

## Abstracts

record card) was issued in only 59.26% of cases. Regarding to the accidents, 58.45% occurred in employer's facilities, during the day, predominantly between 9 and 10 am. Of those, 73.95% were typical, 21.54% were in transit, and almost all (94.64%) of injured workers needed medical attention. The accidents were mainly caused by external causes of accidental injury (53.10%) and by accidents (24.58%). Most affected body parts were hands (37.16%). About cases evolution, 56.38% of workers were temporarily disabled and 9.74% died due to the accident.

**Conclusions** Accidents at work cause serious social and economic damages, mental and emotional harm to workers, their family and dependents. To the Public Health, accidents at work involve spending on emergency, assistance, and rehabilitation; to country's economy, workers in productive age are lost.

#### 148 RELATIONS BETWEEN WORK ENVIRONMENT FACTORS, BURNOUT AND HEALTH OF THE MILITARY PERSONNEL

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**Aim** The purpose of present study was to examine relations between work environment factors, burnout and state of health of the military personnel and to find factors that can affect the level of burnout and adverse health status.

**Method** The data has been gathered by the anonymous questionnaire in 2008–2009. The target group consisted of 3199 military men. Six structural units were included into the study.

**Results** Study group consisted of 641 persons, whereas 45% of them were servants, 31% executive officers and 20% officers (4% unknown). 55% of respondents were female (mainly servants) and 44% men (mainly officers). The average age of the study group was 39 years (SD 11) and their average work experience 6 years (max 40 yrs).

In general military personnel found their health to be good and they were fairly satisfied with their working environment. But the respondents with higher burnout levels assessed more negatively their work environment and health status. They perceived more often work-family conflict, lack of instructions, lower appreciation and less interest toward work. Also, they measured deeper tiredness and depression and more psychosomatic disorders. Male officers and female servants were more negative in their answers than male noncommissioned officers and male servants.

**Conclusions** That to prevent burnout and health problems among military personnel it is needful to pay more attention on work environment and work organisation.

## Session: T. Intervention studies & health management

#### 149 IMPROVING THE IMPACT: RECOMMENDATIONS FOR THE USE OF CLEANING CHEMICALS

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**Objectives** Cleaning chemicals are commonly used in the occupational environment and have been associated with increased

risks of asthma, upper and lower respiratory symptoms, and dermatitis. It is important that cleaning workers use appropriate products safely. The Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH) in the United States collaborated to develop educational materials targeted at workers that use cleaning chemicals and their employers.

**Methods** OSHA and NIOSH staff used published data about cleaning chemicals to guide the content of an information sheet and poster, sought input from industry, unions, government and academia, and developed plans for dissemination of these educational materials.

**Results** The information sheet and poster were released to the public in 2012 and are electronically available on the OSHA and NIOSH websites. The information sheet, developed for employers, is 6 pages and includes sections on choosing safer cleaning chemicals, safer work practices, worker training, and resources, including numerous links to sites on the internet that have additional information. The poster, developed for workers, alerts workers to the potentially harmful effects of cleaning chemicals and what they need to know to work safely with these chemicals. The poster, originally in English, has been translated into Spanish, Chinese, and Tagalog, and can be printed in varying sizes. The educational materials were disseminated through a network of partnerships created by the NIOSH National Occupational Research Agenda that included unions, safety and health professionals, worker organizations, academia, and government agencies.

**Conclusions** The information sheet and poster have filled a need for clear communication about chemical cleaners that workers handle every day. Efforts to further disseminate these materials are still underway. Additional feedback from stakeholders will determine if additional translated languages are needed.

#### 150 INDEPENDENT MEDICAL EVALUATIONS: A SYSTEMATIC REVIEW

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**Objective** Individuals suffering an injury or illness may be eligible to receive financial compensation based on their level of impairment and an independent medical evaluation (IME) often guides this determination. Our objectives are to determine the issues authors have addressed and their viewpoints, establish where evidence allows for recommendations regarding the best practices for IMEs, identify important gaps, and provide guidance on priorities for future research.

**Methods** We conducted a systematic review of all literature regarding IMEs conducted in a North American setting.

**Results** We identified 4667 potentially eligible studies; we retrieved 129 studies in full text and 88 proved eligible. We located another 22 eligible articles from bibliography searches. The chance-independent between-reviewer agreement ( $\phi$ ) on full text eligibility was 0.84. The majority of studies (81%; 89 of 110) were narrative reviews.

We found that authors of narrative reviews are much more likely to express favourable views if they perform IMEs, work for a company that arranges these assessments, or work in an area in which IMEs disputing patient's reported level of impairment are likely to be helpful (Pearson correlation coefficient = 0.70,  $p < 0.001$ ). The 8 reasons provided for which IMEs are

arranged were establishing restrictions and limitations, adjudication, establishing causation, optimising treatment, determining maximum medical recovery, providing a diagnosis, establishing a prognosis, and delaying claim payment. A number of important limitations to the current approach to IMEs were identified, including lack of specific training or accreditation for clinicians performing these assessments, lack of standards for assessment reports, and the potential for considerable conflict of interest in that referral sources select clinicians that are well paid to provide reports, and sent more referrals if their reports are valued.

