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October 8, 2021

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***Biswas A, Begum M, Van Eerd D, Johnston H, Smith PM, and Gignac MAM. Integrating safety and health promotion in workplaces: a scoping review of facilitators, barriers, and recommendations. Health Promotion Practice. 2021; [epub ahead of print].**

<https://doi.org/10.1177/15248399211028154>

Abstract: BACKGROUND: Growing evidence supports the integration and coordination of occupational health and safety and workplace health promotion activities instead of these coexisting as siloed efforts. Identifying implementation challenges and how these can be overcome is an important step to achieving truly integrated worker health efforts. We conducted a scoping review to identify the barriers and facilitators to integrated worker health approaches and described recommendations for implementing these efforts. METHOD: Peer-reviewed articles and gray literature from 2008 to 2019 were searched from the following electronic databases: EMBASE, Ovid Medline, PsycINFO, and ABI/INFORM. References from relevant articles and key informant suggestions also were collected. Data were extracted from documents if they focused on the occupational



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health and safety and health promotion of workers and described outcomes associated with integrated worker health approaches or outlined considerations relevant to the implementation of these approaches. RESULTS: Fifty-one documents met the inclusion criteria and were reviewed. Barriers and facilitators to implementing integrated worker health approaches were found at the extraorganizational, organizational, worker, and program levels, with limited resource availability the most reported barrier and support from leadership the most reported facilitator. Ten broad recommendations were identified and highlighted gaining leadership support, demonstrating leadership commitment, developing worker-centric approaches, and building capacity for workers. CONCLUSION: In reviewing the literature, we found clear and consistent recommendations relevant for integrated worker health approaches. Further research is needed to better understand how these recommendations apply to diverse workforces and organizations with varied resources

***Busse JW, Pallapothu S, Vinh B, Lee V, Abril L, Canga A, et al. Attitudes towards chiropractic: a repeated cross-sectional survey of Canadian family physicians. BMC Family Practice. 2021; 22(1):188.**

<https://doi.org/10.1186/s12875-021-01535-4> [open access]

Abstract: Background: Many primary care patients receive both medical and chiropractic care; however, interprofessional relations between physicians and chiropractors are often suboptimal which may adversely affect care of shared patients. We surveyed Canadian family physicians in 2010 to explore their attitudes towards chiropractic and re-administered the same survey a decade later to explore for changes in attitudes. Methods: A 50-item survey administered to a random sample of Canadian family physicians in 2010, and again in 2019, that inquired about demographic variables, knowledge and use of chiropractic. Imbedded in our survey was a 20-item chiropractic attitude questionnaire (CAQ); scores could range from 0 to 80 with higher scores indicating more positive attitudes toward chiropractic. We constructed a multivariable regression model to explore factors associated with CAQ scores. Results: Among eligible physicians, 251 of 685 in 2010 (37% response rate) and 162 of 2429 in 2019 (7% response rate) provided a completed survey.



Approximately half of respondents (48%) endorsed a positive impression of chiropractic, 27% were uncertain, and 25% held negative views. Most respondents (72%) referred at least some patients for chiropractic care, mainly due to patient request or lack of response to medical care. Most physicians believed that chiropractors provide effective therapy for some musculoskeletal complaints (84%) and disagreed that chiropractic care was beneficial for non-musculoskeletal conditions (77%). The majority agreed that chiropractic care was a useful supplement to conventional care (65%) but most respondents (59%) also indicated that practice diversity among chiropractors presented a barrier to interprofessional collaboration. In our adjusted regression model, attitudes towards chiropractic showed trivial improvement from 2010 to 2019 (0.31 points on the 80-point CAQ; 95%CI 0.001 to 0.62). More negative attitudes were associated with older age (- 1.55 points for each 10-year increment from age 28; 95%CI - 2.67 to - 0.44), belief that adverse events are common with chiropractic care (- 1.41 points; 95% CI - 2.59 to - 0.23) and reported use of the research literature (- 6.04 points; 95% CI - 8.47 to - 3.61) or medical school (- 5.03 points; 95% CI - 7.89 to - 2.18) as sources of knowledge on chiropractic. More positive attitudes were associated with endorsing a relationship with a specific chiropractor (5.24 points; 95% CI 2.85 to 7.64), family and friends (4.06 points; 95% CI 1.53 to 6.60), or personal treatment experience (4.63 points; 95% CI 2.14 to 7.11) as sources of information regarding chiropractic. Conclusions: Although generally positive, Canadian family physicians' attitudes towards chiropractic are diverse, and most physicians felt that practice diversity among chiropractors was a barrier to interprofessional collaboration.

