

IWH Research Alert

July 13, 2018

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***Carnide N, Hogg-Johnson S, Furlan AD, Cote P, and Koehoorn M. Prescription dispensing patterns before and after a workers' compensation claim: an historical cohort study of workers with low back pain injuries in British Columbia. *Journal of Occupational and Environmental Medicine*. 2018; 60(7):644-655.**

<http://dx.doi.org/10.1097/JOM.0000000000001311>

Abstract: OBJECTIVE: Compare prescription dispensing before and after a work-related low back injury. METHODS: Descriptive analyses were used to describe opioid, nonsteroidal anti-inflammatory drug (NSAID), and skeletal muscle relaxant (SMR) dispensing 1 year pre- and post-injury among 97,124 workers in British Columbia with new workers' compensation low back claims from 1998 to 2009. RESULTS: Before injury, 19.7%, 21.2%, and 6.3% were dispensed opioids, NSAIDs, and SMRs, respectively, increasing to 39.0%, 50.2%, and 28.4% after. Median time to first post-injury prescription was less than a week. Dispensing was stable pre-injury, followed by a sharp increase within 8 weeks post-injury. Dispensing dropped thereafter, but remained elevated nearly a year post-injury, an increase attributable to less than 2% of claimants. CONCLUSION: These drug classes are commonly dispensed, particularly shortly after injury and dispensing is of short duration for most, though a small subgroup receives prolonged courses

***Cocker F, Sim MR, Kelsall H, and Smith P. The association between time taken to report, lodge, and start wage replacement and return-to-work outcomes. *Journal of Occupational and Environmental Medicine*. 2018; 60(7):622-630.**

<http://dx.doi.org/10.1097/JOM.0000000000001294>



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Abstract: OBJECTIVE: The aim of the study was to determine if prolonged times taken to notify, file, adjudicate, and start wage replacement for workers' compensation claims are associated with poorer return-to-work (RTW) outcomes. METHODS: Using 71,607 claims lodged 2007 to 2012, logistic regression determined associations between time to claim filing, adjudication, and payment and (1) socio-demographic/economic, occupational, and injury-related factors; and (2) 52 weeks of wage replacement (WR). RESULTS: Prolonged times for all processing steps were associated with increased odds of reaching 52 weeks of WR. Prolonged times in more than one step increased the odds of a long-term claim. Being female was the only variable consistently associated with each prolonged processing time. CONCLUSIONS: The predictive ability of prolonged times in claim lodgement and processing and compensation payments demonstrate that shorter claims management and adjudication times could improve RTW outcomes

***Fan JK and Smith PM. Self-reported work conditions in Canada: examining changes between 2002 and 2012. Canadian Journal of Public Health. 2018; [Epub ahead of print].**

<http://dx.doi.org/10.17269/s41997-018-0096-8>

Abstract: OBJECTIVES: To examine changes in self-reported work conditions over a 10-year time period in Canada, as measured using two comparable cross-sectional surveys conducted in 2002 and 2012. METHODS: Population-based data were obtained from the Canadian Community Health Survey. Work conditions (psychosocial work conditions, work hours, work demands, job satisfaction) were measured using the same modules across survey cycles. Regression models provided estimates for trends in work conditions, adjusting for differences in socio-demographic and survey administration characteristics over time. RESULTS: We observed changes in self-reported work conditions across cycles, including higher levels of co-worker/supervisor support and job security; lower levels of psychological demands; and increases in shorter/regular work hours over time. These findings were consistent in both the base and adjusted models. Although skill discretion, decision authority, and job satisfaction improved over time in our base models, these findings were attenuated towards the null in adjusted models. Respondents in 2012 had a greater odds of reporting a physically demanding work environment compared to 2002. Differential time trends were observed by geographic region. CONCLUSIONS: Our study found improvements in some self-reported measures of the psychosocial work environment in Canada over time. These changes were not accounted for by socio-demographic or survey administration differences across survey cycles. Despite these overall trends, absolute levels of some work conditions have not changed. Given the relevance of work conditions as a determinant of health, a continued focus on improving all aspects of the work environment should remain a public health priority to improve the health of working-aged Canadians



Bjork L, Glise K, Pousette A, Bertilsson M, and Holmgren K. Involving the employer to enhance return to work among patients with stress-related mental disorders: study protocol of a cluster randomized controlled trial in Swedish primary health care. BMC Public Health. 2018; 18(1):838.

