

IWH Research Alert
July 28, 2017

Missed an issue? Catch up on previous 2017 *Research Alerts* available on the IWH website <http://www.iwh.on.ca/research-alerts>

Research Alerts is a service provided to you by the Institute for Work & Health (IWH) to help you keep abreast of recent literature in the areas of occupational health and safety, epidemiology, public health and others within the IWH mandate. Please note that these articles have not been reviewed by Institute scientists to assess the quality of the studies. *Research Alerts* should not be considered an endorsement of the findings. Readers are cautioned not to act on the results of single studies, but rather to seek bodies of evidence. It should also be noted that the Institute for Work & Health cannot provide full-text of articles listed in *Research Alerts* to individuals outside of the organization, as this violates copyright legislation.

***MacEachen E, Du B, Bartel E, Ekberg K, Tompa E, Kosny A, Petricone I, and Stapleton J. Scoping review of work disability policies and programs. *International Journal of Disability Management*. 2017; 12(e1):1-11.**
<http://dx.doi.org/10.1017/idm.2017.1>

Antonova L, Bucher-Koenen T, and Mazzonna F. Long-term health consequences of recessions during working years. *Social Science & Medicine*. 2017; 187:134-143.

<http://dx.doi.org/10.1016/j.socscimed.2017.06.025> [open access]

Abstract: Economic crises may have severe consequences for population health. We investigate the long-term effects of macroeconomic crises experienced during prime working age (20-50) on health outcomes later in life using SHARE data (Survey of Health Aging and Retirement in Europe) from eleven European countries. Analyses are based on the first two waves of SHARE data collected in 2004 and 2006 (N = 22,886) and retrospective life history data from SHARELIFE collected in 2008 (N = 13,732). Experiencing a severe crisis in which GDP dropped by at least 1% significantly reduces health later in life. Specifically, respondents hit by such a shock rate their subjective health as worse, are more likely to suffer from chronic diseases and mobility limitations, and have lower grip strength. The effects are twice as large among low-educated respondents. A deeper analysis of critical periods in life reveals that respondents' health is more affected by crises experienced later in the career (between age 41 and 50). The labor market patterns show that these people drop out of the labor force. While men retire early, women are more likely to become home makers. In line with the literature on the negative consequences of retirement on health, this suggests that early retirement in times of economic crises might be detrimental to health

Barr B, Higgerson J, and Whitehead M. Investigating the impact of the English health inequalities strategy: time trend analysis. British Medical Journal. 2017; 358:j3310.

<http://dx.doi.org/10.1136/bmj.j3310> [open access]

Abstract: Objective To investigate whether the English health inequalities strategy was associated with a decline in geographical health inequalities, compared with trends before and after the strategy. Design Time trend analysis. Setting Two groups of lower tier local authorities in England. The most deprived, bottom fifth and the rest of England. Intervention The English health inequalities strategy—a cross government strategy implemented between 1997 and 2010 to reduce health inequalities in England. Trends in geographical health inequalities were assessed before (1983–2003), during (2004–12), and after (2013–15) the strategy using segmented linear regression. Main outcome measure Geographical health inequalities measured as the relative and absolute differences in male and female life expectancy at birth between the most deprived local authorities in England and the rest of the country. Results Before the strategy the gap in male and female life expectancy between the most deprived local authorities in England and the rest of the country increased at a rate of 0.57 months each year (95% confidence interval 0.40 to 0.74 months) and 0.30 months each year (0.12 to 0.48 months). During the strategy period this trend reversed and the gap in life expectancy for men reduced by 0.91 months each year (0.54 to 1.27 months) and for women by 0.50 months each year (0.15 to 0.86 months). Since the end of the strategy period the inequality gap has increased again at a rate of 0.68 months each year (–0.20 to 1.56 months) for men and 0.31 months each year (–0.26 to 0.88) for women. By 2012 the gap in male life expectancy was 1.2 years smaller (95% confidence interval 0.8 to 1.5 years smaller) and the gap in female life expectancy was 0.6 years smaller (0.3 to 1.0 years smaller) than it would have been if the trends in inequalities before the strategy had continued. Conclusion The English health inequalities strategy was associated with a decline in geographical inequalities in life expectancy, reversing a previously increasing trend. Since the strategy ended, inequalities have started to increase again. The strategy may have reduced geographical health inequalities in life expectancy, and future approaches should learn from this experience. The concerns are that current policies are reversing the achievements of the strategy

Bethge M, Mattukat K, Fauser D, and Mau W. Rehabilitation access and effectiveness for persons with back pain: the protocol of a cohort study (REHAB-BP, DRKS00011554). BMC Public Health. 2017; 18(1):22.