***Maxwell LJ, Beaton DE, Boers M, D'Agostino MA, Conaghan PG, Grosskleg S, et al. The evolution of instrument selection for inclusion in core outcome sets at OMERACT: Filter 2.2. Seminars in Arthritis and Rheumatism. 2021; [epub ahead of print].**

<https://doi.org/10.1016/j.semarthrit.2021.08.011>

Abstract: INTRODUCTION: OMERACT uses an evidence-based framework known as the 'OMERACT Filter Instrument Selection Algorithm' (OFISA) to guide decisions in the assessment of outcome measurement instruments for inclusion in a core outcome set for



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interventional and observational clinical trials. **METHODS:** A group of OMERACT imaging and patient-centered outcome methodologists worked with imaging outcome groups to facilitate the selection of imaging outcome measurement instruments using the OFISA approach. The lessons learned from this work influenced the evolution to Filter 2.2 and necessitated changes to OMERACT's documentation and processes. **RESULTS:** OMERACT has revised documentation and processes to incorporate the evolution of instrument selection to Filter 2.2. These revisions include creation of a template for detailed definitions of the target domain which is a necessary first step for instrument selection, modifications to the Summary of Measurement Properties (SOMP) table to account for sources of variability, and development of standardized reporting tables for each measurement property. **CONCLUSIONS:** OMERACT Filter 2.2 represents additional modifications of the OMERACT guide for working groups in their rigorous assessment of measurement properties of instruments of various types, including imaging outcome measurement instruments. Enhanced reporting aims to increase the transparency of the evidence base leading to judgements for the endorsement of instruments in core outcome sets

Aronsson G, Marklund S, Leineweber C, and Helgesson M. The changing nature of work: job strain, job support and sickness absence among care workers and in other occupations in Sweden 1991-2013. SSM - Population Health. 2021; 15:100893. <https://doi.org/10.1016/j.ssmph.2021.100893> [open access]

Abstract: This study examined exposure changes in three psychosocial dimensions - job demands, job control, and social support - and the associations between these dimensions and sickness absence throughout the period 1991-2013. The analyses covered periods of economic ups and downs in Sweden and periods involving major fluctuations in sickness absence. Data on care workers (n=16,179) and a comparison group of employees in other occupations (n=82,070) were derived from the biennial Swedish Work Environment Survey and linked to register data on sickness absence. Eight exposure profiles, based on combinations of demands, control, and support, were formed. The proportion of individuals with work profiles involving high demands doubled among care workers (14%-29%) while increasing modestly in the comparison group (17%-21%)



1991-2013. The work profile that isolated high-strain (iso-strain), i.e., high demands, low control, and low social support, was more prevalent among care workers, from 4% in 1991 to 11% in 2013. Individuals with work profiles involving high-demand jobs had the highest number of days on sickness absence during the study period and those with the iso-strain work profile had the highest increase in sickness absence, from 15 days per year during 1993-1994, to 42 days during 2000-2002. Employees with a passive work profile (low job demands and low job control) had the lowest rate and the lowest increase in sickness absence. Individuals with active work profiles, where high demands are supposed to be balanced by high job control, had a rather high increase in sickness days around 2000. A conclusion is that there is a long-term trend towards jobs with high demands. This trend is stronger among care workers than among other occupations. These levels of job demands seem to be at such a level that it is difficult to compensate for with higher job control and social support

Bao Y, Zhang H, Wen K, Johnson P, Jeng PJ, Witkin LR, et al. Robust prescription monitoring programs and abrupt discontinuation of long-term opioid use. American Journal of Preventive Medicine. 2021; 61(4):537-544.

