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*Furlan AD, Kajaks T, Tiong M, Lavalliere M, Campos JL, Babineau J, et al. Advanced vehicle technologies and road safety: a scoping review of the evidence. Accident Analysis & Prevention. 2020; 147:105741.

https://doi.org/10.1016/j.aap.2020.105741

Abstract: The proliferation of Advanced Vehicle Technologies (AVTs) has generated both excitement and concern among researchers, policymakers, and the general public. An increasing number of driver assistance systems are already available in today's automobiles; many of which are expected to become standard. Therefore, synthesizing the available evidence specific to the safety of AVTs is critical. The goal of this scoping review was to summarize this evidence with a focus on AVTs that require some driver oversight (i.e., Levels 0-3 as per the Society of Automotive Engineers (SAE) levels of automation taxonomy). A scoping review of research literature on AVTs was conducted for studies up to March 2018. Inclusion criteria consisted of: any study with empirical data of AVTs that included male and female drivers aged 16 years and older, healthy people (i.e., without impairments), passenger vehicles, driving simulators and/or large databases with road safety information that



could be analyzed for the purpose of examining AVTs (SAE Levels 0-3), as well as measures of driving outcomes. A total of 324 peerreviewed studies from 25 countries met the inclusion criteria for this review with over half published in the last 5 years. Data was extracted and summarized according to the following categories: measures used to evaluate the effect of AVTs on road safety (objective) and driver perceptions of the technology (subjective), testing environment, and study populations (i.e., driver age). The most commonly reported objective measures were longitudinal control (50 %), reaction time (40 %), and lateral position (23 %). The most common subjective measures were perceptions of trust (27 %), workload (20 %), and satisfaction (17%). While most studies investigated singular AVTs (237 of 324 studies), the number of studies after 2013 that examined 2 or more AVTs concurrently increased. Studies involved drivers from different age groups (51 %) and were conducted in driving simulators (70 %). Overall, the evidence is generally in favour of AVTs having a positive effect on driving safety, although the nature and design of studies varied widely. Our examination of this evidence highlights the opportunities as well as the challenges involved with investigating AVTs. Ensuring such technologies are congruent with the needs of drivers, particularly younger and older driver age groups, who are known to have a higher crash risk, is critical. With automotive manufacturers keen to adopt the latest AVTs, this scoping review highlights how testing of this technology has been undertaken, with a focus on how new research can be conducted to improve road safety now and in the future

*Jetha A, Theis KA, Boring MA, Murphy LB, and Guglielmo D. Depressive symptoms and the arthritis-employment interface. A population-level study. Arthritis Care and Research. 2020; [epub ahead of print].

https://doi.org/10.1002/acr.24381

Abstract: OBJECTIVES: To examine the relationship between depressive symptoms, arthritis, and employment participation. To determine if this relationship differs across young, middle, and older working-age adults with arthritis. METHODS: Data from the US National Health Interview Survey, years 2013-2017, were analyzed. Analyses were restricted to those with doctor-diagnosed arthritis of working age (18-64 years) with complete data on depressive



symptoms (n=11,380). Covariates were sociodemographic, health, and health system use variables. Employment prevalence was compared by self-reported depressive symptoms. We estimated percentages, univariable, and multivariable logistic regression models to examine the relationship between depression and employment among young (18-34 years), middle (35-54 years), and older adults (55-64 years). RESULTS: Among all working-age US adults with arthritis, prevalence of depressive symptoms was 13%. Those reporting depressive symptoms had higher prevalence of fair/poor health (60%) and arthritis-attributable activity limitations (70%) compared with those not reporting depression (23% and 39%, respectively). Respondents with depressive symptoms reported significantly lower employment prevalence (30%) when compared with those not reporting depressive symptoms (66%) and lower multivariable-adjusted association with employment (PR=0.88, 95%) CI [confidence interval] 0.83-0.93). Middle-age adults reporting depression were significantly less likely to be employed compared with their counterparts without depression (PR=0.83, 95% CI 0.77-0.90); similar but borderline statistically significant relationships were observed for both younger (PR=0.86, 95% CI 0.74-0.99) and older adults (PR=0.94. 95% CI 0.86-1.03). CONCLUSION: For adults with arthritis, depressive symptoms are associated with not participating in employment. Strategies to reduce arthritis-related work disability may be more effective if they simultaneously address mental health

