Methods 378 pushing and pulling test sessions were organised. Forces were measured by means of a computerised dynamometer (200 Hz, 120 Kg scale). 3 health operators (OH) and 2 very trained technicians (T) moved 2 types of hospital beds carrying simulated loads of patients weighting 70, 90 and 110 Kg, on a maximum distance of 300 m. To assess the speed limit (1 m/second) compliance, a 20 m pushing test was repeated multiple times by each tester. The same 20 m test provided individual threshold to compute initial and sustained forces. Initial force was defined as value lying above the threshold, the hysteresis curve and only for coherent data. To compare the speed suggested by the methods with the real speed performed by operators, a 2 months analysis of the patient transportation recorded missions was carried out. Then the accumulated delay-times were estimated with reference to the mean travel time measured at the suggest speed.

Results Initial forces resulted 43% (32%–112%) and sustained forces 37% (23%–101%) higher and statistically significant for OH compared to T. Increased speed saves only 25% (12%–56%) of the travel time, due to elevators waiting, doors opening etc.

Conclusion Rapidly grooving hospitals often show tortuous paths, where patient transportation on bed is allowed. ISO11228-2 assessment method contribute to solve complex measures, particularly when dealing very long distance pushing and pulling tasks. Initial forces might be calculated by measuring the threshold of the initial force of each operator on a 20 m test. Mean delay time shows risk excess often leading to increased speed behaviours.

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STAYING AT WORK WHILE AGEING: BARRIERS AND FACILITATORS FOR WORKERS OVER 55 YEARS OF AGE

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Introduction While ageing workers (AWs) (≥ 55 years) constitute a growing portion of the labour force, they tend to be absent for health reasons more often than other workers. However, implementing mechanisms that facilitate their staying at work implies first understanding the contributing factors and dynamics.

Methods A multimethod approach was used, combining a literature review and a series of group discussions with stakeholders in work disability. First, a rapid review of mixed studies (qualitative, quantitative, mixed) was carried out between 2006 and 2016 using main databases (e.g.: CINAHL, PsycInfo, Sociological Index). We identified 30 articles on AWs and various causes of disability, then analysed the article content using a predefined extraction grid. Four focus groups representing various stakeholders (n=35) concerned by the ageing of workers in Quebec, Canada, were formed (insurers, employers, unions, health professionals). The discussions were transcribed and content analysis was performed.

Results Combined results revealed that the relationship between ageing and the likelihood of staying at work is largely influenced by the interactions between workers' personal systems and the organisation's (workplace) system. The gap between workers' representations, capacities and resources, on the one hand, and employers' expectations and

requirements and the conditions they provide, on the other, significantly impacts the likelihood of AWs staying at work.

Discussion The likelihood of AWs staying at work appears closely linked to the workplace's dynamic capacity to take into account their specific health conditions and needs. This presupposes, however, recognition of AWs' added value, in a market characterised by ever-growing concern with maximising performance. The actions associated with the different systems (e.g. compensation and healthcare systems) also need to be harmonised to maximise the stay-at-work potential of this segment of the labour force.

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AGEING AND INTERVENTIONS

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Aim of special sessions To show and discuss results from interventions among ageing workers in different occupations.

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1620a

HOW TO PROMOTE HEALTH AND WORK ABILITY OF FIREFIGHTERS USING COMPUTER-BASED ASSESSMENT METHOD OF PHYSICAL WORK CAPACITY

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Introduction According to the Finnish regulations the health and physical work capacity of operative firefighters has to meet the demands of work throughout their career, therefore they must be evaluated regularly. This study is part of large research and developmental project of the assessment, feedback and follow-up method of firefighters' physical work capacity (FireFit method).

Methods The aim was to find out short term effectiveness of the use of FireFit method. Web-based questionnaire was sent to 18 actors of all 22 regional rescue services (RRS) and to their occupational health personnel (OHP). The response rate was 60%. In addition, the actors of two RRS and their OHP were interviewed about the developmental needs of the method especially concerning ageing firefighters.

Result The quality, equality and the use of tests in professional manner has improved. They reported that it has been easier to influence the problems of work ability using the system. As a whole, the comprehensive and work related feedback from the assessments has made discussion easier leading to the real causes of the problems and to wider health promotion issues. The consultation of OHP has been more prevalent and early enough, especially for persons with musculoskeletal problems. A total of 77% of the respondents felt that the quality and comprehensiveness of physical training has improved. However, there were also developmental needs. For example, in all RRS there should be an established and well-known action

plan for what to do when ageing firefighter fails to pass the cut-off values of the tests.