<https://doi.org/10.1016/j.amepre.2021.04.019>

Abstract: Introduction: This study assesses the associations between the recent implementation of robust features of state Prescription Drug Monitoring Programs and the abrupt discontinuation of long-term opioid therapies. Methods: Data were from a national commercial insurance database and included privately insured adults aged 18-64 years and Medicare Advantage enrollees aged =65 years who initiated a long-term opioid therapy episode between Quarter 2 of 2011 and Quarter 2 of 2017. State Prescription Drug Monitoring Programs were characterized as nonrobust, robust, and strongly robust. Abrupt discontinuation was measured on the basis of high daily morphine milligram equivalents over the last 30 days of a long-term opioid therapy episode or no sign of tapering before discontinuation. Difference-in-differences models were estimated in 2019-2020 to assess the association between robust Prescription Drug Monitoring Programs and abrupt discontinuation. Results: Among nonelderly privately insured adults, robust Prescription Drug



Monitoring Programs were associated with an increase from 14.8% to 15.4% (4% relative increase, $p=0.02$) in the rate of ending long-term opioid therapy with ≥ 60 daily morphine milligram equivalents. For older Medicare Advantage enrollees, strongly robust Prescription Drug Monitoring Programs were associated with a reduction from 4.8% to 4.3% (10.4%, $p=0.01$) and from 3.0% to 2.4% (17.3%, $p=0.001$) in the rate of ending long-term opioid therapy with ≥ 90 and 120 daily morphine milligram equivalents, respectively. Prescription Drug Monitoring Programs robustness was not associated with clinically meaningful changes in the rate of discontinuing long-term opioid therapy without tapering. Conclusions: Discontinuation without tapering was the norm for long-term opioid therapies in the samples throughout the study years. Findings do not support the notion that policies aimed at enhancing Prescription Drug Monitoring Program use were associated with substantial increases in abrupt long-term opioid therapy discontinuation.

Dobrescu AI, Nussbaumer-Streit B, Klerings I, Wagner G, Persad E, Sommer I, et al. Restricting evidence syntheses of interventions to English-language publications is a viable methodological shortcut for most medical topics: a systematic review. Journal of Clinical Epidemiology. 2021; 137:209-217.

<https://doi.org/10.1016/j.jclinepi.2021.04.012> [open access]

Abstract: OBJECTIVES: To assess the impact of restricting systematic reviews of conventional or alternative medical treatments or diagnostic tests to English-language publications. STUDY DESIGN AND SETTING: We systematically searched MEDLINE (Ovid), the Science Citation Index Expanded (Web of Science), and Current Contents Connect (Web of Science) up to April 24, 2020. Eligible methods studies assessed the impact of restricting systematic reviews to English-language publications on effect estimates and conclusions. Two reviewers independently screened the literature; one investigator performed the data extraction, a second investigator checked for completeness and accuracy. We synthesized the findings narratively. RESULTS: Eight methods studies (10 publications) met the inclusion criteria; none addressed language restrictions in diagnostic test accuracy reviews. The included studies analyzed nine to 147 meta-analyses and/or systematic reviews. The proportions of non-English-language publications ranged from 2% to 100%. Based



on five methods studies, restricting literature searches or inclusion criteria to English-language publications led to a change in statistical significance in 23/259 meta-analyses (9%). Most commonly, the statistical significance was lost, but had no impact on the conclusions of systematic reviews. CONCLUSION: Restricting systematic reviews to English-language publications appears to have little impact on the effect estimates and conclusions of systematic reviews

Donnelly R and Schoenbachler A. Part-time work and health in the United States: the role of state policies. SSM - Population Health. 2021; 15:100891.