*Shahidi FV, Parnia A, and Siddiqi A. Trends in socioeconomic inequalities in premature and avoidable mortality in Canada, 1991-2016. CMAJ. 2020; 192(39):E1114-E1128.

https://doi.org/10.1503/cmaj.191723 [open access] Abstract: BACKGROUND: Recent epidemiologic findings suggest that socioeconomic inequalities in health may be widening over time. We examined trends in socioeconomic inequalities in premature and avoidable mortality in Canada. METHODS: We conducted a population-based repeated cohort study using the 1991, 1996, 2001, 2006 and 2011 Canadian Census Health and Environment Cohorts. We linked individual-level Census records for adults aged 25-74 years to register-based mortality data. We defined premature mortality as death before age 75 years. For each census cohort, we estimated age-standardized rates, risk differences and risk ratios for

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premature and avoidable mortality by level of household income and education. RESULTS: We identified 16 284 045 Census records. Between 1991 and 2016, premature mortality rates declined in all socioeconomic groups except for women without a high school diploma. Absolute income-related inequalities narrowed among men (from 2478 to 1915 deaths per 100 000) and widened among women (from 1008 to 1085 deaths per 100 000). Absolute education-related inequalities widened among men and women. Relative socioeconomic inequalities in premature mortality widened progressively over the study period. For example, the relative risk of premature mortality associated with the lowest income quintile increased from 2.10 (95% confidence interval [CI] 2.02-2.17) to 2.79 (95% CI 2.66-2.91) among men and from 1.72 (95% CI 1.63- 1.81) to 2.50 (95% CI 2.36-2.64) among women. Similar overall trends were observed for avoidable mortality. INTERPRETATION: Socioeconomically disadvantaged groups have not benefited equally from recent declines in premature and avoidable mortality in Canada. Efforts to reduce socioeconomic inequalities and associated patterns of disadvantage are necessary to prevent this pattern of widening health inequalities from persisting or worsening over time

Andersen MO, Ernst C, Rasmussen J, Ankjar T, and Carreon LY. Predictive factors of successful return to work following discectomy. Global Spine Journal. 2020; [epub ahead of print]. https://doi.org/10.1177/2192568220960399

Abstract: STUDY DESIGN: Retrospective analysis of prospectively collected data. OBJECTIVE: To identify modifiable factors associated with successful return to work 12 weeks following discectomy. Lumbar disc herniation is a common cause of sciatica and sick leave. This presents an economic burden to the individual and the society. METHODS: Data from DaneSpine on a consecutive cohort of patients operated due to lumbar disc herniation during a 3-year period was identified and merged with data from the Ministry of Employment's register on public welfare payments. Data on welfare payments 2 years prior to the date of operation and 1 year postoperative was included. Patients were considered to be on sick leave if they received welfare payments for the week. Patients are considered to have returned to work if they did not receive public welfare payments for a 4-week period. RESULTS: Of 1134 patients



meeting inclusion criteria, 98.5% had complete preoperative surgical data available. Postoperatively, 79.1% of the patients returned to the work within 12 weeks. Physically demanding jobs, low preoperative EQ5D score, and long duration of sick leave prior to surgery were associated negatively with return to work at 12 weeks. CONCLUSION: The results of this study indicate that patients who have a longer duration of sick leave have a physically demanding job and are in a poor health are more likely not to return to work by 12 weeks after surgery for lumbar disc herniation. Future studies are needed to determine if earlier referral to a surgeon leads to an earlier return to work

Arefi MF and Poursadeqiyan M. A review of studies on the COVID-19 epidemic crisis disease with a preventive approach. Work. 2020; 66(4):717-729.

