07B.5 TRAJECTORIES OF PSYCHOSOCIAL WORKING CONDITIONS AS PREDICTORS OF LATER LIFE PHYSICAL FUNCTION

¹Charlotta Nilsen*, ²Ross Andel, ¹Alexander Darin-Mattsson, ^{1,3}Ingemar Kåreholt. ¹Aging Research Center (Karolinska Institutet/Stockholm University), Solna, Sweden; ²School of Aging Studies, University of South Florida, Tampa, USA; ³Institute of Gerontology, School of Health and Welfare, Aging Research Network – Jönköping (ARN-J), Jönköping University, Jönköping, Sweden

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Objectives The demographic shift towards an aging society has made it important to understand underlying life course trajectories of later life health and function. The aim was to investigate if psychosocial working conditions are associated with later life physical function.

Method Two individually linked longitudinal Swedish surveys were used (n=803). A psychosocial job exposure matrix was used to measure psychosocial working conditions in the first occupation and at ages 25, 30, 35, 40, 45, and 50 - based on work history - and current occupation at baseline (1991). Physical function was measured in 2014. Random effects growth curve models were used to calculate within-person change. Random effects growth curve models were used to calculate intraindividual trajectories of working conditions, analyzed in relation to functional impairment with ordered logistic regression.

Results Having a more active job at baseline was associated with decreased odds of functional impairment in old age (OR 0.87, CI 0.76–0.99). Having a more high strain job at baseline was associated with increased odds of functional impairment in old age (OR 1.33, CI 1.04–1.70). Having a high starting point and upward trajectory of job strain throughout working life were associated with increased odds of functional impairment in old age (OR 3.16, CI 1.73–5.80).

Discussion Promoting a healthy workplace by reducing chronic stress and inducing intellectual stimulation, control, and personal growth, may not only improve the health of workers. It may also lower the cost of health and social care by improving health and function of the older population. Hence, investing in a healthy workplace should be seen as a double-win investment for society.

07B.6 MORTALITY BY SUICIDE IN THE SWISS NATIONAL COHORT (1990–2014): ANALYSIS ACCORDING TO OCCUPATION AND ECONOMIC ACTIVITY

¹Irina Guseva Canu*, ¹Nicolas Bovio, ¹Zakia Mediouni, ²Murielle Bochud, ^{1,3}Pascal Wild. ¹Institute For Work And Health (IST), Lausanne, Switzerland; ²Institute of Social and Preventive Medicine (IUMSP), Lausanne, Switzerland; ³Institut National de recherche et de sécurité (INRS), Nancy, France

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Objective Given the known importance of work in our everyday lives, and growing economic and psychosocial pressure related to rapid changes in current working conditions, the link between occupation and suicide regains both academic and practical interest. Sex-specific mortality from suicide in Swiss working-age (18–65) population was investigated.

Methods The study sample comprised 5'834'618 participants of the Swiss National Cohort (SNC) (94'918'456 person-years). For every occupation and economic activity/industry (coded using international standard classifications) we

computed directly age-standardized mortality rates (DSRs) using the age structure of the European population (2010) and standardized mortality ratios (SMRs) for suicide using Swiss population cause-specific mortality rates.

Results The highest DSRs were observed among unemployed/job seeking group (52.94 per 1 00 000 person-years based on 568 suicides), in agricultural, fishery and related male workers, and in health and social activities female workers. A consistent reduction in DSRs across three calendar periods, 1990–1998, 1999–2006, and 2007–2014 was observed in men. In female corporate managers, DSRs increased over the 2007–2014 period compared with 1999–2006. Unemployed/job seeking people, manufacturing labourers, personal care and related workers, and motor vehicle drivers of both sexes were identified at risk of suicide (SMR >1) compared to general working-age population. Moreover, an excess of suicide was observed among male material recording and transport clerks; nursing and midwife associated professionals; and agricultural workers as well as among female writers and performing artists.