<http://dx.doi.org/10.1186/s12889-017-4588-x> [open access]

Abstract: BACKGROUND: Back pain is one of the most common chronic diseases in Germany and has a major impact on work ability and social participation. The German Pension Insurance (GPI) is the main provider of medical rehabilitation to improve work ability and prevent disability pensions in Germany. However, over half of the persons granted a disability pension have

never used a medical rehabilitation service. Furthermore, evidence on the effects of medical rehabilitation in Germany is inconclusive. Consequently, this study has two aims: first, to determine barriers to using rehabilitation services, and second, to examine the effectiveness of medical rehabilitation in German residents with chronic back pain. METHODS: In 2017 a postal questionnaire will be sent to 45,000 persons aged 45 to 59 years whose pension insurance contributions are managed by the GPI North or the GPI Central Germany. In 2019 respondents who report back pain in the first survey (n = 5760 expected) will be sent a second questionnaire. Individuals will be eligible for the first survey if they are employed, have neither used nor applied for a rehabilitation programme during the last 4 years and neither received nor applied for a disability pension. The sample will be drawn randomly from the registers of the GPI North (n = 22,500) and the GPI Central Germany (n = 22,500) and stratified by sex and duration of sickness absence benefits. Barriers to rehabilitation services will be related to socio-demographic and social characteristics, pain and attitudes to pain, health and health behaviour, healthcare utilisation, experiences and cognitions about rehabilitation services and job conditions. Propensity score matched analyses will be used to examine the effectiveness of rehabilitation services. Data on use of medical rehabilitation will be extracted from administrative records. The primary outcome is pain disability. Secondary outcomes are pain intensity and days of disability, pain self-efficacy, fear avoidance beliefs, self-rated health, depression, healthcare utilisation, self-rated work ability and subjective prognosis of employability, sickness absence benefits, and disability pensions. DISCUSSION: This study identifies barriers to use of rehabilitation services and determines the effectiveness of medical rehabilitation for patients with chronic back pain. TRIAL REGISTRATION: German Clinical Trials Register (DRKS00011554 , January 26, 2017)

Boggess B, Scott B, and Pompeii L. Uninsured workers have more severe hospitalizations: examining the Texas workers' compensation system, 2012. *New Solutions*. 2017; 27(2):154-175.

<http://dx.doi.org/10.1177/1048291117710781>

Abstract: Texas' unique elective system of workers' compensation (WC) coverage is being discussed widely in the United States as a possible model to be adopted by other states. Texas is the only state that does not mandate that employers provide state-certified WC insurance. Oklahoma passed legislation for a similar system in 2013, but it was declared unconstitutional by the Oklahoma Supreme Court in 2016. This study examined 9523 work-related hospitalizations that occurred in Texas in 2012 using Texas Department of State Health Services data. We sought to examine work-related injury characteristics by insurance source. An unexpected finding was that among those with WC, 44.6% of the hospitalizations were not recorded as work related by hospital staff. These unrecorded cases had 1.9 (1.6-2.2) times higher prevalence of a severe risk of mortality compared to WC cases that were recorded as work related. Uninsured and publicly insured workers also had a higher prevalence of severe mortality

risk. The hospital charges for one year were \$615.2 million, including at least \$102.8 million paid by sources other than WC, and with \$29.6 million that was paid for by injured workers or by taxpayers. There is an urgent need for more research to examine how the Texas WC system affects injured workers

Boini S, Colin R, and Grzebyk M. Effect of occupational safety and health education received during schooling on the incidence of workplace injuries in the first 2 years of occupational life: a prospective study. *BMJ Open*. 2017; 7(7):e015100.