<http://dx.doi.org/10.1186/s12889-018-5714-0> [open access]

Abstract: BACKGROUND: Work-related stress has become a major challenge for social security and health care systems, employers and employees across Europe. In Sweden, sickness absence particularly due to stress-related disorders has increased excessively in recent years, and the issue of how to improve sustainable return to work in affected employees is high up on the political agenda. The literature on interventions for return to work in patients with common mental disorders is still inconclusive. This randomized controlled trial (RCT) aims to contribute with knowledge about how physicians and rehabilitation coordinators in primary health care can involve the employer in the rehabilitation of patients with stress-related disorders. The objective is to evaluate whether the early involvement of the patient's employer can reduce the time for return to work compared to treatment as usual. A process study will complete the RCT with information about what prerequisites primary health caregivers need to succeed with this endeavor. METHODS: Twenty-two primary care centers were randomized to either intervention or control group. At the intervention centers, physicians and rehabilitation coordinators underwent training, providing them with both knowledge and practical tools to involve the employer in rehabilitation. At the patient level, employed patients with an ICD-10 F43 diagnosis were eligible for participation (n=132). Difference in proportion of patients on full- or part-time sick leave at three, six and 12 months after inclusion will be investigated. Register data, logbooks and interviews with coordinators and physicians at both intervention and control centers will be used for process evaluation. DISCUSSION: Although the issue of how to tackle work-related stress can be recognized all across Europe, Sweden face an urgent need to curb the disproportional increase of stress-related disorders in the sick-leave statistics. Since physicians are limited by time constraints, the rehabilitation coordinator may be a helpful resource to take this contact. The current study will contribute to knowledge about how this collaboration can be organized to facilitate employer involvement and reduce time to return to work among patients suffering from work related stress. TRIAL REGISTRATION: Registered on 1 November 2016, ClinicalTrials.gov, NCT03022760

Blas AJT, Beltran KMB, Martinez PGV, and Yao DPG. Enabling work: occupational therapy interventions for persons with occupational injuries and diseases: a scoping review. Journal of Occupational Rehabilitation. 2018; 28(2):201-214.

<http://dx.doi.org/10.1007/s10926-017-9732-z>

Abstract: Purpose This review aims to map the scope of published research on occupational therapy (OT) interventions and pertinent work and work-related outcomes for persons with occupational injuries and diseases. Methods The



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scoping review adapted Arksey and O'Malley's framework. Six electronic databases were searched. Ancestral search was also done on five systematic reviews. The search was conducted from September 2015 to October 2015. Interventions and outcomes were coded using the International Classification of Functioning, Disability and Health Core Set for Vocational Rehabilitation to plot trends. Results Forty-six articles were included in the review. The top five intervention approaches included: acquiring skills (12.27%), health services, systems, and policies (10.43%), products and technology for employment (9.20%), handling stress and other psychological demands (7.98%), and apprenticeship (6.74%). The top five outcomes targeted included: remunerative employment (15.71%); sensation of pain (10.99%); emotional functions (5.76%); handling stress and other psychological demands (5.76%); economic self-sufficiency (4.71%); muscle endurance functions (4.71%); exercise tolerance functions (4.71%); undertaking multiple tasks (4.19%); acquiring, keeping, and terminating a job (4.19%); and looking after one's health (4.19%). Conclusion The trend in interventions show the use of activities and environment facilitators which are attuned to the conceptual nature of OT. Furthermore, the trend in outcomes show that there is substantial evidence that supports the use of OT to target work. This review may provide a platform for collaboration with other professionals and also help identify research directions to strengthen the evidence base for OT in work-related practice

Chari R, Chang CC, Sauter SL, Petrun Sayers EL, Cerully JL, Schulte P, Schill AL, and Uscher-Pines L. Expanding the paradigm of occupational safety and health: a new framework for worker well-being. Journal of Occupational and Environmental Medicine. 2018; 60(7):589-593.