https://doi.org/10.3233/WOR-203218

Abstract: BACKGROUND: COVID-19 is a highly contagious acute respiratory syndrome and has been declared a pandemic in more than 209 countries worldwide. At the time of writing, no preventive vaccine has been developed and tested in the community. This study was conducted to review studies aimed at preventing the spread of the coronavirus worldwide. METHODS: This study was a review of the evidence-based literature and was conducted by searching databases, including Google Scholar, PubMed, and ScienceDirect, until April 2020. The search was performed based on keywords including "coronavirus", "COVID-19", and "prevention". The list of references in the final studies has also been re-reviewed to find articles that might not have been obtained through the search. The guidelines published by trustworthy organizations such as the World Health Organization and Center for Disease Control have been used in this study. CONCLUSION: So far, no vaccine or definitive treatment for COVID-19 has been invented, and the disease has become a pandemic. Therefore, observation of hand hygiene, disinfection of high-touch surfaces, observation of social distance, and lack of presence in public places are recommended as preventive measures. Moreover, to control the situation and to reduce the incidence of the virus, some of the measures taken by the decision-making bodies and the guidelines of the deterrent institutions to strengthen telecommuting of employees and reduce the



presence of people in the community and prevent unnecessary activities, are very important

Chetty L. Health-related quality of life and cost-utility analysis of employees with musculoskeletal disorders receiving vocational physiotherapy. Workplace Health & Safety. 2020; 68(10):476-479. https://doi.org/10.1177/2165079920935842

Abstract: Background: The purpose of this project was to evaluate both health-related quality of life (HRQoL) and cost-utility associated with care for employees with musculoskeletal disorders who received vocational physiotherapy at a North London National Health Service (NHS) Foundation Trust in the United Kingdom. Methods: A pre- and post-physiotherapy EuroQol 5 Dimension (EQ-5D) questionnaire was administered to employees presenting to the vocational physiotherapy service (VPS) with musculoskeletal disorders. The cost-utility analysis of the physiotherapy service was calculated using cost data provided by VPS billing information and benefits measured using Quality-Adjusted Life Years (QALYs). Findings: Overall, there was a significant improvement in the EQ-5D index from baseline to discharge in all HRQoL domains. The visual analog scale (VAS) improved from a mean of 31.5 (SD = 18.3) at baseline to 73.2 (SD = 18.5) at discharge. A cost-utility analysis indicated that the VPS would continue to be cost-effective until the cost per employee increased by 82.5%. Conclusion/Application to Practice: The project supports integration of vocational physiotherapy services into an occupational health department

Hulsegge G, van Mechelen W, Proper KI, Paagman H, and Anema JR. Shift work, and burnout and distress among 7798 blue-collar workers. International Archives of Occupational & Environmental Health. 2020; 93(8):955-963.

https://doi.org/10.1007/s00420-020-01536-3

Abstract: Objective: This study aimed to investigate the association between shift work, and burnout and distress, and differences by degree of satisfaction with shift schedule and its impact on private life. Methods: Population 4275 non-shift factory workers and 3523 rotating 5-shift workers. Workers participated between 2009 and 2016 one to three times in the companies' periodical occupational health checks. Burnout was measured using the distance, exhaustion and

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competence subscales of the Dutch Maslach Burnout Inventory and distress by the subscale of the Four-Dimensional Symptom Questionnaire (scale: 0-100). Multiple-adjusted linear mixed models were used to assess between- and within-subject associations between shift work and outcomes, and differences by age, years of shift work, and satisfaction with and impact of shift schedule. Results: Shift work was significantly associated with lower scores on burnout distance (B - 1.0, 95% - 1.8 to 0.3), and among those aged < 48 years with burnout exhaustion (range B - 1.3 to - 1.6). However, the effect sizes were small. Compared to non-shift workers, shift workers dissatisfied with their schedule and those experiencing a high impact on private life had significantly higher burnout (range B 1.7-6.3) and distress levels (range B 4.9-6.1). In contrast, satisfied shift workers and those experiencing a low impact of shift schedule had lower burnout (range B - 0.2 to - 2.2) and no difference in distress levels (P = 0.05). No clear pattern by years of shift work was observed. Conclusions: Shift work was associated with burnout and distress in those who were dissatisfied with or who had perceived high impact on the private life of their shift schedule.

