Background Mesothelioma is a rare cancer of high lethality associated with asbestos exposure. In several studies mesothelioma and cancer of the pleura (MCP) are analysed together because misdiagnoses or coding errors between them are common. Undercounting and underreporting of these diseases have been demonstrated, particularly where access to diagnostic resources is poor as for developing countries.

Objective To examine the performance of a probabilistic linkage used to match data from death certificates (Mortality Information System) to deaths reported in hospital records (Authorisation of Hospital Admissions of the National Health System).

Methods Cases with diagnosis coded as C45.0 - C45.9 and C38.4 (International Classification of Diseases 10th Revision) were selected from each anonymous database from 2002 to 2012, Brazil. After probabilistic linkage, matched and unmatched cases were combined in a single individual database. Linkage performance was examined by confirming matched cases based on similar datasets which includes full names, available only for the São Paulo state.

Results A total of 1059 MPC cases were found, 718 (71.7%) with records only in the Mortality Information System, 277 (26.3%) registered exclusively in the hospital database, and 57 (5.7%) matched with data in both databases. The majority of hospital unmatched cases had other cancer diagnosis as the underlying cause of death (87.4%). Linkage failed to match only five cases due to inconsistencies in birth dates or gender records.

Conclusions Probabilistic linkage can be a tool to recover missing cases of MCP in death certificates using hospital admissions records in Brazil.

Objective Fatal work-related injuries among children and adolescents cause outrage and reveal the failure in the protection of these vulnerable groups. This study estimates the work-related injuries mortality rate among Brazilian workers aged 10 to 24 years between 2000 and 2014.

Methods This is a mortality study carried out with data from the Mortality Information System, SIM, and census data from the Brazilian Institute of Geography and Statistics, IBGE. Cases were identified using data on the work-related nature of the injury, compulsory in death certificates for external causes. Estimates are separated by age ranges for which distinct protective norms are applicable.

Results n total, there were 7484 fatal work-related injuries during the study time. Of these, 2.8% (n=208) among children from 10 to 14 years old, 9.2% (n=691) in the group...
Abstracts

Oral Presentation

Other

0219 THE SYNERGY EXPOSURE ASSESSMENT STRATEGY

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Objective The use of measurement data in occupational exposure assessment allows more quantitative analyses of possible exposure–response relations. We describe a quantitative exposure assessment approach for the five lung carcinogens selected for the SYNERGY project, that is, asbestos, chromium-VI, nickel, polycyclic aromatic hydrocarbons (by its proxy benzo(a)pyrene (BaP)) and respirable crystalline silica. A quantitative job-exposure matrix (i.e. SYN-JEM) was developed based on statistical modelling of large quantities of personal measurements.

Methods Empirical linear models were developed using personal occupational exposure measurements from Europe and Canada, as well as auxiliary information like job (industry), year of sampling, region, an a priori exposure rating of each job (none, low, and high exposed) and sampling duration. The model outcomes were used to create SYN-JEM with a quantitative estimate of the level of exposure by job, year, and region.

Results Decreasing time trends were observed for all agents between the 1970s and 2009, ranging from −1.2% per year for personal BaP and nickel exposures to −10.7% for asbestos before a ban was implemented. Regional differences in exposure concentrations varied by agent, ranging from a factor 3.3 for chromium-VI up to a factor 10.5 for asbestos.

Conclusion We estimated time-, job-, and region-specific exposure levels for four (asbestos, chromium-VI, nickel, and RCS) out of the five considered lung carcinogens. Statistical modelling of large amounts of personal occupational exposure measurement data enabled the derivation of a quantitative general population JEM, which can be applied to the SYNERGY population.

Oral Presentation

Other

0220 ADVANCING THE PREVENTION OF LONG-TERM SICKNESS ABSENCE: CONSIDERING THE IMPACT OF THE CONTEXT OF LEGISLATION IN EFFECTIVE PREVENTIVE STRATEGIES

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Background Sickness absence is highly prevalent and has a complex multifactorial etiology. A multitude of approaches exist aimed at health, personal, work related and cultural factors. But also the context of legislation has to be addressed when developing, evaluating or implementing preventive interventions.

Aims 1) To substantiate the role of legislation in research on the effect of strategies aimed at reducing long term sickness absence; 2) Elaborate on methodological prerequisites for advancing the evidence base of interventions, focussing on (legal) contextual factors.

Results Role of legislation can be threefold:

1. Direct, as (part of) intervention
2. Indirect, such as changing definitions of sickness absence, or (early) pensioning.
3. Facilitating/hindering factor in implementation of proven interventions

To address the context of legislation, ideally large multinational trials with large sample sizes are needed, requiring substantial resources. An alternative efficient approach might be to combine: 1) Address the impact of contextual (legal) factors by integrating contextual data from (new) trials on the effectiveness of preventive strategies by means of meta regression; 2) Use multi-regional or multi-national databases to compare intervention uptake, outcome and contextual factors in workers (registry data) testing prior hypotheses regarding the impact of legal differences on sickness absence indicators.

Conclusion Large potential gains by reducing long term sickness absence and work disability require innovative but methodologically sound approaches, and should consider the impact of the (legal) context. Enhanced access to multinational data-bases and better reporting of contextual and legal factors related to trials (extension of STROBE, CONSORT) are prerequisites.

Poster Presentation

Other

0223 OCCUPATIONAL HEAT EXPOSURES IN INDUSTRIES AND RENAL HEALTH – FINDINGS FROM INDIA

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Background Heat stress associated with occupational heat exposure is a public health problem that is on the increase world-wide. India, being the 7th largest economy, has a large portion of the workforce engaged in industries, which are highly exposed to heat during their work. The farm workers in India are exposed to high heat stress levels for a prolonged period of time.

Aims The aims of this study were to explore the occupational heat exposure and its association with various renal health indicators

Methods The study was conducted at the Centre of Occupational Health and Environment, Sri Ramachandra University, Porur, Chennai. The total number of participants were 100 employeess and their renal health indicators were recorded.

Results The mean exposure duration was recorded as 8.5 hours/day. The maximum temperature recorded was 44°C with an average temperature of 38°C. The heart rate, blood pressure, and body temperature were significantly higher in the exposed group compared to the non-exposed group. The prevalence of hypertension, diabetes mellitus and kidney stones were significantly higher in the exposed group compared to the non-exposed group.

Conclusion The study findings indicate that occupational heat exposure may have a significant impact on renal health. Further studies are required to establish the causal relationship between occupational heat exposure and renal health. It is recommended that preventive measures should be taken to reduce the heat exposure of workers in industries to prevent adverse health effects.