<http://dx.doi.org/10.1136/bmjopen-2016-015100> [open access]

Abstract: OBJECTIVES: This study aimed to determine the effect of occupational safety and health (OSH) education during formal schooling on the incidence of workplace injuries (WIs) in young people starting their careers. We hypothesised that young people who had received OSH education during their schooling would have fewer WIs than those who received no OSH education. Secondary objectives focused on the effect of 'first aid at work' training during schooling and the conditions encountered on arrival in the company (occupational hazard information, safety training and job task training) on WI occurrence. DESIGN: Prospective cohort study. PARTICIPANTS: From 2009 to 2012, French apprentices and students at the end of their schooling and starting their careers were included. OUTCOMES: Occurrence of WIs. METHODS: At the time of inclusion, information about school courses and personal characteristics were collected, and subsequent half-yearly contacts gathered information relating to work and personal data. During the 2-year follow-up, WIs were directly reported by participants and were identified by searching the French National Health Insurance Funds' databases listing compulsory WI declarations. RESULTS: 755 participants reported holding 1290 jobs. During follow-up, 158 WIs were identified, corresponding to an incident rate of 0.12 (0.10 to 0.14) WIs per full-time worker. Subjects who reported having received OSH education at school had two times less WIs than those declaring not having received OSH education (incidence rate ratio (IRR) 0.51, 0.00 to 0.98). A lower WI risk was observed for participants who received the 'first aid at work' training (IRR=0.68, 0.00 to 0.98). The conditions on arrival in company were not associated with WIs occurrence. CONCLUSION: In France, the OSH education provided to apprentices and students is mostly broader than the specific risks related to future jobs. Our results highlight the advantages of reinforcing this approach

Bonney T, Forst L, Rivers S, Love M, Pratap P, Bell T, and Fulkerson S. Occupational safety and health in the temporary services industry: a model for a community-university partnership. *New Solutions*. 2017; 27(2):246-259.

<http://dx.doi.org/10.1177/1048291117712545>

Abstract: Workers in the temporary staffing industry face hazardous working conditions and have a high risk of occupational injury. This project brought together local workers' centers and university investigators to build a corps of

Occupational Health Promoters (OHPs) and to test a survey tool and recruitment methods to identify hazards and raise awareness among workers employed by temporary staffing companies. OHPs interviewed ninety-eight workers employed by thirty-three temporary agencies and forty-nine client companies, working mainly in shipping and packing, manufacturing, and warehousing sectors. Surveys identified workplace hazards. OHPs reported two companies to OSHA, resulting in several citations. Partners reported greater understanding of occupational safety and health challenges for temporary workers and continue to engage in training, peer education, and coalition building

Busk H, Dauth C, and Jahn EJ. Do changes in regulation affect temporary agency workers' job satisfaction? *Industrial Relations: A Journal of Economy and Society*. 2017; 56(3):514-544.

<http://dx.doi.org/10.1111/irel.12184>

Dinh H, Strazdins L, and Welsh J. Hour-glass ceilings: work-hour thresholds, gendered health inequities. *Social Science & Medicine*. 2017; 176:42-51.

<http://dx.doi.org/10.1016/j.socscimed.2017.01.024>

Abstract: Long workhours erode health, which the setting of maximum weekly hours aims to avert. This 48-h limit, and the evidence base to support it, has evolved from a workforce that was largely male, whose time in the labour force was enabled by women's domestic work and care giving. The gender composition of the workforce has now changed, and many women (as well as some men) combine care-giving with paid work, a change viewed as fundamental for gender equality. However, it raises questions on the suitability of the work time limit and the extent it is protective of health. We estimate workhour-mental health thresholds, testing if they vary for men and women due to gendered workloads and constraints on and off the job. Using six waves of data from a nationally representative sample of Australian adults (24-65 years), surveyed in the Household Income Labour Dynamics of Australia Survey (N = 3828 men; 4062 women), our study uses a longitudinal, simultaneous equation approach to address endogeneity. Averaging over the sample, we find an overall threshold of 39 h per week beyond which mental health declines. Separate curves then estimate thresholds for men and women, by high or low care and domestic time constraints, using stratified and pooled samples. We find gendered workhour-health limits (43.5 for men, 38 for women) which widen further once differences in resources on and off the job are considered. Only when time is 'unencumbered' and similar time constraints and contexts are assumed, do gender gaps narrow and thresholds approximate the 48-h limit. Our study reveals limits to contemporary workhour regulation which may be systematically disadvantaging women's health

Dirlam J and Zheng H. Job satisfaction developmental trajectories and health: a life course perspective. *Social Science & Medicine*. 2017; 178:95-103.