Conclusions This study showed a distinctive pattern of suicide mortality between the two sexes and identified occupation groups at high and low risk of suicide among men and women. Sex-specific results need further investigation. In-depth analyses, taking into account the individual, social, and organizational characteristics of this population are necessary to understand the differences between and within protective and harmful occupations and to design targeted interventions aiming at suicide prevention among high-risk workers.

Intervention Studies

07C.2 DEVELOPING A MEASURING STRATEGY FOR MONITORING AND EVALUATION OF A NATIONAL OCCUPATIONAL HEALTH INTERVENTION PROGRAMME IN GREAT BRITAIN (GB)

Yiqun Chen*, Andrew Curran. Health and Safety Executive, Buxton, UK

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The Health and Safety Executive (HSE) is the GB regulator for health and safety at work. The HSE Health and Work (H&W) program designs and carries out a wide range of interventions; including inspection, enforcement and other regulatory activities as well as prevention; targeting priority health conditions in high-risk sectors. It is anticipated that long-term, sustainable and coordinated actions developed as part of the program will over time improve awareness, behaviors, control of exposures, and, as a result, prevent work-related ill health in GB workforce.

An HSE Measuring Strategy, together with measurement framework and principles, has been developed. The measurement framework draws together data systems, covering Attitudes (A), Behaviors (B), Control of exposures (C), and Disease and work-related ill health reduction (D), based on a simple model to provide evidence required for evaluating the short, medium and long term impacts of the large scale and complex H&W program on the GB health and safety system. The Strategy gives a new focus on measuring behavioral changes and risk reductions; and emphasizes longitudinal measurement designs to assess progress over time.

For developing the Strategy, workshops were organized to bring stakeholders across HSE to review existing systems for conducting population surveys, collecting exposure intelligence and occupational health surveillance, which have contributed to forming a long-term vision of fit-for-purpose measurement systems.

We will present the development of the Strategy and the plans to implement it with the H&W program, which requires close collaborations between epidemiologists and social researchers, policy makers, and other multidisciplinary regulatory specialists. The lessons learnt will help HSE towards building the right evidence base for monitoring and evaluation of a range of national level intervention programs for work-related ill health prevention.

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07C.3 EFFECTIVENESS OF A MULTI-FACETED INTERVENTION TO PREVENT MUSCULOSKELETAL PAIN IN NURSES AND AIDES: RESULTS OF A CLUSTER-RANDOMIZED CONTROLLED TRIAL

^{1,2,3}Mercè Soler Font*, ^{1,2,3}José Maria Ramada Rodilla, ⁴Sander van Zon, ⁴Josué Almansa Ortega, ⁴Ute Bültmann, ^{1,2,3}Consol Serra Pujadas. ¹Center for Research in Occupational Health, Department of Experimental and Health Sciences University Pompeu Fabra, Barcelona, Spain; ²CIBER of Epidemiology and Public Health, Spain, Barcelona, Spain; ³IMIM (Hospital del Mar Medical Research Institute), Barcelona, Spain; ⁴Department of Health Sciences, Community and Occupational Medicine, University Medical Center Groningen, University of Groningen, Groningen, Groningen, The Netherlands

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Background Health workers are at high risk of developing musculoskeletal pain (MSP). This study aimed to evaluate a multi-faceted intervention in two public tertiary hospitals, encompassing three levels of prevention and health promotion to prevent and manage MSP.

Methods A two-armed cluster randomized controlled trial, with a late intervention control group was performed. Clusters were independent hospital units, and participants were the nursing staff. The intervention comprised three components: participatory ergonomics, case management, and health promotion. The control group received usual occupational health care. The intervention lasted one year and data were collected at baseline, 6 and 12 months follow-up. Primary outcomes were self-perceived MSP and its associated sickness absence. The process evaluation included recruitment, context, reach, dose administered and received, fidelity, satisfaction, implementation strategy, and discussion groups of experts and participants.