Discussion The FireFit method seems to act as a tool of co-operation between OHP and actors in RRS. It seems to make early interventions more appropriate for firefighters with decreasing work ability. High quality use of the method requires continuous education and training of its users.

1620b PREVENTIVE INTERVENTIONS TO ASSIST WORKERS TO STAY AT WORK: WORKERS' HEALTH SURVEILLANCE (WHS) AS EXAMPLE

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Introduction WHS is a preventive periodical strategy to monitor the work-relevant aspects of health in specific groups of workers. The idea is that occupational health professionals could signal individual problems that could lead to a decrease in work ability, and intervene timely on those aspects. In the Netherlands, specific guidelines exist for occupational physicians on this topic. Examples will be provided to give more insight in the relevance and effects of this strategy.

Methods For four specific jobs (doctors, nurses, construction workers, ambulance workers), job-specific WHS was developed and implemented in research and/or practice. The prevalence of signalled problems and workers' experiences with the WHS were researched, calculated and will be reported upon in detail.

Result The WHS for hospital doctors was developed, feasibility was tested and the doctors were satisfied with the process, would participate again and had the impression the WHS could improve their future work ability. In nurses, two strategies of WHS were studied in an RCT and effects on work-functioning was tested: the WHS performed by occupational physicians was cost-effective on work-functioning compared to an e-WHS. In construction workers, a controlled study compared a job-specific WHS with the classic form and it was shown that workers more often undertook action or sought for specific after the job-specific WHS. The WHS for ambulance workers was implemented on a national level and high prevalence of job-specific health problems were found.

Discussion The positive and negative experiences with job-specific WHS as preventive strategy will be shown.

1620c EFFECTS OF A BEHAVIOURAL INTERVENTION PROGRAM ON PERCEIVED WORK ABILITY AMONG MUNICIPAL EMPLOYEES

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Introduction Long-term sickness absence and early retirement are large problems in the municipal employment sector. Ways to support work ability and coping at work are therefore required. It is important that timely actions are targeted towards employees at risk to improve their health, promote work ability and prevent long-term sickness absence and early retirement. The aim was to evaluate effects of a cognitive

behavioural therapy in an early rehabilitation program to improve employees' work ability.

Methods Participants (mean age 49,9 years) in the intervention and in the control group were measured at base-line and after a 9 month follow-up to estimate the causal impact of the intervention in the study group (n=389), compared with a control group (n=100) that was not offered this intervention. The work ability of both groups was measured using the work ability index (WAI). Differences were analysed within and between groups with the analysis of variance for repeated measurements

Results Participants in the intervention group showed a significant increase in several WAI areas, resulting in an overall increase in the total WAI score (36,9–38,2; $p<0.001$) although there was a significant decrease in WAI in the control group (37,6–36,7; $p<0.05$).

Conclusions The results suggest that the early rehabilitation program was effective in increasing employees' work ability, as measured by the WAI.

1620d WORKSITE HEALTH PROMOTION PROGRAMS FOR AGEING WORKFORCE IN EUROPE. THE EXPERIENCE OF PROHEALTH65+

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Introduction The proportion of older workers has increased substantially in European countries. The study project Pro-Health65+, funded by EU-CHAFEA, collected experiences of workplace health promotion for older workers (WHPOW) conducted in 10 representative countries of Central

Europe, Eastern Europe and the Mediterranean.

Methods Research studies of WHPOW conducted from 2000, 1 st January, to 2015, 31 December, were identified through a comprehensive literature review and a search on the website of the major

European Agencies on worker health promotion. Researchers and companies were asked for additional documentation about WHPOW programmes in a survey conducted with Survey Monkey.

Results A total of 622 intervention studies performed or promoted in the workplace and targeted at older workers or at the ageing of the workforce were identified. Most of the programs were carried out in Central Europe (295, 47.4%), less in East Europe (193, 31.0%) and in Mediterranean countries (134, 21.6%).

Discussion Our study shows that there are only a limited number of WHPOW actions throughout the 10 selected European Countries. While in Central Europe widespread interest in issues of ageing workforce has resulted in national policies to encourage WHPOW, not all the countries of Eastern Europe are equally well equipped. Lastly, in Southern Europe health promotion activities are largely inadequate compared to needs.

1607 AGEING AND MUSCULOSKELETAL DISORDERS – THE IDENTIFICATION OF MUSCULOSKELETAL RISK FACTORS AND THE WORK ABILITY INDEX

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