<http://dx.doi.org/10.1016/j.socscimed.2017.01.040>

Abstract: Understanding the health consequence of job dissatisfaction becomes increasingly important because job insecurity, stress and dissatisfaction have significantly increased in the United States in the last decade. Despite the extensive work in this area, prior studies nonetheless may underestimate the harmful effect of job dissatisfaction due to the cross-sectional nature of their data and sample selection bias. This study applies a life-course approach to more comprehensively examine the relationship between job satisfaction and health. Using data from the NLSY 1979 cohort, we estimate group based job satisfaction trajectories of respondents starting at age 25 and ending at age 39. Four job satisfaction trajectory groups are identified, a consistently high satisfaction group, a downward group, an upward group, and a lowest satisfaction group. We examine the effects of these trajectories on several physical and mental health outcomes of respondents in their early forties. We find membership in the lowest job satisfaction trajectory group to be negatively associated with all five mental health outcomes, supporting the accumulation of risks life course model. Those in the upward job satisfaction trajectory group have similar health outcomes to those in the high job satisfaction trajectory group, supporting the social mobility life course model. Overall, we find the relationship between job satisfaction trajectories and health to be stronger for mental health compared to physical health

Fan W and Qian Y. Native-immigrant occupational segregation and worker health in the United States, 2004-2014. *Social Science & Medicine*. 2017; 183:130-141.

<http://dx.doi.org/10.1016/j.socscimed.2017.04.029>

Abstract: Immigrant workers are a growing share of the U.S. labor force and are overrepresented in certain occupations. This much is well documented, yet few studies have examined the consequences of this division of labor between foreign-born and native-born workers. This research focuses on one of the consequences of occupational segregation-worker health. We merge data from the 2004-2014 National Health Interview Surveys with occupational-level data from the Occupational Information Network 20.1 database and the American Community Surveys to examine the relationship between occupational segregation and health. First, logistic regression models show that working in an occupation with a higher share of immigrants is associated with higher odds of poor physical and psychological health. This relationship is more pronounced among native-born workers than among foreign-born workers. Second, we propose two explanations for the association between occupational segregation and health: (1) workers with less human capital are typically sorted into culturally devalued occupations with a higher concentration of immigrants, and (2) occupations with a higher percentage of immigrants generally have relatively poor work environments. We find sorting variables play a major role, whereas the smaller contribution of occupational environments to the segregation-health link is partly because of the heterogeneous (i.e., both positive and negative) indirect

effects of different exposure measures. With the sustained high levels of immigration to the United States, the implications of integrated or segregated experiences in the labor market and their impact on workers are important avenues for health policies and future research

Froud R, Rajendran D, Patel S, Bright P, Bjorkli T, Eldridge S, Buchbinder R, and Underwood M. The power of low back pain trials: a systematic review of power, sample size, and reporting of sample size calculations over time, in trials published between 1980 and 2012. Spine. 2017; 42(11):E680-E686.

<http://dx.doi.org/10.1097/BRS.0000000000001953>

Abstract: STUDY DESIGN: A systematic review of nonspecific low back pain trials published between 1980 and 2012. OBJECTIVE: To explore what proportion of trials have been powered to detect different bands of effect size; whether there is evidence that sample size in low back pain trials has been increasing; what proportion of trial reports include a sample size calculation; and whether likelihood of reporting sample size calculations has increased. SUMMARY OF BACKGROUND DATA: Clinical trials should have a sample size sufficient to detect a minimally important difference for a given power and type I error rate. An underpowered trial is one within which probability of type II error is too high. Meta-analyses do not mitigate underpowered trials. METHODS: Reviewers independently abstracted data on sample size at point of analysis, whether a sample size calculation was reported, and year of publication. Descriptive analyses were used to explore ability to detect effect sizes, and regression analyses to explore the relationship between sample size, or reporting sample size calculations, and time. RESULTS: We included 383 trials. One-third were powered to detect a standardized mean difference of less than 0.5, and 5% were powered to detect less than 0.3. The average sample size was 153 people, which increased only slightly (approximately 4 people/yr) from 1980 to 2000, and declined slightly (approximately 4.5 people/yr) from 2005 to 2011 ($P < 0.00005$). Sample size calculations were reported in 41% of trials. The odds of reporting a sample size calculation (compared to not reporting one) increased until 2005 and then declined (Equation is included in full-text article.). CONCLUSION: Sample sizes in back pain trials and the reporting of sample size calculations may need to be increased. It may be justifiable to power a trial to detect only large effects in the case of novel interventions. LEVEL OF EVIDENCE: 3

Hammond A, O'Brien R, Woodbridge S, Bradshaw L, Prior Y, Radford K, Culley J, Whitham D, and Pulikottil-Jacob R. Job retention vocational rehabilitation for employed people with inflammatory arthritis (WORK-IA): a feasibility randomized controlled trial. BMC Musculoskeletal Disorders. 2017; 18(1):315.

