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**\*Bultmann U, Arends I, Veldman K, McLeod CB, Van Zon SKR, and Amick III BC. Investigating young adults' mental health and early working life trajectories from a life course perspective: the role of transitions. *Journal of Epidemiology and Community Health*. 2019; [epub ahead of print]. <https://doi.org/10.1136/jech-2019-213245> [open access]**

**Abstract:** BACKGROUND: Many young adults leave the labour market because of mental health problems or never really enter it, through early moves onto disability benefits. Across many countries of the Organisation for Economic Co-operation and Development, between 30% and 50% of all new disability benefit claims are due to mental health problems; among young adults this moves up to 50%-80%. OUTLINE: We propose a research agenda focused on transitions in building young adults' mental health and early working life trajectories, considering varying views for subgroups of a society. First, we briefly review five transition characteristics, then we elaborate a research agenda with specific research questions. RESEARCH AGENDA: Our research agenda focuses on transitions as processes, in time and place and as sensitive periods, when examining young adults' mental health and early working life trajectories from a life course perspective. As more and more childhood and adolescent cohorts mature and facilitate research on later life labour market, work and health outcomes, transition research can help guide policy and practice interventions. FUTURE CROSS-DISCIPLINARY RESEARCH: In view of the many challenges young adults face when entering the changing world of work and labour markets, future research on transitions in young adults related to their mental health and early working life trajectories will provide ample opportunities for collaborative cross-disciplinary research and stimulate debate on this important challenge

**\*Lahey PM, Kirsch B, MacDermid J, Tompa E, and Gewurtz RE. Active labour market policies for people with disabilities in receipt of public income benefits: a scoping review. *Work*. 2019; 64(2):229-247.**

<https://doi.org/10.3233/WOR-192989>

Abstract: BACKGROUND: Active labour market policies (ALMP) are used in advanced welfare states to support transitions to work for people who are unemployed or underemployed, including people with disabilities (PWD) in receipt of means-tested disability income support. OBJECTIVE: This study explores the nature, strength, and limitations of ALMP across advanced welfare states (ALMP) for people with disabilities (PWD) in receipt of income benefits from social assistance programs. METHODS: Following the eight steps of a scoping study, we identified 21 documents through a scan of eight databases and consultation with key informants. The majority of these documents are scholarly publications including seven literature reviews, two program evaluations, four social policy analyses, and two longitudinal studies. RESULTS: We extracted key findings related to delivery of labour (re)entry interventions for people with disabilities. Six themes are identified that discuss these ALMP features: 1) welfare ideology and the role of citizenship; 2) conditionality of benefits; 3) work capacity and the need for an appropriate definition of disability; 4) the politics of employment outcomes for PWD; 5) the missing elements of a successful ALMP; and 6) moving beyond ALMP. The findings indicate that while various approaches are used in reintegrating PWD into mainstream employment, there are significant limitations that curtail the impact of these policies. CONCLUSIONS: Regardless of welfare regime, no welfare state provides a policy mix that results in long-term employment success for PWD in receipt of means-tested income benefits

**Aboagye E, Bjorklund C, Gustafsson K, Hagberg J, Aronsson G, Marklund S, et al. Exhaustion and impaired work performance in the workplace: associations with presenteeism and absenteeism. *Journal of Occupational & Environmental Medicine*. 2019; 61(11):e438-e444.**

<https://doi.org/10.1097/JOM.0000000000001701> [open access]

Abstract: OBJECTIVE: The aim of this study was to investigate the association between presenteeism and absenteeism during the previous year and the current levels of exhaustion and impaired work performance in a Swedish university setting. METHODS: In a study of 3525 employees, an ordinal logistic regression and general linear model was used to examine the association between presenteeism and absenteeism during the previous year and the current exhaustion and impaired work performance, respectively. RESULTS: Presenteeism, but not absenteeism, during the previous year independently increased the risk of having moderate or severe exhaustion. Presenteeism, absenteeism, and exhaustion remained positively associated with impaired work performance when health status and other confounders had been adjusted for. CONCLUSIONS: Presenteeism, but not absenteeism, was associated with

exhaustion. Both presenteeism and absenteeism were the salient correlates of impaired work performance

**Barbosa C, Azevedo R, and Rodrigues MA. Occupational safety and health performance indicators in SMEs: a literature review. Work. 2019; 64(2):217-227.**

