

5286 men are presented. External data and older internal data are also presented as a comparison.

**Results** 56% of the men were under 45 years old and 44% were between 45 and 65 years old. Sufficient numbers of employees from the building construction, civil engineering and interior construction sectors took part in the survey. Approx. 30% have management responsibilities. Of the 16 stresses participants were asked about, the most common by order of occurrence: intense concentration, tension (52%), high responsibility (56%) and time or deadline pressure, rushing (61%). 28% described their overall health as excellent or very good, with a significant age discrepancy ( $\leq 24$ : 54%;  $\geq 55$ : 9%). 19%/14% reported that they accomplished less at work or in everyday tasks due to their physical or mental health.

**Discussion** The results show that in addition to familiar physical stresses like dust, noise and lifting and carrying heavy loads, construction work also involves mental strains that are not sufficiently recognised. Accordingly, this is not sufficiently prioritised in prevention measures in practice, also due to the complexity of the subject matter. The results offer sector-specific arguments and will help provide focused advice to employees and entrepreneurs by company doctors.

#### 762 MENTAL HEALTH MORBIDITY AMONG MEDICAL AND SURGICAL ONCOLOGY RESIDENTS

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**Introduction** Oncology clinicians represent stressful occupational category and suffer mental health morbidity. They are exposed to the clinical stressors and emotional demands related to care of cancer patients and their families, and feel worried about their career future. The present study was conducted to assess some aspects of mental health among medical and surgical oncology residents.

**Methods** This survey was conducted to assess some mental health aspects among residents, who have at least 1 year of work experience at both medical and surgical oncology departments. All participants were asked to complete a questionnaire. The questionnaire was based on items that included General Health Questionnaire (GHQ-12) to assess psychological distress; Symptom Checklist for Depression (SCD) to measure depression; and questions about demographic and occupational data. Logistic regression was used to assess the association between potential predictor variables of GHQ and SCD, results were considered statistically significant when p-value less than 0.05

**Results** Thirty seven physicians responded (response rate 91.3%). Levels of psychological distress and depression were measured by GHQ and SCD. Eleven physicians (29.7%, 95% CI: 17.3–45.7) scored  $>3$  on GHQ indicating psychological distress, and 37.8% (95% CI: 24.1 to 53.9) scored  $\geq 1.5$  on SCD indicative of depression. Suicidal thoughts were reported by 3 residents. The effect of occupational stress was the main predictor of both psychological distress and depression.

**Conclusion** Stress needs to be managed among physicians in such specialties to have a satisfactory professional life and high job productivity.

#### 767 HEALTHY ENTERPRISE STANDARD (HES) EVALUATION: ANALYSING EFFECTS AND COST-BENEFIT RESULTS WITH A QUALITATIVE EVALUATION OF IMPLEMENTATION PROCESS

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**Introduction** The *Healthy Enterprise Standard (HES)* is related to a certification program in Québec (Canada) and targets four areas: *Lifestyle, Work-life balance, Workplace environment and Management practices*. The aim of this study was to open the black box of intervention and analyse the implementation process in order to interpret effects of HES on health and workplace risk factors, and cost-benefit results from the employer's perspective.

**Methods** We used a before-after design for a two-case analysis with a mixed-method approach. In two organisations from different sectors, quantitative data were collected with a questionnaire among all active workers before the standard's implementation (T1 organisation A=186, organisation B=1081) and 25–31 months after (T2 A=190, B=975). Psychosocial work factors (demand-control-support and effort-reward imbalance validated scales), psychological distress (validated Kessler-6), and work-related musculoskeletal problems (WMSP, 4 items from the Nordic Questionnaire) were measured as well as intervention exposure. Intervention costs data, presenteeism and absences data were collected. Qualitative data through interviews and focus groups in both organisations were recorded, transcribed and coded in order to perform thematic analysis a posteriori.

**Results** The prevalence of psychosocial work factors (low social support, low reward) at T2 was lower amongst participants exposed to intervention in the *Management practices* area in both organisations. WMSP was lower for those exposed to the *Workplace environment* area in B. The average cost per worker per year was very similar for A and B whereas distribution of cost categories differed. The net benefit was highly positive in B and negative in A. Implementation analysis showed that each area of HES was associated to different types of facilitators and obstacles. Cyclical factors, communication and management involvement differed between A and B.

**Discussion** These results show that the implementation process analysis provides interesting insights into understanding effect and cost-benefit results and improving OSH interventions.