<http://dx.doi.org/10.1186/s12891-017-1671-5> [open access]

Abstract: BACKGROUND: Inflammatory arthritis leads to work disability, absenteeism and presenteeism (i.e. at-work productivity loss) at high cost to

individuals, employers and society. A trial of job retention vocational rehabilitation (VR) in the United States identified this helped people keep working. The effectiveness of this VR in countries with different socioeconomic policies and conditions, and its impact on absenteeism, presenteeism and health, are unknown. This feasibility study tested the acceptability of this VR, modified for the United Kingdom, compared to written advice about managing work problems. To help plan a randomized controlled trial, we tested screening, recruitment, intervention delivery, response rates, applicability of the control intervention and identified the relevant primary outcome. METHODS: A feasibility randomized controlled trial with rheumatoid, psoriatic or inflammatory arthritis patients randomized to receive either job retention VR or written information only (the WORK-IA trial). Following three days VR training, rheumatology occupational therapists provided individualised VR on a one to one basis. VR included work assessment, activity diaries and action planning, and (as applicable) arthritis self-management in the workplace, ergonomics, fatigue and stress management, orthoses, employment rights and support services, assistive technology, work modifications, psychological and disclosure support, workplace visits and employer liaison. RESULTS: Fifty five (10%) people were recruited from 539 screened. Follow-up response rates were acceptable at 80%. VR was delivered with fidelity. VR was more acceptable than written advice only (7.8 versus 6.7). VR took on average 4 h at a cost of pound135 per person. Outcome assessment indicated VR was better than written advice in reducing presenteeism (Work Limitations Questionnaire (WLQ) change score mean: VR = -12.4 (SD 13.2); control = -2.5 (SD 15.9), absenteeism, perceived risk of job loss and improving pain and health status, indicating proof of concept. The preferred primary outcome measure was the WLQ, a presenteeism measure. CONCLUSIONS: This brief job retention VR is a credible and acceptable intervention for people with inflammatory arthritis with concerns about continuing to work due to arthritis. TRIAL REGISTRATION: ISRCTN 76777720 . Registered 21.9.12

Kroger H. The stratifying role of job level for sickness absence and the moderating role of gender and occupational gender composition. Social Science & Medicine. 2017; 186:1-9.

<http://dx.doi.org/10.1016/j.socscimed.2017.05.045>

Abstract: The study investigates whether sickness absence is stratified by job level - understood as the authority and autonomy a worker holds - beyond the association with education, income, and occupation. A second objective is to establish the moderating role of gender and occupational gender composition on this stratification of sickness absence. Four competing hypotheses are developed that predict different patterns of moderation. Associations between job level and sickness absence are estimated for men and women in three groups of differing occupational gender composition, using data from the German Socio-Economic Panel Study (SOEP). For the purpose of moderation analysis, this study employs a new method based on Bayesian statistics, which enables the testing of complex moderation hypotheses. The data support the hypothesis that the

stratification of sickness absence by job level is strongest for occupational minorities, meaning men in female-dominated and women in male-dominated occupations

Lindholdt L, Labriola M, Nielsen CV, Horsbol TA, and Lund T. Sequence analysis to assess labour market participation following vocational rehabilitation: an observational study among patients sick-listed with low back pain from a randomised clinical trial in Denmark. *BMJ Open*. 2017; 7(7):e015661.