<https://doi.org/10.3233/WOR-192988>

Abstract: BACKGROUND: Small and medium-sized enterprises (SMEs) face greatest difficulty in managing occupational risks compared to large enterprises. Limited resources, little knowledge about risk management process and deficiencies in organizational processes are often pointed in the literature as important obstacles to occupational safety and health (OSH) performance in SMEs. However, external factors can also be of paramount importance, such as the economic crisis. Because under specific scenarios OSH conditions may deteriorate in SMEs, is important to establish effective indicators. OBJECTIVE: This study aims to identify OSH performance indicators within the context of SMEs. METHODS: To identify the indicators, a literature review was carried out on different studies published in scientific journals in the OSH field between 2008 and October 2018 using the Scopus, ScienceDirect, Web of Science and PubMed databases. RESULTS: As a result, 14 management and organization OSH indicators applied to SMEs were identified, along with 5 at individual OSH indicators. CONCLUSION: The indicators were discussed in relation to its applicability to assess OSH performance, as well as their reliability. Future research should be done to assess the identified indicators in SMEs

**Barnay T and Defebvre E. Gender differences in the influence of mental health on job retention. Labour. 2019; 33(4):507-532.**

<https://doi.org/10.1111/labr.12154>

Abstract: Abstract We measure gender differences in the causal impact of the 2006 self-assessed mental health status (anxiety disorders and depressive episodes) on job retention in 2010. We use data from the French Health and Professional Career Path survey. To control for endogeneity biases, we use bivariate probit models to simultaneously explain employment status and mental health. Anxiety disorders reduce men's job retention capacity by up to 12 percentage points (pp). Depressive episodes affect both genders almost equally (around 11-ápp). More severe cases of both mental health conditions are relevant in determining the capacity of individuals to remain in employment

**Boehnke KF, Scott JR, Litinas E, Sisley S, Clauw DJ, Goesling J, et al. Cannabis use preferences and decision-making among a cross-sectional cohort of medical cannabis patients with chronic pain. Journal of Pain. 2019; 20(11):1362-1372.**

<https://doi.org/10.1016/j.jpain.2019.05.009>

Abstract: Cannabis is commonly used to manage chronic pain, but cannabis use patterns among individuals with chronic pain, has not been well-characterized. We report cannabinoid, administration route, and product selection preferences

among medical cannabis users with chronic pain from an ongoing, online survey. We also examined whether these preferences are affected by differences in sex, intentions behind use (medical only [MED] vs medical+recreational [MEDREC]), and experience with cannabis (novice: <1 year vs experienced: ≥1 year). The survey was completed by 1,321 participants (59% female) 76.5% of whom used cannabis every day. 93.4% used 2 or more administration routes and 72.5% used 3 or more. Female, MED, and novice users were less likely to smoke or vaporize (all  $P < .0001$ ), but more likely to rank edibles, tinctures, and topicals as a first-choice administration route than their counterparts. Female and MED users also preferred low THC: high cannabidiol ratios significantly more than their counterparts. Overall, only 2.6% of participants selected cannabis products with input from a medical professional, although 54.9% relied on advice from dispensary employees. More male, MEDREC, and experienced users selected products based on factors that reflected greater comfort with cannabis (eg, smell, visual properties, cannabis variety). The wide variability in cannabis use among these different groups indicates the need for further research to investigate how specific use routines relate to clinical outcomes. PERSPECTIVE: Medical cannabis users with chronic pain show distinct differences in cannabinoid preferences and administration associated with user sex, intentions behind use, and experience with cannabis. This article highlights the wide variability in cannabis preferences among medical cannabis users with chronic pain, which may be relevant for clinical outcomes

**Dong XS, West GH, Holloway-Beth A, Wang X, and Sokas RK. Heat-related deaths among construction workers in the United States. American Journal of Industrial Medicine. 2019; 62(12):1047-1057.**

