moderate correlation between their postcode aggregate income measure and individual data. It would have been useful if they had compared this with census scores based on enumeration district and ward. Smaller is not always better with respect to area based measures. Geronimus and Bound found little improvement in predicting self reported health when comparing data at census tract level (5000 individuals) with zip code data (25 000 individuals).[3] The optimal population size for categorising the contextual nature of areas will depend on the nature of this contextual effect, and this cannot be assumed to be better indexed by aggregate measures for areas with smaller populations. At a postcode level one must also be concerned with possible sampling error and more importantly the systematic bias introduced by respondents who reply to a commercial survey.

Secondly, can researchers manage without individual measures of socioeconomic position? Sometimes individual data are simply not collected or the quality of such data is extremely poor—for example, routinely collected health services data. Here, the use of a postcode based measure is invaluable for testing whether area based deprivation may be related to access to health care.[4] However, the use of area based measures is less justifiable when researchers are prospectively collecting data as part of a large trial or observational study. Many studies show that both individual and area based measures seem to have independent effects on health outcomes, possibly as a result of the contextual effects of residing in poor neighbourhoods. To measure one and not the other will result in an underestimation of potential effects associated with socioeconomic position. Analyses based solely on an area measure of socioeconomic position can be highly misleading, especially if other risk factors are measured at an individual level. For example, it has been argued that variations in mortality by area based deprivation can be almost fully accounted for by smoking.[5] However, applying the relative risk associated with individual smoking behaviour to mortality differences by area based deprivation underestimates the importance of individual socioeconomic position. Individual measures produce much steeper gradients of mortality risk than area based deprivation measures. We hope that the area based income measure introduced by Danesh et al will not be used in this way.

Researchers should, when possible, continue to measure both individual and area based measures of socioeconomic position. Relying on ecological measures alone rather than using both would be analogous to asking people whether they smoked but not measuring how many years or the number of cigarettes they smoked.

1 Blane DB, Bartley M, Davey Smith G. Disease aetiology and materialist explanations of socio-economic mortality differentials. *Eur J Public Health* 1997;7:385-91.
2 Piantadosi S, Byar DP, Green SB. The ecological fallacy. *Am J Epidemiol* 1988;127:893-904.
3 Geronimus AT, Bound J. Use of census-based aggregate variables to proxy for socioeconomic group: evidence from national samples. *Am J Epidemiol* 1998;148:475-86.
4 Ben-Shlomo Y, Chaturvedi N. Assessing equity in access to health care provision in the UK: does where you live affect your chances of getting a coronary artery bypass graft? *J Epidemiol Community Health* 1994;49:200-4.
5 Law MR, Morris JK. Why is mortality higher in poorer areas in more northern areas of England and Wales. *J Epidemiol Community Health* 1998;52:344-52.

Drug points

Transient hemiparesis with topiramate

Linda J Stephen, Jan E Maxwell, Martin J Brodie, Epilepsy Unit, Department of Medicine and Therapeutics, Western Infirmary, Glasgow G11 6NT

Topiramate is an antiepileptic drug licensed as add on treatment for use in patients with refractory partial onset seizures with or without secondary generalisation.[1] Its triple mechanism of action is thought to entail sodium channel blockade, attenuation of responses induced by kainate, and enhancement of inhibition mediated by γ-aminobutyric acid.[2] We report two cases of hemiparesis with topiramate that resolved on withdrawal of treatment.

A 41 year old man with cerebral palsy resulting in right sided weakness experienced daily complex partial seizures despite taking carbamazepine retard, sodium valproate slow release, gabapentin, and diazepam. Substitution of lamotrigine for carbamazepine and gabapentin had little effect on his seizure frequency. Topiramate was introduced over a month up to 25 mg twice daily with good effect. During this time, however, he developed fatigue, left sided weakness, and slurred speech. He was unable to weight bear and had to rely totally on his carers. On examination, his reflexes were brisk on the newly affected side, with reduced power and tone. Computed tomography showed only gross left hemispheric atrophy. The left sided weakness slowly resolved over eight weeks after topiramate treatment was withdrawn.

A 59 year old woman had poorly controlled secondary generalised seizures after herpes simplex encephalitis despite treatment with carbamazepine slow release and phenytoin. Magnetic resonance imaging showed extensive anterior infarction in the left temporal lobe. Topiramate treatment was introduced over two months up to a dose of 100 mg twice daily. During this time she developed reduced tone and power in her right arm and leg. Repeat magnetic resonance imaging showed no further changes. She regained normal power within two weeks of topiramate withdrawal.

To our knowledge, these are the first reported cases of hemiparesis linked with topiramate treatment. It may be relevant that both patients already had compromised neurological function. The Committee on Safety of Medicines and the drug manufacturer have been informed. Awareness of this side effect will avoid inappropriate investigation and encourage rapid withdrawal of topiramate treatment.

1 Wilson EA, Brodie MJ. New antiepileptic drugs. In: Brodie MJ, Treiman DM, eds. *Modern management of epilepsy*. London: Baillière-Tindall, 1996:723-47. (Baillière's clinical neurology.)
2 Dichter MA, Brodie MJ. New antiepileptic drugs. *N Engl J Med* 1996;334:1583-90.