Results Eight clusters, including 445 participants, were randomized. In the intervention group a 20% statistically significant reduction of neck, shoulders and upper back pain compared to the control group (OR=0.37; 95% CI=0.14–0.96) was observed at 12 months follow-up. We found no significant differences in incidence and duration of sickness absence. Organizational culture (secondary outcome) improved significantly in the intervention group in the domains of ‘formal safety audits’, ‘availability of information for safety at work’, and ‘involvement of workers in decisions that affect their safety and health’ compared to the control group. The intervention was implemented with 96.6% fidelity, and participants’ adherence was 75.5%. Participant’s satisfaction was 9.1/10.

Conclusions This intervention showed effectiveness to reduce MSP and improve organizational culture, through to an integral

management of MSP. Although our results are modest, strategies should focus on multi-faceted interventions, and occupational health services might be excellent opportunity for.

07C.4 USE OF CONTROL MEASURES AMONG CONSTRUCTION WORKERS WHEN PERFORMING DUSTY WORK

Trang Khieu*, Jacob Daubé*. *WorSafe New Zealand, Wellington, New Zealand*

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Respirable dust, including respirable crystalline silica (RCS), is a common risk to health for construction workers. New Zealand and international literature has shown that construction workers are likely exposed to high levels of dust in the performance of their work. However, very little is known about the prevalence of controls used to minimise the dust exposure. An on-site survey of 250 construction workers was undertaken in Hamilton, New Zealand. Respondents were asked how frequently they completed any of six common high-risk activities for dust exposure: [1] cutting or drilling concrete, [2] grinding or polishing concrete, [3] jackhammering, [4] crushing concrete, [5] cutting or sanding wood, [6] cutting or sanding plasterboard or fibre cement board. For each activity completed more than once a month, workers were asked about the controls they used to minimise exposure to dust and their consideration of the risks to their health. Low levels of controls were reported across the high-risk activities. The majority of workers did not usually use water suppression when jackhammering (79.6%) or crushing concrete (56.3%). Nearly two thirds (62.8%) of workers did not use dry dust extraction when cutting or sanding wood, and over a quarter of respondents used neither water suppression nor dry dust extraction when cutting/drilling concrete (30.1%) or grinding/polishing concrete (25.0%). Half of the workers (50%) often or always wore respirators when performing dusty work but fewer than half of ever-wearers were fit-tested or clean-shaven. Younger workers (<25 years) were significantly less likely to consider risks to their health or wear a respirator compared to older workers (≥25). This study provides an insight into the use of dust controls in the construction industry in New Zealand. Future work should investigate how to encourage or enable uptake of stronger dust controls.

07C.5 ASSESSING THE IMPACT OF INTERVENTION ON FUTURE LUNG CANCER BURDEN AMONG CONSTRUCTION WORKERS

¹Chaojie Song*, ¹Kate Jardine, ^{1,2}Victoria Arrandale, ^{3,4}Young Jung, ^{3,5}Amir Mofidi, ³Emile Tompa, ⁶Thomas Tenkate, ^{7,8}Hugh Davies, ^{1,2,8}Paul A Demers. ¹Occupational Cancer Research Centre, Cancer Care Ontario, Toronto, Canada; ²Dalla Lana School of Public Health, University of Toronto, Toronto, Canada; ³Institute for Work and Health, Toronto, Canada; ⁴McMaster University, Toronto, Canada; ⁵Department of Occupational Health Engineering, Tarbiat Modares University, Tehran, Iran; ⁶School of Occupational and Public Health, Ryerson University, Toronto, Canada; ⁷CAREX Canada, Burnaby, Canada; ⁸School of Population and Public Health, University of British Columbia, Vancouver, Canada

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Background and objectives Construction workers are exposed to several carcinogens at work. Implementing intervention methods may reduce workers’ exposure, which should subsequently reduce the number of cancer cases attributable to the