<http://dx.doi.org/10.1097/JOM.0000000000001330>

Abstract: OBJECTIVE: This article describes the National Institute for Occupational Safety and Health's (NIOSH) development of a conceptual framework for worker well-being. While well-being research is growing, there is a need to translate theoretical concepts into practical models for measurement and action. METHODS: Multidisciplinary literature reviews informed development of the worker well-being framework and major domains and subdomains. An expert panel helped prioritize constructs for measurement. RESULTS: The framework includes five domains and 20 subdomains and conceptualizes worker well-being as a subjective and objective phenomenon inclusive of experiences both within and beyond work contexts. CONCLUSION: Well-being is a positive and unifying concept that captures multiple factors that contribute to workers' health and quality of life. This work lays the foundation for larger well-being measurement efforts and will provide tools for NIOSH partners to help workers flourish

Cocco P and Agius R. The preventable burden of work-related ill-health. Occupational Medicine. 2018; 68(5):327-331.

<http://dx.doi.org/10.1093/occmed/kqy063>

Abstract: Background: The fraction of ill-health overall attributable to occupational

conditions has not been extensively evaluated, thus contributing to the perception of a lesser relevance of education and research in occupational health in respect to other fields of medical research and practice. Aims: To assess the relevance of work-related conditions on the aetiology of human ill-health in different health domains. Methods: We extracted the risk estimates associated with heritability and with occupational risk factors for chronic lymphocytic leukaemia (CLL), major depressive disorder (MDD) and long QT syndrome (LQTS) from 13 published international reports. The selection criteria for the eligible studies were: genome-wide studies, or studies of the occupational risk factors associated with one of the three diseases of interest. We calculated and compared the respective population attributable fraction for the combined occupational risk factors, and for heritability. Results: We estimated that occupational risk factors would account for 12% (95% confidence interval (CI) 4-19) of CLL, 11% (95% CI 7-15) of MDD and 10% (95% CI 2-13) of LQTS burden in the general population. The corresponding figures for heritability would be 16% (95% CI 11-22), 28% (95% CI 20-5) and 17% (95% CI 7-27). Conclusions: More efforts in capacity building and research in occupational health are warranted aiming to prevent ill-health and to preserve a productive life for the ageing work population

Dale AM, Ekenga CC, Buckner-Petty S, Merlino L, Thiese MS, Bao S, Meyers AR, et al. Incident CTS in a large pooled cohort study: associations obtained by a Job Exposure Matrix versus associations obtained from observed exposures. Occupational and Environmental Medicine. 2018; 75(7):501-506.

<http://dx.doi.org/10.1136/oemed-2017-104744> [open access]

Abstract: BACKGROUND: There is growing use of a job exposure matrix (JEM) to provide exposure estimates in studies of work-related musculoskeletal disorders; few studies have examined the validity of such estimates, nor did compare associations obtained with a JEM with those obtained using other exposures. OBJECTIVE: This study estimated upper extremity exposures using a JEM derived from a publicly available data set (Occupational Network, O*NET), and compared exposure-disease associations for incident carpal tunnel syndrome (CTS) with those obtained using observed physical exposure measures in a large prospective study. METHODS: 2393 workers from several industries were followed for up to 2.8 years (5.5 person-years). Standard Occupational Classification (SOC) codes were assigned to the job at enrolment. SOC codes linked to physical exposures for forceful hand exertion and repetitive activities were extracted from O*NET. We used multivariable Cox proportional hazards regression models to describe exposure-disease associations for incident CTS for individually observed physical exposures and JEM exposures from O*NET. RESULTS: Both exposure methods found associations between incident CTS and exposures of force and repetition, with evidence of dose-response. Observed associations were similar across the two methods, with somewhat wider CIs for HRs calculated using the JEM method. CONCLUSION:



Exposures estimated using a JEM provided similar exposure-disease associations for CTS when compared with associations obtained using the 'gold standard' method of individual observation. While JEMs have a number of limitations, in some studies they can provide useful exposure estimates in the absence of individual-level observed exposures

Dorrington S, Roberts E, Mykletun A, Hatch S, Madan I, and Hotopf M.
Systematic review of fit note use for workers in the UK. Occupational and Environmental Medicine. 2018; 75(7):530-539.