Khayatzadeh-Mahani A, Wittevrongel K, Nicholas DB, and Zwicker JD. Prioritizing barriers and solutions to improve employment for persons with developmental disabilities. Disability and Rehabilitation. 2020; 42(19):2696-2706. https://doi.org/10.1080/09638288.2019.1570356

Abstract: Purpose: Persons with a developmental disability have the lowest rate of labour force participation relative to other disabilities. The widening gap between the labour force participation of persons with versus without disability has been an enduring concern for many governments across the globe, which has led to policy initiatives such as labour market activation programs, welfare reforms, and equality laws. Despite these policies, persistently poor labour force participation rates for persons with developmental disabilities suggest that this population experiences pervasive barriers to participating in the labour force. Materials and methods: In this study, a two-phase qualitative research design was used to systematically identify, explore and prioritize barriers to employment for persons with developmental disabilities, potential policy solutions and criteria for evaluating future policy initiatives. Incorporating diverse stakeholder



perspectives, a Nominal Group Technique and a modified Delphi technique were used to collect and analyze data. Results: Findings indicate that barriers to employment for persons with developmental disabilities are multi-factorial and policy solutions to address these barriers require stakeholder engagement and collaboration from multiple sectors. Conclusions: Individual, environmental and societal factors all impact employment outcomes for persons with developmental disabilities. Policy and decision makers need to address barriers to employment for persons with developmental disabilities more holistically by designing policies considering employers and the workplace, persons with developmental disabilities and the broader society. Findings call for cross-sectoral collaboration using a Whole of Government approach. Implications for Rehabilitation Persons with a developmental disability face lower levels of labour force participation than any other disability group. Individual, environmental and societal factors all impact employment outcomes for persons with developmental disabilities. Decision and policy makers need to address barriers to employment for persons with developmental disabilities holistically through policies guiding employers and broader societal behaviour in addition to those aimed at the individuals (such as skill development or training). Due to multifactorial nature of barriers to employment for persons with developmental disabilities, policy solutions are wide-ranging and fall under the responsibility of multiple sectors for implementation. This calls for cross-sectoral collaboration using a "Whole of Government" approach, with shared goals and integrated responses

Lee S, Chang SR, and Suh Y. Developing concentration index of industrial and occupational accidents: the case of European countries. Safety and Health at Work. 2020; 11(3):266-274. https://doi.org/10.1016/j.shaw.2020.05.003

Abstract: BACKGROUND: From only frequency rate of industrial accidents, it is difficult to define the industry composition of accident statistics in a nation. This study aims to propose and develop a new index for measuring the degree of concentration of industrial accidents using the concept of the Herfindahl-Hirschman Index in the case of European countries. METHODS: Using the concept of the Herfindahl-Hirschman Index, the concentration index of accidents in the country is developed, and the conditions of European countries

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are compared using indexes of frequency rate and concentration ratio. RESULTS: The frequency rate and concentration ratio of fatal and nonfatal accidents in European countries are compared. According to the economic condition and geographical position, different patterns of accidents concentration are presented in terms of frequency rate and concentration ratio. CONCLUSION: We develop the concentration index of industrial and occupational accidents that identifies the industrial ratio of accident occurrence, and the differentiated strategy can be formulated such as approaches to reducing frequency and prioritizing target industries

Power N, Deschenes SS, Ferri F, and Schmitz N. The association between job strain, depressive symptoms, and cardiovascular disease risk: results from a cross-sectional population-based study in Québec, Canada. International Archives of Occupational & Environmental Health. 2020; 93(8):1013-1021. https://doi.org/10.1007/s00420-020-01550-5

Abstract: Purpose: Job strain (high psychological demands and low decision control) has been associated with cardiovascular disease (CVD). It is unclear if job strain is associated with CVD risk score independently of depression, an established risk factor for CVD. This study investigated whether there is an association between job strain and CVD risk score, when depressive symptoms are controlled for. Sex differences were examined. Methods: Data came from the CARTAGENE study, a community health survey of adults in Québec, Canada (n = 7848). Participants were working adults aged 40-69 years. CVD risk was estimated using the Framingham risk score. Job strain was measured as the ratio of job demands to control using the Job Content Questionnaire. Depressive symptoms were assessed using the Patient Health Questionnaire (PHQ-9). Regression analyses were conducted to examine the association between job strain and CVD risk score controlling for depressive symptoms. There was no interaction effect between job strain and depressive symptoms in the association with CVD risk score. Results: High job strain was reported in approximately 21% of participants, high Framingham risk score was observed in approximately 9%. Job strain was associated with the Framingham risk score (B = 0.73, p < 0.001, adjusted for age, sex, and education) and controlling for depressive symptoms did not significantly change the association (B = 0.59, p < 0.59



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0.001). Conclusion: The results suggest that the job strain is associated with CVD risk score and that this association is not explained by depressive symptoms. Similar associations were observed for males and females.