<https://doi.org/10.1002/ajim.23024>

Abstract: BACKGROUND: Heat is a severe hazard for construction workers and may be worsening with global warming. This study sought to explore heat-related deaths among U.S. construction workers and a possible association with climate change. METHODS: Heat-related deaths in the Census of Fatal Occupational Injuries from 1992 to 2016 were analyzed. Denominators estimated from the Current Population Survey were matched with demographic and occupational categories in rate calculations. Statistical tests were used to examine heat-related deaths in relation to time, geographic region, and temperature. RESULTS: Construction workers, comprising 6% of the total workforce, accounted for 36% (n = 285) of all occupational heat-related deaths from 1992 to 2016 in the U.S. Mean temperatures from June to August increased gradually over the study period. Increasing summer temperatures from 1997 to 2016 were associated with higher heat-related death rates ( $r = 0.649$ ; 95% confidence interval: 0.290, 0.848). Compared to all construction workers (risk index = 1), statistically significant elevated risk of heat-related death was found among Hispanics (1.21), in particular workers born in Mexico (1.91). Occupations with a high risk index included cement masons (10.80), roofers (6.93), helpers (6.87), brick masons (3.33), construction laborers (1.93) and heating, air conditioning,

and refrigeration mechanics (1.60). CONCLUSIONS: U.S. construction workers are at a high risk of heat-related death, and this risk has increased with climate change over time. Effective workplace interventions, enhanced surveillance, and improved regulations and enforcement should accompany broader efforts to combat global warming. The construction industry can help reduce global warming through increased implementation of green building principles

**Eilayyan O, Thomas A, Halle MC, Ahmed S, Tibbles AC, Jacobs C, et al. Promoting the use of self-management in patients with spine pain managed by chiropractors and chiropractic interns: barriers and design of a theory-based knowledge translation intervention. *Chiropractic & Manual Therapies*. 2019; 27:44.**

<https://doi.org/10.1186/s12998-019-0267-6> [open access]

**Abstract:** Background: The literature supports the effectiveness of self-management support (SMS) to improve health outcomes of patients with chronic spine pain. However, patient engagement in SMS programs is suboptimal. The objectives of this study were to: 1) assess participation in self-care (i.e. activation) among patients with spine pain, 2) identify patients' barriers and enablers to using SMS, and 3) map behaviour change techniques (BCTs) to key barriers to inform the design of a knowledge translation (KT) intervention aimed to increase the use of SMS. Methods: In summer 2016, we invited 250 patients with spine pain seeking care at the Canadian Memorial Chiropractic College in Ontario, Canada to complete the Patient Activation Measure (PAM) survey to assess the level of participation in self-care. We subsequently conducted individual interviews, in summer 2017, based on the Theoretical Domains Framework (TDF) in a subset of patients to identify potential challenges to using SMS. The interview guide included 20 open-ended questions and accompanying probes. Findings were deductively analysed guided by the TDF. A panel of 7 experts mapped key barriers to BCTs, designed a KT intervention, and selected the modes of delivery. Results: Two hundred and twenty-three patients completed the PAM. Approximately 24% of respondents were not actively involved in their care. Interview findings from 13 spine pain patients suggested that the potential barriers to using SMS corresponded to four TDF domains: Environmental Context and Resources; Emotion; Memory, Attention & Decision-Making; and Behavioural Regulation. The proposed theory-based KT intervention includes paper-based educational materials, webinars and videos, summarising and demonstrating the therapeutic recommendations including exercises and other lifestyle changes. In addition, the KT intervention includes Brief Action Planning, a SMS strategy based on motivational interviewing, along with a SMART plan and reminders. Conclusions: Almost one quarter of study participants were not actively engaged in their spine care. Key barriers likely to influence uptake of SMS among patients were identified and used to inform the design of a theory-based KT intervention to increase their participation level. The proposed multi-component KT intervention may be an effective strategy to optimize the quality of spine pain care and improve patients' health-outcomes



**Gaudet LA, Eliyahu L, Beach J, Mrazik M, Cummings G, Voaklander DC, et al. Workers' recovery from concussions presenting to the emergency department. Occupational Medicine. 2019; 69(6):419-427.**

<https://doi.org/10.1093/occmed/kqz089>

Abstract: BACKGROUND: The emergency department (ED) is the first point of care for many patients with concussion, and post-concussion syndrome can impact vocational outcomes like successful return to work. Evaluation of concussion in general adult populations is needed. AIMS: To document the occurrence and outcomes of work-related concussion presenting to the ED for treatment. METHODS: This study enrolled adults presenting with concussion to three urban Canadian EDs. Baseline ED interviews, physician questionnaires and patient phone interviews at 30 and 90 days documented work-related events, ED management, discharge advice, patient adherence and symptom severity. Work-related injury and return to work were modelled using logistic or linear regression, as appropriate. RESULTS: Overall, 172 enrolled workers completed at least one follow-up. Work-related concussions were uncommon (n = 28). Most employees (80%) missed at least 1 day of work (median = 7; interquartile range: 3-14). Most (91%) employees returned to work within 90 days, while 41% reported persistent symptoms. Manual labour and self-reported history of attention deficit hyperactivity disorder were associated with work-related concussion, while days of missed work increased with marital status (divorced), history of sleep disorder and physician's advice to avoid work. CONCLUSION: Work-related concussions are infrequent; however, most workers who sustain a concussion will miss work, and many return while still experiencing symptoms. Work-related concussion and days of missed work are mainly affected by non-modifiable factors. Workers, employers and the workers' compensation system should take necessary precautions to ensure that workers return to work safely and successfully following a concussion

