across GP practices in the UK and there is considerable variation in data quality in hospital-acquired infection surveillance. Measurement bias (where errors in data measurement are associated with healthcare organisation performance) can also be a concern even using standardised publicly reported data. Further, where data is sparse, confidentiality requirements in the public reporting of data means that information is suppressed in public places where it may be individually identifiable; for example, data may be disproportionately more likely to be missing for single-handed GP practices.

**FURTHER CONSIDERATIONS: POWER AND RELIABILITY**

Other methodological questions should also be considered. The statistical reliability of the measures in question at the organisational level are important to consider. Additionally, several comparisons are being made then statistical tests should be adjusted for multiple testing. The temptation to start correlating everything being made then statistical tests should be adjusted for multiple testing. The temptation to start correlating everything that is sparse, confidentiality requirements in the public reporting of data means that information is suppressed in public places where it may be individually identifiable; for example, data may be disproportionately more likely to be missing for single-handed GP practices.

Analyses also need to be adequately powered. For example, given there are only around 160 hospitals in England, a study using all of these would have 80% power to detect a correlation of 0.22. While this would not be described as a strong correlation it is larger than values often found in ecological studies. The fact that only relatively strong associations will ever be detected by ecological studies of this sample size potentially encourages the publication of false-positive results as any statistically significant finding accompanies a large effect size. Similar cautions apply to ecological studies in general practice settings when only a small geographical area is considered (for example, within a CCG). Additionally, if the measurement of organisation performance does not have high reliability then power will be further decreased.

**BEST PRACTICE AND CONCLUSIONS**

The need for good practice in working with and reporting health services research carried out using routine health data are clearly wider than the epidemiological concerns about the ecological study design alone. The RECORD (the Reporting of Observational studies in Epidemiology) is in development, defining reporting guidelines for observational studies using health data routinely collected for non-research purposes. Ecological studies in health services research are a powerful tool and with the wealth of organisational level data now available, there are increasing numbers of research questions where they are the study design of choice. However, the potential for over-interpretation of results and generation of spurious findings is ever present. Good practice in the use of routine health data for research and standard ecological precautions are necessary when carrying out and interpreting these studies.

**REFERENCES**

Man has made it clear that this service has to be improved and access to out-of-hours MRI scanning should be available to all relevant clinicians.

Management and treatment is delivered by specialist spine surgeons, neurosurgical or orthopaedic surgeons. The technical aspects of decompressive surgery range from very easy to highly challenging. The pleasure of relieving prolonged symptoms in one patient is contrasted with the next where rapid surgery is followed by a disappointing outcome. If the CES persists, then there are units and consultants who specialise in the management of chronic CES, and it is worth seeking these out to help these most unhappy patients.

GPs care for large numbers of patients with back pain, the majority of whom will not be at risk of CES. Despite this being a relatively unusual diagnosis, a key message is that this diagnosis has to be considered in all patients with severe back and leg pain (for example, particularly if the back pain is deteriorating and when there may be bilateral leg pain, and loss of perineal sensation is uni- or bi-lateral). Do not be fooled by the patient who prefers to sit up. This condition can easily mislead.

BACK PAIN SERVICES FOR CES
The current organisation of services for patients with CES is problematic, and makes timely and accurate diagnosis challenging. Anecdotal evidence suggests this is a bigger problem in the UK than in countries with similar healthcare systems. An example is New Zealand where, in a publicly-funded health system, CES is not seen as a major litigation problem (personal communication, 2011). In the UK it is difficult to acquire data on CES Litigation. There are no easily accessed international comparisons of litigation rates. The causes of these problems are speculative, but experience as an expert in nearly 50 CES litigation cases, suggests that barriers between primary and secondary care, and treatment delays in secondary care seem the most frequent factors, highlighting the importance of heightened awareness and careful assessment of patients in general practice.

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