<https://doi.org/10.1016/j.ssmph.2021.100891> [open access]

Abstract: Part-time work is a common work arrangement in the United States that can be precarious, insecure, and lacking opportunities for advancement. In turn, part-time work, especially involuntary part-time work, tends to be associated with worse health outcomes. Although prior research documents heterogeneity in the health consequences of precarious work across countries, we do not know whether state-level institutional contexts shape the association between part-time work and self-rated health in the United States. Using data from the Current Population Survey (2009-2019; n = 813,077), the present study examined whether linkages between part-time work and self-rated health are moderated by state-level social policies and contexts. At the population level, we document differences in the prevalence of fair/poor health among part-time workers across states. For instance, 21% of involuntary part-time workers reported fair/poor health in West Virginia compared to 7% of involuntary part-time workers in Massachusetts. Findings also provide evidence that voluntary ($\beta = .51$) and involuntary ($\beta = .57$) part-time work is associated with greater odds of fair/poor health among individuals. Moreover, the association between voluntary part-time work and self-rated health is weaker for individuals living in states with higher amounts for maximum unemployment insurance, higher minimum wage, and lower income inequality. State-level policies did not moderate the association between involuntary part-time work and health. The present study points to the need to mitigate the health consequences of part-time work with social policies that enhance the health of workers.



Fukumura YE, Schott JM, Lucas GM, Becerik-Gerber B, and Roll SC. Negotiating time and space when working from home: experiences during COVID-19. OTJR. 2021; 41(4):223-231.

<https://doi.org/10.1177/15394492211033830>

Abstract: Stay-at-home mandates following the COVID-19 pandemic increased work from home (WFH). While WFH offers many benefits, navigating work in nontraditional contexts can be a challenge. The objective of this study was to explore the benefits and challenges of WFH during COVID-19 to identify supports and resources necessary. Comments from two free-response questions on a survey regarding experiences of WFH (N = 648, N = 366) were analyzed using inductive qualitative content analysis. Four themes emerged: time use, considerations of working in the home space, intersections between work-life and home-life, and temporality of WFH as situated within a pandemic. Across all themes were concerns related to participation in both work and home roles, work performance, and well-being. Findings highlight the importance of support during times of disruption of occupational patterns, roles, and routines. Despite challenges, many individuals hoped to continue WFH. Organizations should consider the complex intersections of work-life and home-life to develop supportive policies and resources

Fyhn T, Sveinsdottir V, Reme SE, and Sandal GM. A mixed methods study of employers' and employees' evaluations of job seekers with a mental illness, disability, or of a cultural minority. Work. 2021; 70(1):235-245.

<https://doi.org/10.3233/WOR-213568>

Abstract: Background: Groups in society that are under-represented in the workforce encounter various barriers in the job-seeking process. Some of these barriers are found on the employer's side of the table. Objective: This study investigates supervisors' and employees' assessments of job seekers with different forms of disabilities, health issues, or with a minority background. It also investigates respondents' previous experience with such colleagues, and whether supervisor status affects their assessments. Methods: A survey was distributed among supervisors (n = 305) and employees (n = 925) using a vignette design with ten characters, inquiring about willingness to include such an employee in their work group. The vignettes described job seekers with either a mental illness, a



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physical disability or a cultural minority. Risk ratio (RR) was calculated for being assessed positively, using a vignette character describing a single mother as reference. Results: Vignette characters describing mental health issues and physical disabilities were less likely to be assessed positively than the reference case, except for the vignette describing audio impairment. Cultural minorities were assessed as positive, or more positively than the reference case. Supervisors and employees generally agreed in their assessments of vignette characters, and previous experience was consistently associated with a more positive assessment of the character in question. Various barriers to include the least favoured vignette characters were identified. Conclusions: Although some findings are promising with regard to increasing work participation for underrepresented groups, barriers pertaining to some of the vignette characters should be addressed in vocational rehabilitation efforts, as well as in organizations seeking to enhance equal opportunities and diversity

Hayward A, Wodtke L, Craft A, Robin T, Smylie J, McConkey S, et al. Addressing the need for indigenous and decolonized quantitative research methods in Canada. SSM - Population Health. 2021; 15:100899.