**Hu YY, Ellis RJ, Hewitt DB, Yang AD, Cheung EO, Moskowitz JT, et al. Discrimination, abuse, harassment, and burnout in surgical residency training. New England Journal of Medicine. 2019; 381(18):1741-1752.**

<https://doi.org/10.1056/NEJMsa1903759>

Abstract: BACKGROUND: Physicians, particularly trainees and those in surgical subspecialties, are at risk for burnout. Mistreatment (i.e., discrimination, verbal or physical abuse, and sexual harassment) may contribute to burnout and suicidal thoughts. METHODS: A cross-sectional national survey of general surgery residents administered with the 2018 American Board of Surgery In-Training Examination assessed mistreatment, burnout (evaluated with the use of the modified Maslach Burnout Inventory), and suicidal thoughts during the past year. We used multivariable logistic-regression models to assess the association of mistreatment with burnout and suicidal thoughts. The survey asked residents to report their gender. RESULTS: Among 7409 residents (99.3% of the eligible residents) from all 262 surgical residency programs, 31.9% reported discrimination based on their self-identified gender, 16.6% reported racial

discrimination, 30.3% reported verbal or physical abuse (or both), and 10.3% reported sexual harassment. Rates of all mistreatment measures were higher among women; 65.1% of the women reported gender discrimination and 19.9% reported sexual harassment. Patients and patients' families were the most frequent sources of gender discrimination (as reported by 43.6% of residents) and racial discrimination (47.4%), whereas attending surgeons were the most frequent sources of sexual harassment (27.2%) and abuse (51.9%). Proportion of residents reporting mistreatment varied considerably among residency programs (e.g., ranging from 0 to 66.7% for verbal abuse). Weekly burnout symptoms were reported by 38.5% of residents, and 4.5% reported having had suicidal thoughts during the past year. Residents who reported exposure to discrimination, abuse, or harassment at least a few times per month were more likely than residents with no reported mistreatment exposures to have symptoms of burnout (odds ratio, 2.94; 95% confidence interval [CI], 2.58 to 3.36) and suicidal thoughts (odds ratio, 3.07; 95% CI, 2.25 to 4.19). Although models that were not adjusted for mistreatment showed that women were more likely than men to report burnout symptoms (42.4% vs. 35.9%; odds ratio, 1.33; 95% CI, 1.20 to 1.48), the difference was no longer evident after the models were adjusted for mistreatment (odds ratio, 0.90; 95% CI, 0.80 to 1.00). CONCLUSIONS: Mistreatment occurs frequently among general surgery residents, especially women, and is associated with burnout and suicidal thoughts

**Leclercq V, Beaudart C, Ajamieh S, Rabenda V, Tirelli E, and Bruyere O. Meta-analyses indexed in PsycINFO had a better completeness of reporting when they mention PRISMA. Journal of Clinical Epidemiology. 2019; 115:46-54.**

<https://doi.org/10.1016/j.jclinepi.2019.06.014> [open access]

Abstract: OBJECTIVES: To investigate the effect of the explicit mention of PRISMA, a statement designed to help authors report meta-analyses (MAs), on the reporting completeness of MAs. STUDY DESIGN AND SETTING: Two investigators evaluated a random sample of 206 MAs indexed in PsycINFO in 2016; 100 explicitly mentioned PRISMA and 106 did not. Two authors independently evaluated the 27 PRISMA items and extracted factors that could potentially be associated with reporting completeness. The data were analyzed descriptively. RESULTS: Among our 206 MAs, perfect adherence to PRISMA was found in less than 4%, of which 87% explicitly followed PRISMA. The following items were encountered significantly more frequently in MAs that explicitly mentioned PRISMA than in those that did not: summary, protocol, information sources, search strategy, study characteristics, results of individual studies, funding, study selection, risk of bias in individual studies, and bias across studies. The journal's impact factor, endorsement of PRISMA by the journal, number of authors, country of author, open access, and design of the included studies were significantly and positively associated with the explicit mention of PRISMA. CONCLUSIONS: Even if far from optimal, the explicit

mention of PRISMA has a positive influence on the reporting completeness of MAs from PsycINFO