Reader TW, Gillespie A, Hald J, and Patterson M. Unobtrusive indicators of culture for organizations: a systematic review. European Journal of Work and Organizational Psychology. 2020; 29(5):633-649.

https://doi.org/10.1080/1359432X.2020.1764536

Sauve-Schenk KML, Egan MY, Dubouloz-Wilner CJ, and Kristjansson E. Influence of low income on return to participation following stroke. Disability and Rehabilitation. 2020; 42(19):2726-2734.

https://doi.org/10.1080/09638288.2019.1570355

Abstract: Purpose: Low income is known to influence participation post stroke, but the process by which this occurs is poorly understood. Methods: A qualitative multiple case study approach, focusing on the experience of returning to participation in personal projects among eight low-income francophone stroke survivors living in eastern Ontario (Canada). Data included semi-structured interviews with the stroke survivors and with their care partners, participant observations, assessment measures, and chart reviews. Results: Healthcare professionals inconsistently gave the stroke survivors needed information and assistance to access entitlements during discharge planning. Income support programs were difficult to access and once obtained, were not completely adequate to support essential necessities (food, medication) in addition to other goods and services related to valued activities. Housing was an important monthly expense that limited available monies for personal projects. Only in instances where participants were assisted with housing by informal networks were there adequate funds to pursue personal projects. Conclusion: This case study demonstrated that even in a universal healthcare system, post-stroke participation for those with low incomes was severely restricted. Changes at the clinical level and at the public policy level could facilitate participation. Implications for rehabilitation Income influenced the experience of return to



participation for the low-income stroke survivors by limiting their ability to afford housing, goods, and services. The macro environment, which regulates the healthcare and social service systems, was the strongest influence on return to participation for low income stroke survivors. Findings point to actions at the clinical and policy levels to help address this inequity

Shariat A, Ghannadi S, Anastasio AT, Rostad M, and Cleland JA. Novel stretching and strength-building exercise recommendations for computer-based workers during the COVID-19 quarantine. Work. 2020; 66(4):739-749. https://doi.org/10.3233/WOR-203220

Abstract: BACKGROUND: Prolonged home stays due to the COVID-19 guarantine can increase the use of computers and other technologies that may lead to significant reduction in activity, contributing to musculoskeletal problems, anxiety and depression. OBJECTIVE: The aim of this study was to develop a novel multicomponent exercise program for individuals who work with computers during the COVID-19 guarantine. METHODS: Researchers collaborating cross-institutionally and cross-nationally performed a careful literature search for exercise and stretching regiments with particular attention to methodologies that can be applied during the lockdown in the wake of the COVID-19 pandemic. Methodologies were then compiled and truncated for ease of use for the computer-based office worker during the COVID-19 pandemic quarantine. RESULTS: The resulting program is broken down into three categories: aerobic, strengthening and stretching components. Each component can then be further modified to meet the frequency, intensity, time and type (FITT) specifications for the participant. CONCLUSIONS: We present a novel, evidence-based strategy for functional fitness for office workers who have remained home-bound during the COVID-19 pandemic guarantine. Further research should seek to validate the efficacy of the proposed protocol

Sharma K, Anand A, and Kumar R. The role of Yoga in working from home during the COVID-19 global lockdown. Work. 2020; 66(4):731-737.