<https://doi.org/10.1016/j.ssmph.2021.100899> [open access]

Abstract: Though qualitative methods are often an appropriate Indigenous methodology and have dominated the literature on Indigenous research methods, they are not the only methods available for health research. There is a need for decolonizing and Indigenizing quantitative research methods, particularly in the discipline of epidemiology, to better address the public health needs of Indigenous populations who continue to face health inequities because of colonial systems, as well as inaccurate and incomplete data collection about themselves. For the last two decades, researchers in colonized countries have been calling for a specifically Indigenous approach to epidemiology that recognizes the limits of Western epidemiological methods, incorporates more Indigenous research methodologies and community-based participatory research methods, builds capacity by training more Indigenous epidemiologists, and supports Indigenous self-determination. Indigenous epidemiology can include a variety of approaches,



including: shifting standards, such as age standardization, according to Indigenous populations to give appropriate weight to their experiences; carefully setting recruitment targets and using appropriate recruitment methods to fulfill statistical standards for stratification; acting as a bridge between Indigenous and Western technoscientific perspectives; developing culturally appropriate data collection tools; and developing distinct epidemiological methods based on Indigenous knowledge systems. This paper explores how decolonization and Indigenization of epidemiology has been operationalized in recent Canadian studies and projects, including the First Nations Regional Longitudinal Health Survey and how this decolonization and Indigenization might be augmented with the capacity-building of the future Our Health Counts Applied Indigenous Epidemiology, Health Information, and Health Services and Program Evaluation Training and Mentorship Program in Canada

Jonsson J, Muntaner C, Bodin T, Alderling M, Rebeka R, Burstrom B, et al. Low-quality employment trajectories and risk of common mental disorders, substance use disorders and suicide attempt: a longitudinal study of the Swedish workforce. Scandinavian Journal of Work, Environment & Health. 2021; 47(7):509-520.

<https://doi.org/10.5271/sjweh.3978> [open access]

Abstract: OBJECTIVE: High-quality longitudinal evidence exploring the mental health risk associated with low-quality employment trajectories is scarce. We therefore aimed to investigate the risk of being diagnosed with common mental disorders, substance use disorders, or suicide attempt according to low-quality employment trajectories. METHODS: A longitudinal register-study based on the working population of Sweden (N=2 743 764). Employment trajectories (2005-2009) characterized by employment quality and pattern (constancy, fluctuation, mobility) were created. Hazard ratios (HR) were estimated using Cox proportional hazards regression models for first incidence (2010-2017) diagnosis of common mental disorders, substance use disorders and suicide attempt as dependent on employment trajectories. RESULTS: We identified 21 employment trajectories, 10 of which were low quality (21%). With the exception of constant solo self-employment, there was an increased risk of common mental disorders (HR 1.07-1.62) and substance use



disorders (HR 1.05-2.19) for all low-quality trajectories. Constant solo self-employment increased the risk for substance use disorders among women, while it reduced the risk of both disorders for men. Half of the low-quality trajectories were associated with a risk increase of suicide attempt (HR 1.08-1.76). **CONCLUSIONS:** Low-quality employment trajectories represent risk factors for mental disorders and suicide attempt in Sweden, and there might be differential effects according to sex - especially in terms of self-employment. Policies ensuring and maintaining high-quality employment characteristics over time are imperative. Similar prospective studies are needed, also in other contexts, which cover the effects of the Covid-19 pandemic as well as the mechanisms linking employment trajectories with mental health

Lancman S, Barros JO, Jardim TA, Brunoro CM, Sznclwar LI, and da Silva TNR. Organisational and relational factors that influence return to work and job retention: the contribution of activity ergonomics. *Work*. 2021; 70(1):311-319.

<https://doi.org/10.3233/WOR-213575>

Abstract: **BACKGROUND:** Work is a determinant of employee health, and the same conditions that contribute to an illness do not favour return to work; consequently, they hinder job retention, other employees can become ill and new leaves are generated.