<http://dx.doi.org/10.1136/oemed-2017-104730> [open access]

Abstract: OBJECTIVES: The fit note, introduced in England, Wales and Scotland in 2010, was designed to change radically the sickness certification process from advising individuals on their inability to work to advising them on what they could do if work could be adapted. Our review aimed to evaluate the following: (1) Is the 'maybe fit' for work option being selected for patients? (2) Are work solutions being recommended? (3) Has the fit note increased return to work? (4) Has the fit note reduced the length of sickness absence? We considered the way in which outcomes vary according to patient demographics including type of health problem. METHODS: Studies were identified by a systematic search. We included all studies of any design conducted in the UK with working age adults, aged 16 or over, from 1 April 2010 to 1 Nov 2017. Risk of bias was assessed using a modified Newcastle-Ottawa Scale. RESULTS: Thirteen papers representing seven studies met inclusion criteria. In the largest study, 'maybe fit' for work was recommended in 6.5% of fit notes delivered by general practitioners (GP; n=361 801) between April 2016 and March 2017. 'Maybe fit' recommendations were made in 8.5%-10% of fit notes received by primary care patients in employment, and in 10%-32% of patients seen by GPs trained in the Diploma in Occupational Medicine. 'Maybe fit' was recommended more for women, those with higher socioeconomic status, and for physical, as opposed to psychiatric disorders. The majority of fit notes with the 'maybe fit' option selected included work solutions. There was inconclusive evidence to suggest that the introduction of the fit note has reduced sickness absence among patients in employment. CONCLUSIONS: Fit notes represent a major shift in public policy. Our review suggests that they have been incompletely researched and not implemented as intended

Jensen JH, Flachs EM, Skakon J, Rod NH, and Bonde JP. Dual impact of organisational change on subsequent exit from work unit and sickness absence: a longitudinal study among public healthcare employees. Occupational and Environmental Medicine. 2018; 75(7):479-485.

<http://dx.doi.org/10.1136/oemed-2017-104865> [open access]

Abstract: OBJECTIVES: We investigated work-unit exit, total and long-term sickness absence following organisational change among public healthcare employees. METHODS: The study population comprised employees from the Capital Region of Denmark (n=14 388). Data on reorganisation at the work-unit

level (merger, demerger, relocation, change of management, employee layoff or budget cut) between July and December 2013 were obtained via surveys distributed to the managers of each work unit. Individual-level data on work-unit exit, total and long-term sickness absence ($>/=29$ days) in 2014 were obtained from company registries. For exposure to any, each type or number of reorganisations (1, 2 or $>/=3$), the HRs and 95% CIs for subsequent work-unit exit were estimated by Cox regression, and the risk for total and long-term sickness absence were estimated by zero-inflated Poisson regression.

RESULTS: Reorganisation was associated with subsequent work-unit exit (HR 1.10, 95% CI 1.01 to 1.19) in the year after reorganisation. This association was specifically important for exposure to $>/=3$ types of changes (HR 1.52, 95% CI 1.30 to 1.79), merger (HR 1.29, 95% CI 1.12 to 1.49), demerger (HR 1.41, 95% CI 1.16 to 1.71) or change of management (HR 1.24, 95% CI 1.11 to 1.38). Among the employees remaining in the work unit, reorganisation was also associated with more events of long-term sickness absence (OR 1.15, 95% CI 1.00 to 1.33), which was particularly important for merger (OR 1.31, 95% CI 1.00 to 1.72) and employee layoff (OR 1.31, 95% CI 1.08 to 1.59).

CONCLUSIONS: Specific types of reorganisation seem to have a dual impact on subsequent work-unit exit and sickness absence in the year after change

Lewis CC, Mettert KD, Dorsey CN, Martinez RG, Weiner BJ, Nolen E, Stanick C, Halko H, and Powell BJ. An updated protocol for a systematic review of implementation-related measures. Systematic Reviews. 2018; 7(1):66.

<http://dx.doi.org/10.1186/s13643-018-0728-3> [open access]

Abstract: BACKGROUND: Implementation science is the study of strategies used to integrate evidence-based practices into real-world settings (Eccles and Mittman, Implement Sci. 1(1):1, 2006). Central to the identification of replicable, feasible, and effective implementation strategies is the ability to assess the impact of contextual constructs and intervention characteristics that may influence implementation, but several measurement issues make this work quite difficult. For instance, it is unclear which constructs have no measures and which measures have any evidence of psychometric properties like reliability and validity. As part of a larger set of studies to advance implementation science measurement (Lewis et al., Implement Sci. 10:102, 2015), we will complete systematic reviews of measures that map onto the Consolidated Framework for Implementation Research (Damschroder et al., Implement Sci. 4:50, 2009) and the Implementation Outcomes Framework (Proctor et al., Adm Policy Ment Health. 38(2):65-76, 2011), the protocol for which is described in this manuscript.

