

# A record of patient encounters in neurological practice in the United Kingdom

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**SUMMARY** Thirteen consultant neurologists working in ten different towns or cities in the United Kingdom were asked to log all their encounters with patients in 1 week. The median number of encounters was 79 (range 33-144). Forty-one per cent were new patients; 85% of all new patient encounters were with National Health Service patients. In more than four-fifths of all encounters, the neurologist felt that the consultation was a justified use of his experience. Consultations for headache/migraine and epilepsy together accounted for over a quarter of all encounters.

The recent recommendation of the Association of British Neurologists that there should be five neurologists per 1,000,000<sup>1</sup> appears to be based largely on historical assessment that this density of neurologists will provide sufficient neurological care to cope with major neurological illness, and provides also a neurologist with an interesting professional life in the course of which he sees weekly several patients with complex illnesses. The US approach to assessing appropriate need is to calculate the burden of neurological illness in the community from known figures of incidence and prevalence, and, from assessments of the proportion of such patients who "ought" to see a neurologist, calculate the numbers of neurologists required. Such calculations suggest a requirement of almost 16,500 neurologists in the United States, or 68 per million.<sup>2</sup> It is estimated that by 1990 there will already be 8,650 neurologists (36 per million). This 7-13 fold difference in recommended practice between the US and the UK reflects presumably not only different methods of payment for professional services, and different practice styles, but also the absence of any well-founded system of primary health care in the USA.<sup>3</sup> However, the small number of neurologists in the UK suggests that there may be patients with neurological illnesses in the UK who do not have access to sufficient neurological care. Both Perkin<sup>4</sup> and Stevens<sup>5</sup> have calculated from the

figures in their own individual practices the proportion of expected cases of certain diseases in the community who are seen by a neurologist. In Table 4 of his paper, Stevens<sup>5</sup> shows, for example, that only 4% of the expected number of those with dementia were seen by a neurologist and only 6% of those with a stroke. It is clear that in his area of the country only a tiny proportion of those with these and other common neurological illnesses are seen by a neurologist.

Without at this stage making any judgment about the incremental benefit of care given by neurological intervention, it seemed worthwhile to record a wider experience than that of Stevens<sup>5</sup>: a log of all patient encounters in 1 week by 13 UK neurologists. Only if current work is measured can deficiencies in the provision of supply be ascertained.

## Methods

In December 1985 25 UK neurologists met at the Royal College of Physicians for a consensus conference on neurological practice. At this conference, five neurologists presented log diaries of their working week. Following this, a further thirteen agreed to keep a log diary of all patient encounters in a different week, using a proforma modified by the experiences of the first five. The thirteen neurologists were based on the following towns or cities: London (3), Epping, Oxford, Stoke-on-Trent, Liverpool, Chichester/Worthing, Plymouth, Southampton, Coventry, Cardiff and Dundee.

The neurologists were asked to record on a single proforma the date and day of the week, the principal diagnosis, the type of encounter (in-patient, out-patient, telephone contact), whether the patient was a private patient or a National Health Service patient, whether the patient was a

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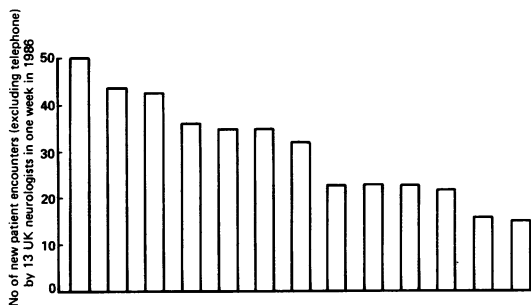


Fig 1 Distribution of numbers of new patients seen in 1 week by 13 UK neurologists.

new or follow-up patient, and whether or not the problem could have been coped with by a general physician. Proformas were filled in for 7 consecutive days. Although some neurologists returned completed proformas for patients seen by their registrars, only consultant encounters have been analysed. The first author coded all recorded diagnoses according to the International Classification of Disease (9th Revision).

**Results**

A total of 1,036 encounters was logged. The range of encounters per neurologist was 33–144 (mean 74; median 79). The lowest two figures were for a newly appointed consultant, and a Professor of Neurology primarily engaged in research.