**Leinonen T, Viikari-Juntura E, Husgafvel-Pursiainen K, Juvonen-Posti P, Laaksonen M, and Solovieva S. The effectiveness of vocational rehabilitation on work participation: a propensity score matched analysis using nationwide register data. *Scandinavian Journal of Work, Environment & Health*. 2019; 45(6):651-660.**

<https://doi.org/10.5271/sjweh.3823>

Abstract: Objective Research on the effectiveness of vocational rehabilitation has focused on small and selected groups, lacked proper controls, or not captured dynamic changes in work participation. Using rich nationwide data on vocational rehabilitees and matched controls, long-term changes in work participation before and after vocational rehabilitation were examined to assess its effectiveness. Methods Representative Finnish register data were used to examine 3199 recently employed individuals aged 30-55 years with histories of musculoskeletal- and mental-related work disability starting vocational rehabilitation in 2008-2010 (intervention group), and 3199 propensity score matched non-rehabilitees (control group). Sociodemographic and work-related factors and detailed 3-year work disability and other labor market history were used for matching. Generalized estimation equations were used to examine differences in the proportion of time spent at work between periods before and after rehabilitation among the intervention and control group and the difference in these differences (DID). Results Vocational rehabilitation resulted in gains in work participation, the total 1-, 2-, and 3-year DID being 11.8 [95% confidence interval (CI) 10.0-13.7], 8.9 (95% CI 7.6-10.2), and 7.2 (95% CI 6.1-8.3) percentage points, respectively. Contrary to this overall pattern, larger DID was observed over the long term for those whose rehabilitation lasted >10 months. The DID was lowest among women with musculoskeletal diseases. Conclusions Vocational rehabilitation after musculoskeletal- or mental-related work disability showed modest effectiveness on work participation. To promote sustained work participation after shorter rehabilitation (likely comprising workplace interventions) and faster work resumption after longer rehabilitation (likely comprising training), enhanced and complementary interventions should be considered

**Munoz-Poblete C, Bascour-Sandoval C, Inostroza-Quiroz J, Solano-Lopez R, and Soto-Rodriguez F. Effectiveness of workplace-based muscle resistance training exercise program in preventing musculoskeletal dysfunction of the upper limbs in manufacturing workers. *Journal of Occupational Rehabilitation*. 2019; 29(4):810-821.**

<https://doi.org/10.1007/s10926-019-09840-7>

Abstract: Aims Given the high levels of absenteeism due to musculoskeletal disorders of the upper limbs, there is a need for preventive strategies to protect workers exposed to high risk levels. The purpose of this study was to determine



the effect of a workplace-based muscle resistance training exercise program in the presence of pain and musculoskeletal dysfunction of the upper extremities in manufacturing workers exposed to repetitive movements and excessive effort in the workplace. Method Randomized controlled trial in manufacturing workers. A sample of 120 healthy workers was allocated at random to an experimental group, which received a resistance-based exercise program, and a control group, which performed stretching exercises. Results The muscle resistance training exercise had a protective effect on the intensity of pain perceived by workers in their upper limbs (RR: 0.62 95% CI 0.44-0.87) compared with the group of workers who performed stretching exercises. Conclusion A workplace-based muscle resistance training exercise program is an effective preventive strategy in factory workers exposed to risk; however, it is necessary for companies initially to adopt mechanisms to minimize exposure as a prevention strategy

**Phillips EA, Gordeev VS, and Schreyogg J. Effectiveness of occupational e-mental health interventions: a systematic review and meta-analysis of randomized controlled trials. *Scandinavian Journal of Work, Environment & Health*. 2019; 45(6):560-576.**