METHODS: Our primary databases will be PubMed and Embase. Our search strings will be comprised of five levels: (1) the outcome or construct term; (2) terms for measure; (3) terms for evidence-based practice; (4) terms for implementation; and (5) terms for mental health. Two trained research specialists will independently review all titles and abstracts followed by full-text review for inclusion. The research specialists will then conduct measure-forward searches

using the "cited by" function to identify all published empirical studies using each measure. The measure and associated publications will be compiled in a packet for data extraction. Data relevant to our Psychometric and Pragmatic Evidence Rating Scale (PAPERS) will be independently extracted and then rated using a worst score counts methodology reflecting "poor" to "excellent" evidence.

DISCUSSION: We will build a centralized, accessible, searchable repository through which researchers, practitioners, and other stakeholders can identify psychometrically and pragmatically strong measures of implementation contexts, processes, and outcomes. By facilitating the employment of psychometrically and pragmatically strong measures identified through this systematic review, the repository would enhance the cumulativeness, reproducibility, and applicability of research findings in the rapidly growing field of implementation science

Mackenzie K, Such E, Norman P, and Goyder E. The development, implementation and evaluation of interventions to reduce workplace sitting: a qualitative systematic review and evidence-based operational framework. BMC Public Health. 2018; 18(1):833.

<http://dx.doi.org/10.1186/s12889-018-5768-z> [open access]

Abstract: BACKGROUND: Prolonged sitting is associated with increased risks of cardiovascular disease, Type 2 diabetes, some cancers, musculoskeletal disorders and premature mortality. Workplaces contribute to a large proportion of daily sitting time, particularly among office-based workers. Interventions to reduce workplace sitting therefore represent important public health initiatives. Previous systematic reviews suggest such interventions can be effective but have reported wide variations. Further, there is uncertainty as to whether effectiveness in controlled trials can be replicated when implemented outside the research setting. The aims of this review are to identify factors important for the implementation of workplace sitting interventions and to translate these findings into a useful operational framework to support the future implementation of such interventions. METHODS: A qualitative systematic review was conducted. Four health and social science databases were searched for studies set in the workplace, with office-based employees and with the primary aim of reducing workplace sitting. Extracted data were primarily from author descriptions of interventions and their implementation. Inductive thematic analysis and synthesis was undertaken. RESULTS: Forty studies met the inclusion criteria. Nine descriptive themes were identified from which emerged three higher-order analytical themes, which related to the development, implementation and evaluation of workplace sitting interventions. Key findings included: the importance of grounding interventions in theory; utilising participative approaches during intervention development and implementation; and conducting comprehensive process and outcome evaluations. There was a general under-reporting of information relating to the context within which workplace sitting interventions were implemented, such as details of local organisation processes and structures, as well as the wider political and economic landscape, which if present would aid the translation of knowledge into "real-world" settings.

CONCLUSIONS: These findings provided the basis for an operational framework, which is a representation of all nine descriptive themes and three higher-order analytical themes, to support workplace sitting intervention development, implementation and evaluation. Once tested and refined, this framework has the potential to be incorporated into a practical toolkit, which could be used by a range of organisations to develop, implement and evaluate their own interventions to reduce workplace sitting time amongst staff

Magnusson Hanson LL, Westerlund H, Chungkham HS, Vahtera J, Rod NH, Alexanderson K, Goldberg M, Kivimaki M, Stenholm S, Platts LG, Zins M, and Head J. Job strain and loss of healthy life years between ages 50 and 75 by sex and occupational position: analyses of 64 934 individuals from four prospective cohort studies. *Occupational and Environmental Medicine*. 2018; 75(7):486-493.

<http://dx.doi.org/10.1136/oemed-2017-104644> [open access]

Abstract: **OBJECTIVES:** Poor psychosocial working conditions increase the likelihood of various types of morbidity and may substantially limit quality of life and possibilities to remain in paid work. To date, however, no studies to our knowledge have quantified the extent to which poor psychosocial working conditions reduce healthy or chronic disease-free life expectancy, which was the focus of this study. **METHODS:** Data were derived from four cohorts with repeat data: the Finnish Public Sector Study (Finland), GAZEL (France), the Swedish Longitudinal Occupational Survey of Health (Sweden) and Whitehall II (UK). Healthy (in good self-rated health) life expectancy (HLE) and chronic disease-free (free from cardiovascular disease, cancer, respiratory disease and diabetes) life expectancy (CDFLE) was calculated from age 50 to 75 based on 64 394 individuals with data on job strain (high demands in combination with low control) at baseline and health at baseline and follow-up. **RESULTS:** Multistate life table models showed that job strain was consistently related to shorter HLE (overall 1.7 years difference). The difference in HLE was more pronounced among men (2.0 years compared with 1.5 years for women) and participants in lower occupational positions (2.5 years among low-grade men compared with 1.7 years among high-grade men). Similar differences in HLE, although smaller, were observed among those in intermediate or high occupational positions. Job strain was additionally associated with shorter CDFLE, although this association was weaker and somewhat inconsistent. **CONCLUSIONS:** These findings suggest that individuals with job strain have a shorter health expectancy compared with those without job strain

