use and some pollution sources have been noticed during the environmental investigations, although no emanation at a toxic level was detected. The psychosocial investigations emphasised a real suffering of the agents and a communication problem towards the events.

The results allowed us to make some recommendations which are currently being applied. Since the beginning of their application, no more complaints have been reported.

| 28 | PARA-OCCUPATIONAL LEAD EXPOSURE IN CHILDREN OF WORKERS IN FACTORIES USING LEAD |

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Objectives After reporting 2 children lead poisoning (>100 mg/L), environmental investigation identified parental occupational exposure as the most likely source. A cross-sectional survey was implemented in September 2010, its aim was to estimate and analyse the para-occupational exposure of employee's children of two factories in the Centre Region (France) and their subcontractors.

Methods Children were screened for blood lead level on a voluntary basis. Individual and family data on potential lead exposure were collected using a questionnaire and analysed using SAS®9.1. Risk factors for lead contamination were identified using univariate logistic regression.

Results Overall, 87 children from 0 to 18 years (40 boys and 47 girls) with at least one parent occupationally exposed to lead, were screened (participation rate was 31.5%). Arithmetic and geographic means of blood lead levels were respectively 34.2 mg/L and 26.9 mg/L. The prevalence of contamination (between 50 and 99 g/L) was 17.2% and that of intoxication ($\geq$100 g/L) is 1.15%. Risk factors for contamination were age under 6 (RR = 2.11 p = 0.09) and living in a home built before 1948 (RR = 3.96 p = 0.02). Children under 6 had a blood lead level average of 46.9 mg/L, significantly higher than that of children aged 6–12 and 12–18 (respectively 32.4 and 25.1 mg/L). A significant correlation was observed between blood lead level of children and that of their exposed parent (p < 0.001).

Conclusion The geometric mean of blood lead levels (26.9) in these children with occupationally exposed parents was nearly twice higher than that observed in the Centre region (14.7 mg/L) and similar to those obtained in the framework of the national monitoring blood lead levels in children in 2005–2007 (33.6 mg/L), which targets at-risk children. This confirms existence of exposure to lead in these children of workers in factories using lead.

Session: E. Sustainable employability

| 29 | WHAT EFFECT DOES LIVER TRANSPLANT IN ADULTS HAVE ON EMPLOYMENT? - A SYSTEMATIC REVIEW |

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Objectives Return to work after liver transplantation was last reviewed in 2000. Changes have occurred to transplant programmes since that time. As such, a review of recent publications was undertaken to identify if the employment experience has altered in the past 12 years.

Methods A literature search was performed in PubMed and Embase. Papers published from January 2000 to December 2011 in the English language were included in the review. 181 papers were identified. After removal of duplicates 117 abstracts and titles were screened and 29 papers considered for eligibility. 24 papers were included in this review.

Results 10 papers were from the USA and 14 were from other countries. The number of cases followed up ranged from 8 to 471 (total 3,222) with a mean age of 51.9 years. The follow-up period ranged from 2 to 20 years (mean 6.1 years). 10 studies included pre and post-transplant employment rates. Pre-transplant rates ranged from 40–75% (mean 63.8%). Post-transplant the rates ranged from 22–57% (mean 37.1%). In 9 studies the employment rate fell. Post-transplant employment rates fell with duration of follow-up (7 studies; p = 0.016). Cross-sectional analysis showed recipients had lower physical component scores on SF-36 compared to the general population. Longitudinal data showed improvement in physical function between pre- and post-transplant assessment. The results were lower than the general population but better than those with chronic liver disease. One paper identified depression as a factor associated with higher unemployment post-transplant.

Conclusions The review indicates that post transplantation employment rates are lower compared to pre-transplantation rates, despite improved physical function. Rates appear to fall with duration of follow-up over the first 6.5 years after transplantation. A study with follow-up at intervals after transplantation would improve understanding of the return to work issues and help plan suitable interventions.

| 30 | PREDICTORS OF PROLONGED WORK PARTICIPATION IN WORKERS WITH AND WITHOUT CHRONIC DISEASE: A 3-YEAR PROSPECTIVE COHORT STUDY |

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Objectives The workforce is shrinking, as more people retire than start their career. It is therefore important to maintain older workers in the workforce. The prevalence of chronic disease increases with age. It is unknown whether predictors of prolonged work participation differ between workers with and without chronic disease. The aim of this study was to investigate differences and similarities in predictors of prolonged work participation in workers aged 55+ years with and without chronic disease.

Methods All workers aged 55–62 years were selected from the 2002–2003 cohort of the Longitudinal Ageing Study Amsterdam (n = 333). Potential predictors at baseline were: health, personality, work characteristics, and demographics. Per potential predictor, a logistic regression coefficient for involvement in paid work in 2005/2006 was calculated, separately for workers with and without chronic disease. Next, a pooled estimate was constructed. Using a χ^2 test for coefficients, differences between the pooled estimate and the coefficients were tested.