**Conclusions** Our review provides guidance on priorities for future research regarding the conduct, use, and interpretation of IMEs.

### 151 SOCIAL SECURITY IN BRAZIL: THE IMPACT OF EPIDEMIOLOGICAL NEXUS ON THE BENEFITS RELATED TO OCCUPATIONAL DISEASES

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**Objectives** The Ministry of Social Security, in order to face the under-reporting of occupational accidents and diseases, has introduced new methods of identifying them. In addition to the Employment Accident Notification (CAT), the Technical Epidemiological Social Welfare Nexus (NTEP) was established in 2007. This work intends to analyse the role of the NTEP in improving information regarding to the work-related diseases and, more specifically, on the trend and variation of benefits paid for them.

**Methods** Through the NTEP it is possible to establish a nexus for each area of the economic activity, focusing on data of incapacitating diseases recognised by social welfare and involving more than 15 days' absence from work, using the ICD-10.

**Results** Benefits for work-related diseases increased 128.2% during 2005–2008. However, the greatest changes occurred after 2007. From May 2006 to March 2007, when only the employer's CAT was used, 125,246 Accident and Disease Assistance authorisations were issued. But, with the addition of the NTEP to the CAT this number rose to 293,912, an increase of 134.7% over the period from April 2007 to February 2008. The detachable figures are for 'musculoskeletal system and connective tissue' (107,764 cases), 'mental and behavioural disorders' (8,930 cases), and 'diseases of the nervous system' (8,396 cases).

**Conclusions** The accident benefits for work-related diseases are growing more than other welfare benefits. This reality requires more studies and technical insights as well as priorities in terms of specific strategies for OSH policy.

### 152 SITUATION AND FACTORS RELATED TO HEALTH EXAMINATION ACCORDING TO OCCUPATIONAL RISK IN THAI GOVERNMENT HOSPITALS

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Periodic medical examinations are typically carried out in the context of a general health examination and an occupational health examination. In Thailand, government hospitals are not required to provide occupational health examinations, because

these hospitals do not fall under the protection of Thai labour law. Therefore, the objective of this study was to evaluate the current practice of occupational health examinations in Thai government hospitals. The survey was conducted in August, 2011. The self-administrated questionnaire was sent by post to each government hospital. The questionnaire included information on demographic data of the hospital, 14 selected factors, and the activities regarding occupational health examinations. There were 465 hospitals participating in this study. Both percentage and multiple logistic regressions were utilised for statistical analyses. The results revealed that 82.6% (384/465) of Thai government hospitals conducted health examinations based on occupational risks to their healthcare workers. The uses that hospitals made of the results from their occupational health examinations were, from highest to lowest percentage, 93% (357/384) to compare to previous results, 82% (315/384) to use in OHS activities, 48.7% (187/384) to use for hospital accreditation, and 15.6% (60/384) to conduct research. The factors of significance related to the health examinations in their hospitals were as follows: medium-sized hospitals (adjusted odds ratio = 8.96; 95% CI = 2.04–39.30), the OHS support from the hospital's administration (adjusted odds ratio = 3.60; 95% CI = 1.69–7.65), and OHS risk assessment activity (adjusted odds ratio = 4.87; 95% CI = 2.28–10.41). In conclusion, hospitals where periodic occupational health examinations are not given as well as other relevant parties should initiate strategies to develop this examination for their healthcare workers to ensure their good health. Hospitals already providing this service should carefully consider how they use the data from their occupational examinations to raise their cost-effectiveness.

### 153 HEALTH ASSESSMENT FOR WORKERS PERFORMING VISUAL EXAMINATION IN AN ELECTRONIC ENTERPRISE OF TAIWAN

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**Objectives** It is understood that visual display unit (VDU) workers complain of visual fatigue during or after work hours. The objective of the study is to conduct a cross-sectional health assessment for worker performing visual examination on electronic components.

**Methods** The 21 female workers performing visual examination on electronic component using microscopes in an electronic enterprise of Taiwan were the study population. The face to face questionnaire survey was conducted by the occupational health physician in 2011, and the content of questionnaire included demographic data, refractive disorders, subjective symptoms, and workplace risk factors related to visual health.

**Results** The mean age and years of employment of the study population were 31.5 and 2.9 years, respectively. The average period of visual examination was 10.5 hours per shift and poor work-rest schedule was noted. The average actual sleeping time was 6.8 hours per day. There were 36.4% and 31.8% workers needed to shift work and night work, respectively. 77.3% workers complained of visual symptoms. 90.9% workers had extra-ocular symptoms, and shoulder discomfort was the most common one of them (81.8%). The workers with refractive disorders had higher visual fatigue than no disorders ( $p < 0.05$ ). The workers with shift or night work patterns had higher both visual and extra-ocular symptoms than non-shift or non-night ( $p < 0.05$ ). The worker with visual fatigue had