Ostby KA, Mykletun A, and Nilsen W. Explaining the gender gap in sickness absence. *Occupational Medicine*. 2018; 68(5):320-326.

<http://dx.doi.org/10.1093/occmed/kqy062>

Abstract: **Background:** In many western countries, women have a much higher rate of sickness absence than men. To what degree the gender differences in sickness absence are caused by gender differences in health is largely unknown.

Aims: To assess to what degree the gender gap in sickness absence can be explained by health factors and work- and family-related stressors. Methods: Norwegian parents participating in the Tracking Opportunities and Problems (TOPP) study were asked about sickness absence and a range of factors possibly contributing to gender differences in sickness absence, including somatic and mental health, sleep problems, job control/demands, work-home conflicts, parent-child conflicts and stressful life events. Using a cross-sectional design, we did linear regression analyses, to assess the relative contribution from health and stressors. Results: There were 557 study participants. Adjusting for health factors reduced the gender difference in sickness absence by 24%, while adjusting for stressors in the family and at work reduced the difference by 22%. A simultaneous adjustment for health factors and stressors reduced the difference in sickness absence by about 28%. Conclusions: Despite adjusting for a large number of factors, including both previously well-studied factors (e.g. health, job control/demands) and lesser-studied factors (parent-child conflict and sexual assault), this study found that most of the gender gap in sickness absence remains unexplained. Gender differences in health and stressors account for only part of the differences in sickness absence. Other factors must, therefore, exist outside the domains of health, work and family stressors

Park JS, Moore JE, Sayal R, Holmes BJ, Scarrow G, Graham ID, Jeffs L, Timmings C, Rashid S, Johnson AM, and Straus SE. Evaluation of the "Foundations in Knowledge Translation" training initiative: preparing end users to practice KT. Implementation Science. 2018; 13(1):63.

<http://dx.doi.org/10.1186/s13012-018-0755-4> [open access]

Abstract: BACKGROUND: Current knowledge translation (KT) training initiatives are primarily focused on preparing researchers to conduct KT research rather than on teaching KT practice to end users. Furthermore, training initiatives that focus on KT practice have not been rigorously evaluated and have focused on assessing short-term outcomes and participant satisfaction only. Thus, there is a need for longitudinal training evaluations that assess the sustainability of training outcomes and contextual factors that may influence outcomes. METHODS: We evaluated the KT training initiative "Foundations in KT" using a mixed-methods longitudinal design. "Foundations in KT" provided training in KT practice and included three tailored in-person workshops, coaching, and an online platform for training materials and knowledge exchange. Two cohorts were included in the study (62 participants, including 46 "Foundations in KT" participants from 16 project teams and 16 decision-maker partners). Participants completed self-report questionnaires, focus groups, and interviews at baseline and at 6, 12, 18, and 24 months after the first workshop. RESULTS: Participant-level outcomes include survey results which indicated that participants' self-efficacy in evidence-based practice ($F(1,8.9) = 23.7$, $p = 0.001$, $n = 45$), KT activities ($F(1,23.9) = 43.2$, $p < 0.001$, $n = 45$), and using evidence to inform practice increased over time ($F(1,11.0) = 6.0$, $p = 0.03$, $n = 45$). Interviews and focus groups illustrated that participants' understanding of and confidence in using KT increased from



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baseline to 24 months after the workshop. Interviews and focus groups suggested that the training initiative helped participants achieve their KT project objectives, plan their projects, and solve problems over time. Contextual factors include teams with high self-reported organizational capacity and commitment to implement at the start of their project had buy-in from upper management that resulted in secured funding and resources for their project. Training initiative outcomes include participants who applied the KT knowledge and skills they learned to other projects by sharing their knowledge informally with coworkers. Sustained spread of KT practice was observed with five teams at 24 months.