OBJECTIVE: To analyse the nursing technicians work in intensive and semi-intensive care units (ICUs and SICUs) and discuss the influence of organisational and relational factors on return to work and job retention. This study also discusses the contributions of activity ergonomics to these processes. **METHOD:** Qualitative case study based on ergonomic work analysis (EWA). Data were collected using documentary analyses, and global, systematic, and participant observations involving nursing technicians working in ICUs and SICUs. **RESULTS:** Task planning and the staff size adjustment to respond to the work demands of these units were ineffective in real-world situations and were aggravated by cases of absenteeism, medical leave, and employees returning to work. **CONCLUSIONS:** Work structure limits return to work and job retention. An EWA based on the activities developed by professionals is a valid tool for understanding working processes by applying transforming actions to real-world work situations



Mulaney B, Bromley-Dulfano R, McShane EK, Stepanek M, and Singer SJ. Descriptive study of employee engagement with workplace wellness interventions in the UK. Journal of Occupational & Environmental Medicine. 2021; 63(9):719-730. <https://doi.org/10.1097/JOM.0000000000002219>

Abstract: OBJECTIVE: To explore sequential steps of employee engagement in wellness interventions and the impact of wellness interventions on employee health. METHODS: Using previously collected survey data from 23,667 UK employees, we tabulated intervention availability, awareness, participation, and associated health improvement and compared engagement by participation and risk status. RESULTS: Employees' awareness of wellness interventions at their workplaces was often low (mean 43.3%, range 11.6%-82.3%). Participation was highest in diet/nutrition initiatives (94.2%) and lowest in alcohol counseling and smoking cessation interventions (2.1%). Employees with health risks were less likely than lower-risk employees to report awareness, participation, and health improvements from wellness interventions addressing the relevant health concern. CONCLUSION: Employers and policymakers should consider variation in intervention engagement as they plan and implement wellness interventions. Engaging employee populations with higher health risks requires a more targeted approach

Newlands R, Duncan E, Presseau J, Treweek S, Lawrie L, Bower P, et al. Why trials lose participants: a multitrial investigation of participants' perspectives using the theoretical domains framework. Journal of Clinical Epidemiology. 2021; 137:1-13. <https://doi.org/10.1016/j.jclinepi.2021.03.007>

Abstract: Objectives: To use the Theoretical Domains Framework (TDF) to identify barriers and enablers to participant retention in trials requiring questionnaire return and/or attendance at follow-up clinics. Study design and setting: We invited participants (n = 607) from five pragmatic effectiveness trials, who missed at least one follow-up time point (by not returning a questionnaire and/or not attending a clinic visit), to take part in semistructured telephone interviews. The TDF informed both data collection and analysis. To establish what barriers and enablers most likely influence the target behavior the domain relevance threshold was set at >75% of participants mentioning the



domain. Results: Sixteen participants (out of 25 showing interest) were interviewed. Overall, seven theoretical domains were identified as both barriers and enablers to the target behaviors of attending clinic appointments and returning postal questionnaires. Barriers frequently reported in relation to both target behaviours stemmed from participants' knowledge, beliefs about their capabilities and the consequences of performing (or not performing) the behavior. Two domains were identified as salient for questionnaire return only: goals; and memory, attention and decision-making. Emotion was identified as relevant for clinic attendance only. Conclusion: This is the first study informed by behavioural science to explore trial participants' accounts of trial retention. Findings will serve as a guiding framework when designing trials to limit barriers and enhance enablers of retention within clinical trials.

