**Socioeconomic status and neurotic disorder**

Sir—Glyn Lewis and colleagues (Aug 22, p 605) conclude “The UK has experienced one of the largest increases in income inequality within the western market economies over the past 20 years, and this inequality may have had adverse consequences for the mental health of the population”.

The main finding in the cross-sectional study was a correlation between prevalence of neurotic disease and people who did not have access to a car and who rent their homes. Lewis and colleagues also provide references for increased prevalence of neurotic disease and for increased income inequality. However, they give no data on whether an increase in income inequality is directly related to increased neurotic disease. If their conclusion is correct, one would expect that the proportion of people who rent their homes and who do not have access to cars has increased over the past 20 years, which they do not attempt to show. This scenario would also assume that these variables were just as good predictors of standard of living 20 years ago as they are now (which is probably the case). Has the proportion of people who live in rented accommodation and do not have access to a car in the UK increased over the past 20 years?

Daniel B Hrdy
University of California Davis Medical Center, Sacramento, CA 95817, USA


**Contribution of complement to defensin action in eye**

Sir—R J Haynes and colleagues (Aug 8, p 451) showed human α-defensins 1–3 and β-defensin 1 in the cornea, conjunctiva, lacrimal gland, and in normal tears. The study provides further evidence for the important role of natural peptide antibiotics in the innate defence of the mucosal surfaces. Tears have several innate defence systems including active complement, elegantly shown by Wilcox and colleagues. According to our study human α-defensins 1–3 are potent activators of the complement system. We believe that activation of the complement cascade by defensin peptides represents an underestimated relation between two parts of the innate immune system on mucosal surfaces. Defensins opsonise pathogenic microbes that can induce strong complement activation on their surfaces and effect an enhanced lysis, phagocytosis of the targeted particles, or both. Furthermore, small complement-derived anaphylatoxins facilitate the accumulation of monocytes and neutrophils, the source of α-defensin peptides, into the lesion. Defensin-triggered complement activation might extend the spectrum of micro-organisms controlled by the innate immune system. Purified defensins might be useful treatment for eye infections not only because of their broad spectrum antimicrobial and chemotactic activity but also through their complement-activating effect.

Zoltán Prohászka, George Füst
Third Department of Medicine, Semmelweis Medical University, 1125 Budapest, Hungary


**Antibiotic use and abuse**

Sir—R Wise and colleagues’ (Aug 22, p 657) observation that there is a substantial UK geographical variation in the penicillin susceptibility of pneumococci is intriguing, and reflects data on isolates which were collected at ten centres in 1994–95. Merseyside, for example, has a high prevalence of strains with reduced susceptibility to penicillin, and importation of resistant strains possibly via visiting sailors could be a related factor. Similarly, penicillin-resistant pneumococci were imported into nurseries in Iceland by children who had returned from holidays in Spain, resulting in the dissemination of a multi-resistant clone. The differences found by Wise in the prevalence of penicillin resistance in isolates collected at neighbouring hospitals is, however, difficult to explain without confounding factors such as variable criteria for the selection of specimens.

Regional differences in antibiotic susceptibility might reflect variations in antibiotic prescribing. In Finland during the early 1990s, an increase in resistance to erythromycin in group A streptococci led to nationwide recommendations for reduced community use of macrolide antibiotics for respiratory and skin infections. Consumption of macrolide antibiotics (in terms of defined daily doses per 1000 inhabitants) decreased from 2·4 in 1991 to 1·38 in 1992 (p=0·007) and was maintained near the lower level until 1996. The change in macrolide prescribing was followed by a steady reduction in the prevalence of resistance to erythromycin in group A streptococcal isolates from throat swabs and pus samples: from 16·5% in 1992 to 8·6% in 1996.

At a Department of Health discussion forum on antibiotic resistance in the UK, there was a wide consensus that to allow full interpretation of the data, contemporaneous data on antimicrobial prescribing must also be collected. Despite documented regional differences in antibiotic susceptibility, published data on geographical variation in human antibiotic consumption are rare. It should be remembered that more than half of the total production of antimicrobial agents worldwide is used in animal husbandry and that the imprudent use of antibiotics in animals constitutes a continuing threat to human health. Use and abuse of antibiotics should be quantified to find out their effects on the development of antimicrobial resistance.

Mark H Wilcox
Department of Microbiology, University of Leeds and The General Infirmary, Leeds LS2 9JT, UK