<http://dx.doi.org/10.1136/bmjopen-2016-015661> [open access]

Abstract: INTRODUCTION: The return-to-work (RTW) process after long-term sickness absence is often complex and long and implies multiple shifts between different labour market states for the absentee. Standard methods for examining RTW research typically rely on the analysis of one outcome measure at a time, which will not capture the many possible states and transitions the absentee can go through. The purpose of this study was to explore the potential added value of sequence analysis in supplement to standard regression analysis of a multidisciplinary RTW intervention among patients with low back pain (LBP). **METHODS:** The study population consisted of 160 patients randomly allocated to either a hospital-based brief or a multidisciplinary intervention. Data on labour market participation following intervention were obtained from a national register and analysed in two ways: as a binary outcome expressed as active or passive relief at a 1-year follow-up and as four different categories for labour market participation. Logistic regression and sequence analysis were performed. **RESULTS:** The logistic regression analysis showed no difference in labour market participation for patients in the two groups after 1 year. Applying sequence analysis showed differences in subsequent labour market participation after 2 years after baseline in favour of the brief intervention group versus the multidisciplinary intervention group. **CONCLUSION:** The study indicated that sequence analysis could provide added analytical value as a supplement to traditional regression analysis in prospective studies of RTW among patients with LBP

Lurati AR. Identifying personal risk factors for falls in the workplace. *Workplace Health & Safety*. 2017; 65(6):236-239.

<http://dx.doi.org/10.1177/2165079916686592>

Abstract: Falls can occur in any occupational setting. Occupational health professionals may focus on creating a safe work environment and training programs to prevent falls. However, an important aspect of safety management is identifying at-risk employees. The purpose of this article is to identify personal risk factors and offer interventions to prevent falls in the workplace

Oshio T, Inoue A, and Tsutsumi A. Does work-to-family conflict really matter for health? Cross-sectional, prospective cohort and fixed-effects analyses. *Social Science & Medicine*. 2017; 175:36-42.

<http://dx.doi.org/10.1016/j.socscimed.2016.12.039>

Abstract: It is well known that work-to-family conflict (WFC) is negatively associated with employees' health outcomes, including mental health and health behavior. However, the associations may be overstated because of insufficient control for unobserved individual attributes. To address this possibility, we compared the associations between WFC and health observed from a cross-sectional, prospective cohort and from fixed-effects regression models. We analyzed data from a Japanese occupational cohort survey of 15,102 observations from 7551 individuals (5947 men and 1604 women), which were collected in two waves with a one-year interval. We constructed a binary variable of high WFC and considered psychological distress measured using the Kessler 6 (K6) score, job and life dissatisfaction, and five types of health behavior (current smoking, problem drinking, leisure-time physical inactivity, sickness absence, and refraining from medical care). Results showed that for men, a high WFC increased the probability of reporting psychological distress (K6 score ≥ 5); this increased by 12.4% in a fixed-effects model. The association was substantially limited, as compared to the increase of 30.9% and 23.2% observed in cross-sectional and prospective cohort models, respectively; however, the association remained significant. Similar patterns were observed for job and life dissatisfaction. In contrast, the associations of WFC with all five types of health behavior were non-significant after controlling for fixed effects. We obtained generally similar results for women and found no substantial gender difference in the fixed-effects models. We concluded that the associations of WFC with employees' mental health and subjective well-being were robust, whereas the association between WFC and health behavior was generally limited

Thornthwaite L and Markey R. Return to work after workplace injury: injured workers, insurers and employers. Australian Journal of Social Issues. 2017; 52(2):98-115.

<http://dx.doi.org/10.1002/ajs4.11>

Vinberg S, Torsdatter Markussen L, and Landstad BJ. Cooperation between occupational health services and small-scale enterprises in Norway and Sweden: a provider perspective. Workplace Health & Safety. 2017; 65(8):355-364.

<http://dx.doi.org/10.1177/2165079916668527>

Abstract: Although small-scale enterprises (SSEs) dominate the private enterprise sector, knowledge about support for these organizations from occupational health services (OHSs) is insufficient. The aim of this research was to study OHS services provided and staff cooperation with SSEs in Norway and Sweden. In total, 87 Norwegian and 51 Swedish OHS providers answered a survey on their experiences providing requested services from and cooperation with SSEs. Based on survey questions and constructed indices, providers in the two countries were compared using independent sample t tests and non-parametric tests. Open-ended questions were analyzed using qualitative content analysis. The results showed that SSEs, particularly in industrial, construction,

and trade sectors, commonly contract for Norwegian and Swedish OHSs, and these contracts have increased in the last 12 months. Norwegian providers state that SSEs request broader organizationally- based services; their Swedish counterparts request more individual-based health-related services. Improvements concerning specific strategies for OHS collaboration with SSEs may be needed

*IWH authored publication.