<https://doi.org/10.5271/sjweh.3839>

Abstract: Objective This systematic review and meta-analysis investigated the effectiveness of occupational e-mental health interventions aimed at stress, depression, anxiety, burnout, insomnia, mindfulness, well-being, and alcohol misuse and their potential treatment moderators. Methods We systematically reviewed randomized control trials published in English using three electronic databases (MEDLINE, PsycINFO, CINAHL) and three register trials. A pooled effect size for each mental health area was calculated using random-effects modelling. For each meta-analysis, we conducted an analysis of potential moderators (ie, type of recruitment, age, gender, initial psychological symptoms, guidance, therapy type, and study quality). Results In total, 50 studies were included in the systematic review, and 34 studies were included in the meta-analyses. We noted moderate treatment effects on stress (Hedges'g=0.54), insomnia (g=0.70), and burnout (g=0.51) and small treatment effects on depression (g=0.30), anxiety (g=0.34), well-being (g=0.35), and mindfulness (g=0.42). The pooled effect on alcohol intake was small and nonsignificant. Conclusions Our results suggest that occupational e-mental health interventions are associated with significant health improvements. However, more research is required to understand which factors contribute to the variation in effectiveness of particular interventions depending on the mental health area and characteristics of participants and interventions

**Rosander M and Blomberg S. Levels of workplace bullying and escalation: a new conceptual model based on cut-off scores, frequency and self-labelled victimization. *European Journal of Work and Organizational Psychology*. 2019; 28(6):769-783.**

<https://doi.org/10.1080/1359432X.2019.1642874>

**Vanos J, Vecellio DJ, and Kjellstrom T. Workplace heat exposure, health protection, and economic impacts: a case study in Canada. American Journal of Industrial Medicine. 2019; 62(12):1024-1037.**

<https://doi.org/10.1002/ajim.22966>

Abstract: BACKGROUND: Occupational heat exposure is a serious concern for worker health, productivity, and the economy. Few studies in North America assess how on-site wet bulb globe temperature (WBGT) levels and guidelines are applied in practice. METHODS: We assessed the use of a WBGT sensor for localized summertime heat exposures experienced by outdoor laborers at an industrial worksite in Ontario, Canada during the warm season (May-October) from 2012 to 2018 inclusive. We further examined informed decision making, approximated workers' predicted heat strain (sweat loss, core temperature), and estimated potential financial loss (via hourly wages) due to decreased work allowance in the heat. RESULTS: Significantly higher worksite WBGT levels occurred compared with regional levels estimated at the airport, with an upward trend in heat warnings over the 7 years and expansion of warnings into the fall season. The maximum WBGT during warnings related strongly to predicted hourly sweat loss. On average, 22 hours per worker were lost each summer (~1% of annual work hours) as a result of taking breaks or stopping due to heat. This amount of time corresponded to an average individual loss of C\$1100 Canadian dollars (~C\$220,000 combined for ~200 workers) to workers or the company. The additional losses for an enterprise due to reduced product output were not estimated. CONCLUSIONS: Worksite observations and actions at the microscale are essential for improving the estimates of health and economic costs of extreme heat to enterprises and society. Providing worksite heat metrics to the employees aids in appropriate decision making and health protection

**Walley AY, Bernson D, Larochelle MR, Green TC, Young L, and Land T. The contribution of prescribed and illicit opioids to fatal overdoses in Massachusetts, 2013-2015. Public Health Reports. 2019; 134(6):667-674.**

<https://doi.org/10.1177/0033354919878429>

Abstract: OBJECTIVES: Opioid-related overdoses are commonly attributed to prescription opioids. We examined data on opioid-related overdose decedents in Massachusetts. For each decedent, we determined which opioid medications had been prescribed and dispensed and which opioids were detected in postmortem medical examiner toxicology specimens. METHODS: Among opioid-related overdose decedents in Massachusetts during 2013-2015, we analyzed individually linked postmortem opioid toxicology reports and prescription drug monitoring program records to determine instances of overdose in which a decedent had a prescription active on the date of death for the opioid(s) detected in the toxicology report. We also calculated the proportion of overdoses for which prescribed opioid medications were not detected in decedents' toxicology reports. RESULTS: Of 2916 decedents with complete toxicology reports, 1789 (61.4%) had heroin and 1322 (45.3%) had fentanyl detected in postmortem toxicology reports. Of the 491 (16.8%) decedents with  $\geq 1$  opioid prescription active on the

date of death, prescribed opioids were commonly not detected in toxicology reports, specifically: buprenorphine (56 of 97; 57.7%), oxycodone (93 of 176; 52.8%), and methadone prescribed for opioid use disorder (36 of 112; 32.1%). Only 39 (1.3%) decedents had an active prescription for each opioid detected in toxicology reports on the date of death. CONCLUSION: Linking overdose toxicology reports to prescription drug monitoring program records can help attribute overdoses to prescribed opioids, diverted prescription opioids, heroin, and illicitly made fentanyl

\*IWH authored publications.