#### 770 A COMPARATIVE EUROPEAN ANALYSIS OF THE LINK BETWEEN WORK STRESSORS AND WORKER OUTCOMES

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**Introduction** Given the changing nature of employment, including the long term shift from manufacturing and agriculture to the service sector, an increasing proportion of the

workforce is engaged in employment which is less physically demanding but which brings with it a range of stress-related and psycho-social risks. Eurofound (2006) estimated that in 2005, 20% of EU-15 workers reported health related risk due to work-related stress and the EU OSHA (2007) has identified high emotional demands and work intensification as key emerging psychosocial risks for the occupational health and safety of workers.

**Methods** This paper draws on the 2015 European Working Conditions Survey to examine differences in the exposure of workers across Europe to (a) work stressors (physical risks, chemical/biological hazards, physically demanding work, psychosocial risks and work pressure); (b) the mediating role of work organised to enhance autonomy, supportiveness of management and colleagues and (b) the response of workers in terms of the subjective experience of stress, anxiety and depression.

**Results** Results to include the following:

- Country differences in exposure to workplace hazards and stressors
- Extent to which these are linked to country differences in the composition of jobs by sector
- The role played by the organisation of work (autonomy, supportiveness) in mediating the impact on workers
- Country differences in the extent to which they adopt forms of work organisation that ameliorate the impact of stressors on workers.

**Discussion** The organisation of work has an important role to play in ameliorating the impact of workplace risks on outcomes for workers.

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#### 'BALANSGUIDEN' – A SELF-ASSESSMENT E-TOOL FOR WORK-LIFE BALANCE

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**Introduction** Borderless work is an increasing phenomenon in modern work-life, where many employees have constant access to e-mail and other means to work from anywhere at any time. In many ways, it creates a freedom of action but also a risk of health. Many companies are now addressing this issue by introducing e-mail policies and such, however many employees are still risking their health by not disconnecting from the job and finding the balance between work-life and personal life. 'Balansguiden' is the outcome of a request from Swedish companies and unions to offer an easy-to-use, cost-free self-assessment tool available to the Swedish workforce.

**Methods** The e-tool is foremost to be used as a means to raise awareness within the individuals themselves. The user can choose from five topics, e.g. 'you can work wherever you like' or 'everyone trusts you'. Each topic starts with a short film clip, describing it with statements and situations. Further reflection is supported by follow-up questions, facts and finally the possibility to create an action plan in order to encourage change. The e-tool also encompasses support for managers to handle risks regarding borderless work on a group level. It is based around the same five topics and offers the possibilities to make group assessments as well as follow up over time

presented by graphic visualisations. It also provides a fact-based foundation for group discussion on the topics.

**Results** The e-tool was first available for individual use in 2016 and completed with the group functionality in 2017. The response has been positive from Swedish users, with over 18 000 unique site visits since the first release.

**Discussion** Scientific evaluation of the usefulness and effectiveness of the e-tool would make a valuable contribution and enable further conclusions about the method as such.

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#### HEALTHY ENTERPRISE STANDARD (HES) EVALUATION: IMPACT ON ADVERSE PHYSICAL AND PSYCHOSOCIAL WORK FACTORS AND WORK-RELATED MUSCULOSKELETAL PROBLEMS

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**Introduction** Work-related musculoskeletal problems (WMSP) are amongst the most frequent and costly health problems experienced by the working population. Both adverse physical and psychosocial work factors can lead to WMSP. The *Healthy Enterprise Standard* (HES) targets four intervention areas, including the *Workplace environment* and the *Management practices* areas. The aim of this study was to determine the impact of HES interventions targeting both these areas simultaneously on the prevalence of adverse physical and psychosocial work factors and of WMSP.

**Methods** This was an intervention study with a before-after design derived from secondary data. Organisations adopted the standard of their own initiative and were responsible for implementing interventions. All active employees were solicited to participate before (T1=2849) and 24–38 months (T2=2560) following the standard's implementation. At both time points, participants completed a questionnaire. Physical work factors were measured with five items. Psychosocial work factors were assessed with the validated demand-control-support and effort-reward imbalance models. WMSP were measured with four items adapted from the Nordic Questionnaire. Intervention exposure was measured by questionnaire and complemented by qualitative analyses.

**Result** There was an increase from T1 to T2 in adverse physical and psychosocial work factors as well as the prevalence of WMSP. The rate of adverse physical work factors at T2 was lower amongst participants exposed to interventions in the *Workplace environment* area of the HES. The prevalence of adverse psychosocial work factors at T2 was lower amongst participants exposed to interventions in the *Management practices*. However, the T2 prevalence of WMSP was similar between participants simultaneously exposed to interventions in both areas of interest and those not exposed to these interventions.

**Discussion** These results suggest that this type of intervention may be effective in reducing workers' occupational exposure to risk factors associated with WMSP and therefore be an effective strategy to prevent WMSP.