Conclusion This retrospective cohort study among workers exposed to MRI-related SMF showed that recent SMF exposure is associated with increased risks of accidents resulting in injuries and (near) traffic accidents during commute from home to work.

Session: W. Methods

175 CLINICAL RECORD KEEPING QUALITY INDICATORS FOR OCCUPATIONAL HEALTH SERVICES

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Objectives In any clinical speciality, the collection of accurate clinical information is a pre-requisite to providing high quality clinical care. Structured medical records can improve measures of performance and outcome in clinical care. In the United Kingdom (UK) record keeping standards have been developed for hospital medical records but none are available for occupational health services (OHS). This project reviewed the available evidence to develop generally applicable record keeping quality indicators (QI) for OHS.

Methods The results of three comprehensive UK literature reviews on record keeping standards were examined. Studies with direct or indirect relevance to the OHS setting were included. Evidence statements on medical record keeping were extracted. Bias, outcome measures and OHS implications were evaluated. Candidate QI were mapped against the results of a two-stage national consensus exercise on record standards, and suitable QI were developed.

Results 84 publications were included in the review, 22 were selected for full text appraisal. Performance improvements were shown with general structured assessment forms in seven publications and with context specific forms in 12 publications. No specific studies based in OHS were retrieved; however one publication was relevant to occupational health care. Following critical appraisal of the studies and the mapping process, four generally applicable record keeping QIs, with the headings "findings", "treatment", "assessment, and "advice" were developed.

Conclusions General and context specific record keeping standards have been shown to improve the quality of care in other medical specialities. We have developed four general record keeping QI for use in OHS. These indicators are applicable across all employment sectors. The indicators will be incorporated into a national UK clinical registry for OHS. Further work will be done to validate these QI in practice. Context specific record keeping indicators should be developed in occupational medicine.

176 ANALYSIS OF HIERARCHICAL DATA; COMPARING META-ANALYTICAL TO MULTILEVEL ESTIMATES

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Objectives To compare pooled risk estimates obtained by meta-analytical methods with the corresponding risk estimates derived by analysis of individual data, using hierarchical methods, and to explore explanations for possible differences.

Methods The data were obtained from a study of 12,426 participants from 47 occupational groups (mostly nurses and office workers) in 18 countries. Pain in the low back and wrist/hand that interfered with everyday activities and exposure to possible risk factors had been collected using standardised questionnaires. Unadjusted associations with potential risk factors were explored using logistic regression separately for each occupational group and then the 47 risk estimates for each risk factor were synthesised in a meta-analytical model. Risk estimates were also obtained from the individual data using multilevel logistic models. The multi-level estimates were then compared with the corresponding pooled estimates derived from the meta-analysis.

Results For most risk factors, the odds ratios were similar using the two methods, though the confidence intervals for the odds-ratio estimates obtained from the meta-analysis model were wider than the confidence intervals for those derived from the multilevel model. When disabling low back pain was used as an outcome, the mean of the ratios of the odds ratios derived from multilevel modelling to those derived from meta-analysis was 0.99 (range 0.87 to 1.07). When disabling wrist/hand pain was taken as the outcome, the mean ratio was 0.97 (range 0.84 to 1.11).

Conclusions In the analysis of these data, pooled risk estimates obtained by meta-analysis were very similar to those derived from multilevel analysis of the individual data. However, circumstances in which estimates from the two methods may differ will be discussed.

177 USE OF PROPENSITY SCORES IN OCCUPATIONAL HEALTH?

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Objectives Intervention studies are needed in occupational health in order to test if work improvements are effective, although not always possible. In the last decade, propensity score analysis has been widely used in clinical settings for treatments for which randomised controlled trials are unlikely to be conducted, such as socioeconomic factors in public health. It gives an estimate of a treatment effect in making treated and untreated group comparable for confounding factors by modelling treatment probability. We aimed to describe the frequency of propensity score cited in occupational health literature and its use.

Methods Using the key words "occupational" and "propensity score", studies were selected from PubMed database (last 20 years). Frequency of citation was compared to two other requests "clinical" "propensity score" - "public health" not "occupational" "propensity score". Embase and Web of sciences were also used to find extra papers. Relevant information was extracted including use of propensity score.

Results Twenty-four papers were found in PubMed with propensity score in occupational health [0.01% of all citations of this area, versus 1210 (0.06%), and 2731 (0.07%) in clinical or other public health domains respectively P < 0.001]. Among papers in occupational health, 12 were relevant, published since 2005, mostly from US teams (n = 10). The analyses included many subjects (median 7314), coming from pre-existing databases. The studies dealt with treatment evaluation (n = 2), economic evaluation (n = 2), and risk factors analysis (n = 5). Three papers studied implementation of programs in occupational setting, two for economic or quality purpose, one for effectiveness of multidisciplinary primary prevention program including work adaptation.