership; networks and communication; resources; evaluation, monitoring and feedback; and champions) were most commonly reported to influence implementation outcomes in the selected studies across a wide range of healthcare settings. CONCLUSIONS: We identified six organizational contextual features that appear to be interrelated and work synergistically to influence the implementation of evidence-based practices within an organization. Organizational contextual features did not influence implementation efforts independently from other features. Rather, features were interrelated and often influenced each other in complex, dynamic ways to effect change. These features corresponded to the constructs in the Consolidated Framework for Implementation Research (CFIR), which supports the use of CFIR as a guiding framework for studies that explore the relationship between organizational context and implementation. Organizational culture was most commonly reported to affect implementation. Leadership exerted influence on the five other features, indicating it may be a moderator or mediator that enhances or impedes the implementation of evidence-based practices. Future research should focus on how organizational features interact to influence implementation effectiveness

**Loef B, van der Beek AJ, Holtermann A, Hulsegge G, van BD, and Proper KI. Objectively measured physical activity of hospital shift workers. Scandinavian Journal of Work, Environmental Health. 2018; 44(3):265-273. <http://dx.doi.org/10.5271/sjweh.3709;3709> [open access]**

**Abstract:** Objectives Shift work may alter workers' leisure-time and occupational physical activity (PA) levels, which might be one of the potential underlying mechanisms of the negative health effects of shift work. Therefore, we compared objectively measured PA levels between hospital shift and non-shift workers. Methods Data were used from Klokwerk+, a cohort study examining the health effects of shift work among healthcare workers employed in hospitals. In total, 401 shift workers and 78 non-shift workers were included, all of whom wore Actigraph GT3X accelerometers for up to seven days. Time spent sedentary, standing, walking, running, stairclimbing, and cycling during leisure time and at work was estimated using Acti4 software. Linear regression was used to compare proportions of time spent in these activities between hospital shift and non-shift workers. Results Average accelerometer wear-time was 105.9 [standard deviation (SD) 14.0] waking hours over an average of 6.9 (SD 0.6) days. No differences between hospital shift and non-shift workers were found in leisure-time PA ( $P > 0.05$ ). At work, shift workers were less sedentary [ $B = -10.6\%$



(95% CI -14.3- -6.8)] and spent larger proportions of time standing [B=9.5% (95% CI 6.4-12.6)] and walking [B=1.2% (95% CI 0.1-2.2)] than non-shift workers. However, these differences in occupational PA became smaller when the number of night shifts during accelerometer wear-time increased. Conclusions Leisure-time PA levels of hospital shift workers were similar to those of non-shift workers, but shift workers were less sedentary and more physically active (ie, standing/walking) at work. Future research to the role of occupational activities in the health effects of shift work is recommended

**McLean RKD, Graham ID, Tetroe JM, and Volmink JA. Translating research into action: an international study of the role of research funders. Health Research Policy Systems. 2018; 16(1):44.**

<http://dx.doi.org/10.1186/s12961-018-0316-y> [open access]

**Abstract:** BACKGROUND: It is widely accepted that research can lead to improved health outcomes. However, translating research into meaningful impacts in peoples' lives requires actions that stretch well beyond those traditionally associated with knowledge creation. The research reported in this manuscript provides an international review of health research funders' efforts to encourage this process of research uptake, application and scaling, often referred to as knowledge translation. METHODS: We conducted web-site review, document review and key informant interviews to investigate knowledge translation at 26 research funding agencies. The sample comprises the regions of Australia, Europe and North America, and a diverse range of funder types, including biomedical, clinical, multi-health domain, philanthropic, public and private organisations. The data builds on a 2008 study by the authors with the same international sample, which permitted longitudinal trend analysis.

