Objectives Childhood hearing impairment (CHI) is a major developmental disability, but data at the national level are limited, especially those on the trends over time. We conducted a study to assess the time trend of CHI prevalence in Taiwan and explore its associated factors.

Method The Taiwan government certifies disabled residents for providing various services and maintains a registry of certified residents, especially those on trends over time. We conducted a study to assess the time trend of CHI prevalence in Taiwan and explore its associated factors.

Results Each year, registered cases ranged from 3427 to 4075. The prevalence increased from 2000 to 2006, and then decreased till 2011. In general, the prevalence increased over the years in the age groups < 3 years, 3–5 years, and 6–11 years (p < 0.05), but decreased in the age group 12–14 years (p < 0.05). The largest increase was observed in the age group < 3 years, particularly after the promotion of screening by the government in 2003. The decrease after 2006 was mainly attributable to decreases in the age groups 12–14 and 15–17 years, and similar decreases had been observed in countries with rubella vaccination programs.

Conclusions In Taiwan, the prevalence and proportion of CHI in the age group < 3 years had increased from 2000 to 2006 after the implementation of hearing screening programs. The overall prevalence decreased from 2006 to 2011, which might be attributable to the improvements in medical care and the nationwide rubella vaccination program.

Objectives Epidemiological studies have shown that musculoskeletal symptoms are frequent occupational injury and disability among nurses in developing countries. Preventive measures were not able to reduce musculoskeletal disorders significantly in nursing profession. This study was performed to provide a comprehensive assessment of the association among risk factors in developing musculoskeletal symptoms.

Method A structural equation model was applied to describe and analyse complex causal relationships from sets of occupational variables involved in musculoskeletal symptoms. A questionnaire was applied to nurses at hospitals affiliated to Semnan Medical Sciences University to collect data on personal and occupational factors and musculoskeletal symptoms. An ergonomic rapid entire body assessment measured work posture risks.

Results Physical work demand and mental pressure increased the risk of musculoskeletal disorders significantly. Musculoskeletal symptoms increased in nurses who worked for extended hours and experienced frequent unstable work posture. Structural equation model showed that musculoskeletal symptoms were associated directly and indirectly by physical and mental job variables, employment status, age and lifestyle.

Conclusions Covariance structural analysis is useful to describe and understand both the direct and indirect effects of variables with complex relationship between risk factors on the prediction of musculoskeletal symptoms.
However, approximately one-third with PTSD have cognitive impairment regardless of exposure level.

**LEVERAGING MULTIPLE DATA SOURCES TO ASSIST OSHA IN ENFORCEMENT: EXAMINING ILLINOIS WORKERS’ COMPENSATION DATA ON AMPUTATIONS**

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**Objectives** The US Occupational Safety and Health Administration (OSHA) relies on survey data to target high risk employers for safety inspections and enforcement. However, OSHA has limited resources and randomly targeting employers for safety inspections as a general strategy is inefficient. In this study, we explore the use of an alternative data source to assist OSHA with a more targeted inspection program.

**Method** We summarised Illinois Workers’ Compensation Commission (IWCC) court filings for amputations from 2007 through 2012 and identified the industries and companies that are the top offenders for amputations in Illinois within this dataset.

**Results** In total, there were 1260 amputations, of which 27.1% were severe amputations (not restricted to digits). The industrial sectors with the highest proportion of severe amputations were the mining (50.0%), government (40.6%), and personnel/employment services (temp employment) (40.0%) sectors. The analysis identified a short list of companies and their corresponding worksites, comprising nearly 20% of the amputation claims filed through the court system.

**Conclusions** Using alternative datasets that provide a specific list of the worst offenders in a region can guide a more efficient use of OSHA resources and create a system that targets the companies with a poor safety record. Random inspections using industry level data from the US Bureau of Labour Statistics does not differentiate between companies that invest in safety within high risk industries from the poor actors. Work organisational characteristics (temp employment) may be utilised to assist OSHA with targeted inspections of high risk companies.

**POSTER PRESENTATION**

**WORK ORGANISATIONAL CHARACTERISTICS AND PSYCHOLOGICAL DISTRESS IN FRENCH CALL-CENTRES. IS THERE A DIRECT EFFECT?**

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**Objectives** In cross sectional studies, relationships between perceived stressors and self-reported health are suspected of mono-method bias related to negative affectivity. The purpose of this work was to test if work organisational characteristics (WOC) reported by managers were related to psychological distress (PD) reported by call-handlers, taking into account their perception of work conditions (perceived strain) and usual individual confounders.

**Method** Managers of 107 call-centres were queried by occupational physicians on their call-centres’ WOC. 4002 call-handlers (2,929 women were considered here) of these call-centres completed self-reported questionnaires in order to evaluate perceived work strain (Karasek and Siegrist questionnaires) and PD (12-items General Health Questionnaire). A 2-level analysis tested the relationships between 14 WOC and PD score, with and without perceived strain as confounder, assuming that unchanged coefficients between WOC and PD score flag a direct effect of WOC on psychological distress. We also analysed perceived strain as an effect modifier for WOC using interactions.

**Results** Five of 14 WOC were significantly related to the PD score: type of calls, call-centre size, number of activity parameters displayed on screen, instructions for client relationships, and required control role of supervisor. In adding perceived strain, the relationship only remained for the type of call.

**Conclusions** Main results of this study are (1) existence of relationships between WOC reported by managers and psychological distress reported by call-handlers (2) most of effects of WOC are moderated by the perception of work strain.