CONCLUSIONS: We completed a longitudinal evaluation of a KT training initiative. Positive participant outcomes were sustained until 24 months after the initial workshop. Given the emphasis on implementing evidence and the need to train implementers, these findings are promising for future KT training

Pedersen P, Nielsen CV, Jensen OK, Jensen C, and Labriola M. Employment status five years after a randomised controlled trial comparing multidisciplinary and brief intervention in employees on sick leave due to low back pain. Scandinavian Journal of Public Health. 2018; 46(3):383-388.

<http://dx.doi.org/10.1177/1403494817722290>

Abstract: AIMS: To evaluate differences in employment status, during a five-year follow-up period in patients on sick leave due to low back pain who had participated in a trial comparing a brief and a multidisciplinary intervention.

METHODS: From 2004 to 2008, 535 patients were referred to the Spine Centre at the Regional Hospital in Silkeborg if they had been on sick leave for 3-16 weeks due to low back pain. All patients underwent a clinical examination by a rehabilitation physician and a physiotherapist, and were randomised to either the brief intervention or the multidisciplinary intervention. The outcome was employment status from randomisation to five years of follow-up and was measured by the mean number of weeks in four different groups of employment status (sequence analysis) and a fraction of the number of weeks working (work participation score) that were accumulated over the years. **RESULTS:** A total of 231 patients were randomised to the brief intervention and 233 patients to the multidisciplinary intervention. No statistically significant differences in the mean weeks spent within the different employment statuses were found between the two intervention groups. After five years of follow-up, participants in the multidisciplinary intervention had a 19% higher risk of not having a work participation score above 75% compared to participants in the brief intervention. **CONCLUSIONS:** After five years of follow-up no differences in employment status were found between participants in the brief and the multidisciplinary intervention

Rantonen J, Karppinen J, Vehrtari A, Luoto S, Viikari-Juntura E, Hupli M, Malmivaara A, and Taimela S. Effectiveness of three interventions for secondary prevention of low back pain in the occupational health setting: a randomised controlled trial with a natural course control. BMC Public

Health. 2018; 18(1):598.

<http://dx.doi.org/10.1186/s12889-018-5476-8> [open access]

Abstract: BACKGROUND: We assessed the effectiveness of three interventions that were aimed to reduce non-acute low back pain (LBP) related symptoms in the occupational health setting. METHODS: Based on a survey ($n = 2480$; response rate 71%) on LBP, we selected a cohort of 193 employees who reported moderate LBP (Visual Analogue Scale VAS > 34 mm) and fulfilled at least one of the following criteria during the past 12 months: sciatica, recurrence of LBP ≥ 2 times, LBP ≥ 2 weeks, or previous sickness absence. A random sample was extracted from the cohort as a control group (Control, $n = 50$), representing the natural course of LBP. The remaining 143 employees were invited to participate in a randomised controlled trial (RCT) of three 1:1:1 allocated parallel intervention arms: multidisciplinary rehabilitation (Rehab, $n = 43$); progressive exercises (Physio, $n = 43$) and self-care advice (Advice, $n = 40$). Seventeen employees declined participation in the intervention. The primary outcome measures were physical impairment (PHI), LBP intensity (Visual Analogue Scale), health related quality of life (QoL), and accumulated sickness absence days. We imputed missing values with multiple imputation procedure. We assessed all comparisons between the intervention groups and the Control group by analysing questionnaire outcomes at 2 years with ANOVA and sickness absence at 4 years by using negative binomial model with a logarithmic link function. RESULTS: Mean differences between the Rehab and Control groups were - 3 [95% CI -5 to - 1] for PHI, - 13 [- 24 to - 1] for pain intensity, and 0.06 [0.00 to 0.12] for QoL. Mean differences between the Physio and Control groups were - 3 [95% CI -5 to - 1] for PHI, - 13 [- 29 to 2] for pain intensity, and 0.07 [0.01 to 0.13] for QoL. The main effects sizes were from 0.4 to 0.6. The interventions were not effective in reducing sickness absence. CONCLUSIONS: Rehab and Physio interventions improved health related quality of life, decreased low back pain and physical impairment in non-acute, moderate LBP, but we found no differences between the Advice and Control group results. No effectiveness on sickness absence was observed. TRIAL REGISTRATION: Number NCT00908102 Clinicaltrials.gov

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