**RESULTS:** Knowledge translation is an objective of growing significance for funders across each region studied. However, there is no clear international consensus or standard on how funders might support knowledge translation. We found that approaches and mechanisms vary across region and funder type. Strategically tailored funding opportunities (grants) are the most prevalent modality of support. The most common funder-driven strategy for knowledge translation within these grants is the linking of researchers to research users. Funders could not to provide empirical evidence to support the majority of the knowledge translation activities they encourage or undertake. **CONCLUSIONS:** Knowledge translation at a research funder relies on context. Accordingly, we suggest that the diversity of approaches uncovered in our research is fitting. We argue that evaluation of funding agency efforts to promote and/or support knowledge translation should be prioritised and actioned. It is paradoxical that funders' efforts to get evidence into practice are not themselves evidence based

**Mueller M, D'Addario M, Egger M, Cevallos M, Dekkers O, Mugglin C, and Scott P. Methods to systematically review and meta-analyse observational studies: a systematic scoping review of recommendations. BMC Medical**



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**Research Methodology. 2018; 18(1):44**

<http://dx.doi.org/10.1186/s12874-018-0495-9> [open access]

**Abstract:** **BACKGROUND:** Systematic reviews and meta-analyses of observational studies are frequently performed, but no widely accepted guidance is available at present. We performed a systematic scoping review of published methodological recommendations on how to systematically review and meta-analyse observational studies. **METHODS:** We searched online databases and websites and contacted experts in the field to locate potentially eligible articles. We included articles that provided any type of recommendation on how to conduct systematic reviews and meta-analyses of observational studies. We extracted and summarised recommendations on pre-defined key items: protocol development, research question, search strategy, study eligibility, data extraction, dealing with different study designs, risk of bias assessment, publication bias, heterogeneity, statistical analysis. We summarised recommendations by key item, identifying areas of agreement and disagreement as well as areas where recommendations were missing or scarce. **RESULTS:** The searches identified 2461 articles of which 93 were eligible. Many recommendations for reviews and meta-analyses of observational studies were transferred from guidance developed for reviews and meta-analyses of RCTs. Although there was substantial agreement in some methodological areas there was also considerable disagreement on how evidence synthesis of observational studies should be conducted. Conflicting recommendations were seen on topics such as the inclusion of different study designs in systematic reviews and meta-analyses, the use of quality scales to assess the risk of bias, and the choice of model (e.g. fixed vs. random effects) for meta-analysis. **CONCLUSION:** There is a need for sound methodological guidance on how to conduct systematic reviews and meta-analyses of observational studies, which critically considers areas in which there are conflicting recommendations

**Torquati L, Mielke GI, Brown WJ, and Kolbe-Alexander T. Shift work and the risk of cardiovascular disease. A systematic review and meta-analysis including dose-response relationship. Scandinavian Journal of Work, Environmental Health. 2018; 44(3):229-238.**

<http://dx.doi.org/10.5271/sjweh.3700;3700> [open access]

**Abstract:** **Objectives** The aim of this review was to assess the risk of cardiovascular disease (CVD) events associated with shift work and determine if there is a dose-response relationship in this association. **Method** Electronic databases (PubMed, Scopus, and Web of Science) were searched for cohort or case-control control study designs in any population, reporting exposure to shift work as the main contributing factor to estimate CVD risk. For each study, adjusted relative risk (RR) ratios and 95% confidence intervals (CI) were extracted, and used to calculate the pooled RR using random-effect models. Meta-regression analysis was conducted to explore potential heterogeneity sources. Potential non-linear dose-response relationships were examined using

fractional polynomial models. Results We included 21 studies with a total of 173 010 unique participants. The majority of the studies were ranked low-to-moderate risk of bias. The risk of any CVD event was 17% higher among shift workers than day workers. The risk of coronary heart disease (CHD) morbidity was 26% higher (1.26, 95% CI 1.10-1.43, I (2)= 48.0%). Sub-group analysis showed an almost 20% higher risk of CVD and CHD mortality among shift workers than those who did not work shifts (1.22, 95% CI 1.09-1.37, I (2)= 0% and 1.18, 95% CI 1.06-1.32 I (2)=0%; respectively). After the first five years of shift work, there was a 7.1% increase in risk of CVD events for every additional five years of exposure (95% CI 1.05-1.10). Heterogeneity of the pooled effect size (ES) estimates was high (I (2)=67%), and meta-regression analysis showed that sample size explained 7.7% of this. Conclusions The association between shift work and CVD risk is non-linear and seems to appear only after the first five years of exposure. As shift work remains crucial for meeting production and service demands across many industries, policies and initiatives are needed to reduce shift workers' CVD risk

\*IWH-authored publication.