Okoro CA, Strine TW, McKnight-Eily L, Verlenden J, and Hollis ND. Indicators of poor mental health and stressors during the COVID-19 pandemic, by disability status: a cross-sectional analysis. Disability and Health Journal. 2021; 14(4):101110. <https://doi.org/10.1016/j.dhjo.2021.101110> [open access]

Abstract: Background: Evidence from previous public health emergencies indicates that adults with disabilities have higher risk for morbidity (physical and mental) and mortality than adults without disabilities. Objective: To provide estimates of mental health indicators and stressors for US adults by disability status during April and May 2020, shortly following the emergence of the COVID-19 pandemic. Methods: We analyzed data from Porter Novelli View 360 opt-in Internet panel survey conducted during the weeks of April 20th and May 18th, 2020 among 1004 English-speaking adults aged ≥ 18 years without and with disabilities (serious difficulty with hearing, vision, cognition, or mobility; any difficulty with self-care or independent living). Weighted logistic regression was used to test for significant differences between calculated prevalence estimates at the $P = .05$ level. Results: One in four adults reported any disability. Adults with any disability were significantly more likely than adults without disability to report current depressive symptoms, frequent mental distress, suicidal ideation, and COVID-19-related initiated or increased substance use (all p values $< .0001$). Adults with disabilities also reported significantly higher levels of stressors, such



as access to health care services ($p < .0001$), difficulty caring for their own (or another's) chronic condition ($p < .0001$), emotional or physical abuse from others ($p < .001$), and not having enough food ($p < .01$). Conclusions: The disproportionately high levels of poor mental health indicators among adults with disabilities as compared to those without highlight the importance of delivering timely mental health screening and treatment/intervention during and after the COVID-19 pandemic to persons with disabilities.

Piton C and Rycx F. A broken social elevator? Employment outcomes of first- and second-generation immigrants in Belgium. De Economist. 2021; 169(3):319-365.

<https://doi.org/10.1007/s10645-021-09385-2>

Sas M, Reniers G, Ponnet K, and Hardyns W. The impact of training sessions on physical security awareness: measuring employees' knowledge, attitude and self-reported behaviour. Safety Science. 2021; 144:105447.

<https://doi.org/10.1016/j.ssci.2021.105447>

Trillo Cabello A, Martinez-Rojas M, Carrillo-Castrillo JA, and Rubio-Romero JC. Occupational accident analysis according to professionals of different construction phases using association rules. Safety Science. 2021; 144:105457.

<https://doi.org/10.1016/j.ssci.2021.105457>

Zeng X, MacLeod J, Berriault C, DeBono NL, Arrandale VH, Harris AM, et al. Aluminum dust exposure and risk of neurodegenerative diseases in a cohort of male miners in Ontario, Canada. Scandinavian Journal of Work, Environment & Health. 2021; 47(7):531-539.

<https://doi.org/10.5271/sjweh.3974> [open access]

Abstract: OBJECTIVES: We estimated associations between respirable aluminum exposure through McIntyre Powder (MP), a fine-sized aluminum and aluminum compound powder, and neurological disease in a retrospective cohort of mining workers from Ontario, Canada. Outcomes included Alzheimer's disease, Alzheimer's with other dementias, Parkinson's disease, parkinsonism, and motor neuron disease. METHODS: The cohort was created by linking a database of mining workers' work history to healthcare records. This



analysis included 36 826 male miners potentially exposed to MP between 1943 and 1979, followed up for disease diagnosis between 1992 and 2018. Exposure was assessed using two approaches, self-reported and historical records. Neurological diseases were ascertained using physician billing and hospital discharge records. Poisson regression models were used to estimate associations between MP exposure and neurological outcomes using incidence rate ratios (RR) and 95% confidence intervals (95% CI). RESULTS: Exposure to self-reported MP was associated with an elevated incidence rate of Parkinson's disease (RR 1.34, 95% CI 1.14-1.57). The rate of Parkinson's disease appeared to increase with the duration of exposure assessed by historical records. Having ever been exposed to MP was positively associated with an elevated rate of Alzheimer's with other dementias (RR 1.12, 95% CI 1.06-1.19) but not Alzheimer's disease alone. CONCLUSION: This study found that miners who were exposed to MP (respirable aluminum) had elevated rates of Parkinson's disease. The rate of Parkinson's disease appeared to increase with the duration of exposure assessed by historical records

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