https://doi.org/10.3233/WOR-203219

Abstract: BACKGROUND: The COVID-19 pandemic has become a

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major cause of stress and anxiety worldwide. Due to the global lockdown, work, employment, businesses and the economic climate have been severely affected. It has generated stress among people from all sections of society, especially to workers who have been assigned to cater to healthcare service or those constrained to secure daily essential items. It is widely perceived that elderly or those affected by diabetes, hypertension and other cardiovascular diseases are prone to COVID-19. As per an ongoing survey, the initial data shows that the above-mentioned anxiety and stress cause insomnia, and has the considerable potential to weaken the immune system, the sole protection against the virus. OBJECTIVE: This study focuses on the need of Yoga practice at work places and at home during the global lockdown due to the COVID-19 pandemic. METHODS: Literature was searched using PubMed and Google Scholar for COVID-19-related stress and anxiety at work and society due to the worldwide lockdown. The predisposing comorbidities, viral mechanism of action and treatment regimen were also searched. Yoga-based intervention studies and online programs were also searched. RESULTS: As the lockdown cannot last forever and workplaces will have to be functional soon, there is an increased possibility of recurrent infection. Therefore, Yoga can provide the necessary tool for risk reduction, amelioration of stress and anxiety and strengthening of the immune function. The online platforms provide a good media for Yoga training at work places and homes. CONCLUSION: Due to social distancing norms, the availability of Yoga trainers has become restricted. Yoga practice is actively sought to achieve reduced anxiety and stress so that improved sleep may positively impact immunity. As a consequence, there is a spurt in social media, catering to daily online Yoga sessions which apparently prove useful in providing accessible means to achieve mental as well as physical well-being

Shaw A, Flott K, Fontana G, Durkin M, and Darzi A. No patient safety without health worker safety. Lancet. 2020; [epub ahead of printl.

https://doi.org/10.1016/S0140-6736(20)31949-8 [open access]

Villemain A and Godon P. Logistic transport in extreme environments: the evolution of risk and safety management over

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27 years of the polar traverse. Ergonomics. 2020; 63(10):1257-1270.

https://doi.org/10.1080/00140139.2020.1777329

Abstract: In this article we seek to explain how safety mechanisms and risks evolve over time. The article focuses on a sociotechnical system, that of a polar traverse (a transport operation in a polar environment). In the study spanning a period of 27 years data were collected with ethnographic participative observations on three of the 56 traverses already achieved. Activities were traced from the whole 1398 daily reports and scale models of the convoy vehicles were used to reconstruct events during the traverses. Self-confrontation interviews were also conducted. A traverse feedback process was carried out which revealed that (1) whereas proactive safety is aimed at maintaining the continuous improvement of a system, reactive safety makes it possible to maintain the system's level of safety; (2) the development of redundancy and mixed technology contribute positively to the safety system. Improvements made to the safety system, its dynamics, and embodied resilience are discussed as well as the study limitations and implications. Practitioner summary: This article seeks to understand how safety has been ensured in logistical transport in extreme conditions in a case study extending over a period of more than 27 years. The study investigates how risks and safety mechanisms have evolved and the benefits of developing a traverse feedback process to improve safety. Abbreviations: IPEV: French Polar Institute (Institut Polaire Francais); DDU: Dumont d'Urville (French coastal antarctic station).

Williams J and van Ours JC. Hazardous or not? Cannabis use and early labor market experiences of young men. Health Economics. 2020; [epub ahead of print].

https://doi.org/10.1002/hec.4125 Abstract: We study the relationship between cannabis use and early labor market experiences of young men, focusing on the time it takes them to find their first job, and the wage rate they receive at that job. We find that early cannabis users accept job offers more quickly and at a lower wage rate compared with otherwise similar males who did not use cannabis. These differences are present only for those who use cannabis for longer than a year before starting their job search.

We also find that early cannabis users are less likely to return to

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education and, as a consequence, will have a lower educational attainment. Overall, our findings provide new insights into the direct and indirect relationships between cannabis use and early labor market experiences

Zilic I and LaVan H. Arbitration of accommodation in US workplaces: employee, stakeholder and human resources characteristics. Industrial Relations Journal. 2020; 51(5):454-473. https://doi.org/10.1111/irj.12308 [open access] Abstract: This research examines how arbitrators consider accommodations for employees with physical and mental illnesses. Unlike other recent research on the subject, the authors specifically and purposely draw their sample from recent US arbitration cases-2015 to 2018, n = 209. Additionally, using content analysis software, NVivo, the case characteristics were autocoded, and the case outcomes were manually coded. Using logistic regression, the following model was developed to predict the odds of case outcomes: disability, injury, discrimination, retaliation, absence and reinstatement. The Cox and Snell and Nagelkerke analysis indicates that our model accounts for approximately 15.6 to 21.5 per cent of the variance, with 33.3 per cent of the individual and split arbitration cases outcomes and 91.2 per cent for organisation arbitration cases correctly predicted. The model predicts 71.2 per cent of the cases.

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