

DB Richardson. Occ. Env. Med (2006) Vol.63 p 734-740

The impact on relative risk estimates of inconsistencies between ICD-9 and ICD-10

ICD 10 is a comprehensive index of diagnoses and diagnostic methods and is used to help determine health intervention policy and to monitor effectiveness of prevention and cure. It is also used as a benchmark for objective diagnoses in civil claims and claims for state compensation. If a claim does not involve a recognised diagnosis then there will be uncertainty as to the harm that has been done and its attribution. Changes in diagnostic standards can have direct effects on the numbers of people who could make a claim. Increased sensitivity means that people with lesser degrees of harm/symptoms will be diagnosed.

In this paper the change from ICD 9 to ICD 10 was studied. The sensitivity of detection of emphysema, asthma, pneumoconiosis and chronic bronchitis had increased by the order of 10%. More people would be diagnosed leading to claims inflation, but, for progressive diseases such as emphysema and pneumoconiosis the date of knowledge would become earlier in the course of disease and possibly before the eventual seriousness of disease would be apparent.

Changes in diagnostic standards should be accounted for in studies of long tail causation, otherwise, erroneous associations could be observed. A 10% change of disease status would often be sufficient to throw up a strong association if that change was somehow correlated with an exposure of interest.

L Storgaard et al. Epidemiology (2006) Vol.17 p 674-681

Genetic and Environmental Correlates of Semen Quality: A Twin Study

Semen samples and blood samples were tested for hormone levels, sperm density and other markers of reproductive health. Samples were taken from identical twin, non-identical twin and singleton brothers. Analysis showed that heritability accounted for 20% of sperm density variation but around 80% of variation in hormone health indicators. The authors assert that the environment must be the cause of the remaining variation. Sperm count would therefore be a sensitive test of environmental harm to reproductive health in men. Exposures *in utero* or early life could have the greatest effect.

R Hauser et al. Epidemiology (2006) Vol.17 p 682-691

Altered Semen Quality in Relation to Urinary Concentrations of Phthalate Monoester and Oxidative Metabolites

Di-butyl phthalate [DBP] is used in cosmetics, pharmaceuticals, and decorative finishing products. It metabolises to mono butyl phthalate [MBP] in the body. Exposure to DBP can be assessed by measuring MBP in urine samples. In this study of a wide range of phthalates and their metabolites, a correlation was found between sperm density and MBP levels a similar trend was observed for sperm motility but these results were on the margins of statistical significance.

[Editor's note: The result could be due to chance as there were a large number of analyses undertaken and very few positive associations observed. The fact that two outcome measures were simultaneously affected by the same chemical reduces this chance.]

C Beseler et al. JOEM (2006) Vol.48#10 p 1005-1013

Depression and Pesticide Exposures in Female Spouses of Licensed Pesticide Applicators in the Agricultural Health Study Cohort

This was a cross-sectional study of female spouses of licensed pesticide applicators. Those who reported having been diagnosed with pesticide poisoning were more likely to report have been diagnosed with depression. Odds ratio = 3.3 (95% CI = 1.7 to 6.2).