Results The prevalence of chronic disease was 59% and 67% was still involved in paid work three years later. Follow up data was available of 316 workers (95%). Physical workload (χ^2: 5.37; DF = 1) and psychosocial resources at work (χ^2: 5.94; DF1 =) differed between the groups with and without

chronic disease. More psychosocial resources (OR = 3.57; 95% CI:1.33–10.0) were predictive for prolonged work participation in workers with chronic disease only. Age, working hours/week, no functional limitations, depressive symptoms, neuroticism, and sense of mastery were significantly associated with prolonged work participation in workers with *and* without chronic disease.

Conclusions Predictors of prolonged work participation were similar for workers with and without chronic diseases, except for physical workload and psychosocial resources at work. This implies that differences between workers with and without chronic disease exist, and that these should be taken into account when identifying high risk groups regarding exit from the workforce.

| 31 | EFFICIENCY OF OCCUPATIONAL HEALTH CO-OPERATION IN SMALL FORESTRY ENTERPRISES |

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In Finland, employers are obligated by law to organise and pay for OHS for their employees. In the agriculture and forestry industry, only 50% of employers have organised OHS. One reason for this low coverage is that forestry machinery and timber transportation enterprises are usually small. The other, and perhaps the main reason, is that the employers are not familiar with the different tasks of OHS. To assess the efficiency of occupational health co-operation, we need indicators and processes that illustrate co-operation.

Objectives The aim of this study was to clarify how co-operation is carried out, and how it is manifested in the actions of enterprises and occupational health units.

Methods Five forestry machinery and timber transportation enterprises (n = 5) and their OHS units (n = 5) participated in our study. Employers and employee representatives took part in theme group interviews (n = 5) and we interviewed the enterprises' occupational health nurses (OHN) individually (n = 5). We also analysed OHS documents.

Results The interviews revealed that the main OHS tasks were individual work and health check-ups. Real co-operation between enterprises and OHS units was low. Both sides recognised a lack of knowledge concerning the other's work or tasks. Co-operation between enterprise and OHS was rarely mentioned in the various documents. Risks assessments were not carried out, despite being legally obligatory for the enterprises. The main challenges for occupational health co-operation in this field were risk assessments and workplace surveys.

Conclusions In order to improve the effectiveness of occupational health co-operation, the employer and OHS must know each other well, agree on the objectives for their joint actions, and commit to them. Successful co-operation requires regular interaction.

| 32 | PREDICTORS OF SUCCESSFUL WORK FUNCTIONING |

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Objectives To help workers to stay at work in a healthy, productive and sustainable way and to develop interventions to improve work functioning, it is important to have insight in predictors of successful work functioning. The aim of this study is to identify predictors of successful work functioning in the general working population.

Methods A longitudinal study was conducted among the working population. Work functioning was assessed with the Work Role Functioning Questionnaire 2.0 (WRFQ). The total score was categorised as: 0–90; > 90 ≤ 95; and > 95–100 (the latter defined as 'successful work functioning'). A stepwise multiple ordinal logistic regression analysis was performed to examine relationships between potential predictors and the dependent variable (successful work functioning). Potential predictors included were mental health, fatigue, decision latitude, work engagement, work ability and baseline work functioning.

Results Mental health (OR = 1.09, 95% Confidence Interval (CI) = 1.02–1.17) and fatigue (OR = 0.93, 95% CI = 0.88–0.98) were both significant predictors of successful work functioning. After the addition of decision latitude and work engagement, only fatigue was predictive of successful work functioning. The effect was attenuated when work ability was added. In the final model, work ability (OR = 2.07, 95% CI = 1.22–3.49) and baseline work functioning (OR = 1.16, 95% CI = 1.07–1.25) independently predicted successful work functioning.

Conclusions Work ability and baseline work functioning are predictive for future successful work functioning. However, research has shown that it is difficult to change work ability. The concept of work functioning, reflecting the interplay between work demands and health, might provide better information for the design of interventions.

| 33 | MEASUREMENT PROPERTIES OF THE 16-ITEM WORK LIMITATIONS QUESTIONNAIRE AMONG INJURED WORKERS WITH MUSCULOSKELETAL DISORDERS - DO DEPRESSIVE SYMPTOMS MAKE A DIFFERENCE? |

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Objectives Little is known about whether the measurement properties of health-related work functioning instruments vary when applied to injured workers with or without depressive symptoms. The objectives of this study are to examine the reliability and validity of the 16-item Work Limitations Questionnaire (WLQ-16) among injured worker's compensation claimants and to explore whether these measurement properties vary by depressive symptom level.

Methods Data were used from the Readiness for Return to Work Cohort Study, a prospective cohort study of Ontario workers filing a Workplace Safety and Insurance Board lost-time injury claim for a musculoskeletal disorder. A total of N = 333 injured workers who had returned to work were included in the analysis. Thirty-four percent reported a high depressive symptom level (HDSL). The WLQ-16 is designed to assess limitations at work due to physical or emotional health problems or associated treatment. The 20-item Center for Epidemiologic Studies Depression scale was used to measure depressive symptoms.

Results In HDSL participants, the Cronbach's alphas were markedly lower for time management demands and physical demands when compared to participants with low depressive symptom