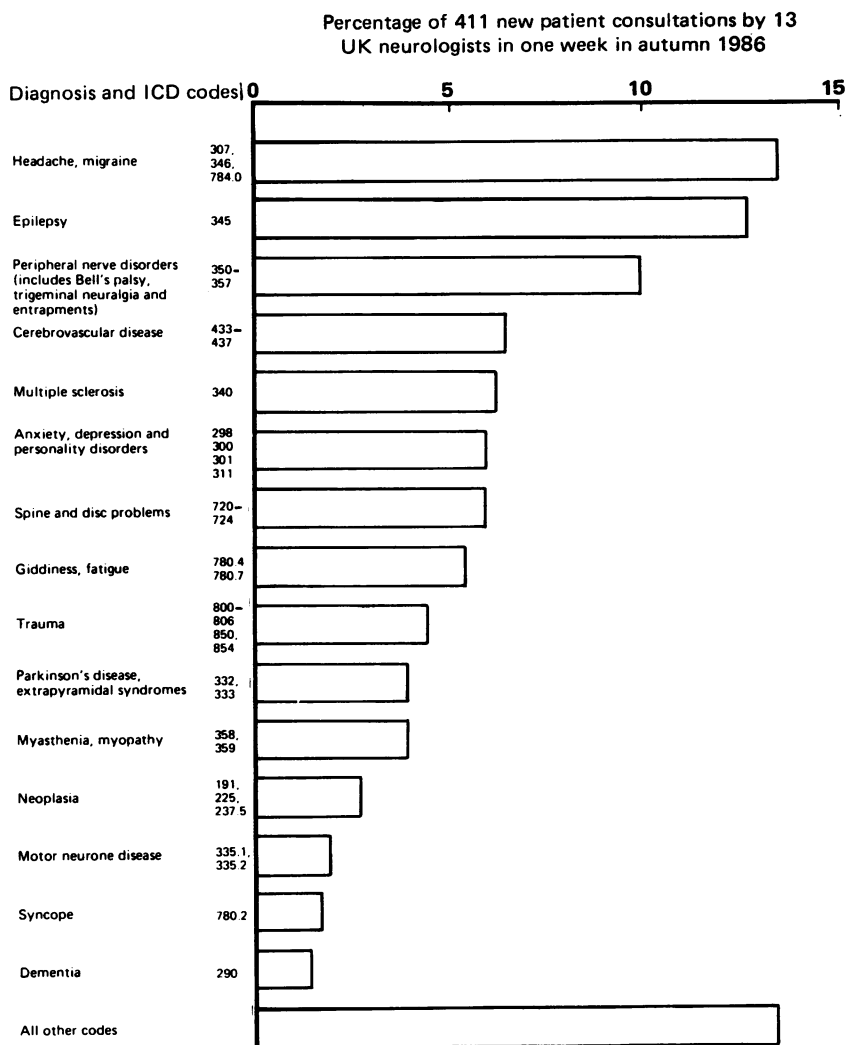


Fig 2 Distribution of diagnoses of 411 new patients seen in 1 week by 13 UK neurologists.

New patients accounted for 425 (41%) of the encounters, and "old" (follow-up) patients for 611 (59%). Eighty-five percent of all new encounters and 91% of all follow-up encounters were National Health Service patients. Fifteen percent of all new and 9% of all follow-up encounters were private patients. Figure 1 shows the distribution of number of new patient encounters per neurologist. The range is 15–50 (mean 30.5; median 32).

Of new NHS patients, 72% were seen as out-patients, 15% on a ward round, and 3% at a clinical meeting. Five percent were telephone contacts for advice. Five percent of encounters were recorded as of other types, including domiciliary consultations.

Less than 1% of all NHS patients but nearly 10% of private patients referred themselves to the neurologist without a letter from another physician.

Neurologists were asked to say whether they planned to see patients on a continuing basis, once more, or only if requested. The proportion for each alternative for the NHS patients (private patients in brackets) was 18% (19%), 49% (38%) and 33% (43%).

Figure 2 shows the distribution of principal diagnoses made by the participating neurologists on their 411 new patients (all new encounters less those 14 new contacts which were solely on the telephone). Headaches and migraine, and seizure disorders account for more than a quarter of all new patient encounters.

In 81% of all NHS encounters, and in 85% of private encounters, the neurologist felt that the consultation was justified, and that the problem could not have been coped with by a family doctor or general physician.

## Discussion

The neurologists participating in this study are not a random sample of neurological practice in the UK as a whole, and logging encounters for one week does not provide a sufficient sample for meaningful statistical analysis. Nevertheless, this study provides a descriptive analysis of the range of neurologists' work in the UK. The data cannot be directly compared with that of Stevens<sup>5</sup> or of Perkin<sup>4</sup> who did not analyse their work load in terms of ICD codes, but it is clear that in each study headaches and migraine, and epilepsy, lead as demanding a substantial proportion of a neurologist's time. However, the extent of professional experience required, and the fascination of the job, is illustrated by the range of other diagnoses listed in fig 2.

The product of the average number of new consultations per neurologist per week (30.5), multiplied by 0.85 to include only NHS consultations, multiplied by 45 working weeks per year, is 1,166 new NHS consultations per neurologist per year. The SH3 returns (DHSS statistics) for 1987 show 128,100 new neurological attendances for 173 consultants,<sup>6</sup> a figure of only 740 new NHS consultations per neurologist

per year. Unless our collaborating neurologists are quite atypical in the work load they undertake, the DHSS underestimates work done by about 37%.

Our group of neurologists thought that over 80% of all consultations were justified, in the sense that they felt that the expertise of a neurologist was required in relation to the symptoms presented at that encounter. This high figure does not suggest that there is much slack in the system—that family doctors and other physicians are referring unnecessarily. In the absence of population denominators, no statement can be made about unmet need. It could be that the low referral rates calculated by Stevens for dementia and cerebrovascular disease<sup>5</sup> reflect a professional consensus that a neurological opinion adds little in these circumstances. However, daily clinical practice is enlivened by the opposite perspective—for example, treatable dementias due to meningiomas are not infrequently encountered by neurosurgeons.

The analysis recorded here, and the analysis in the accompanying paper<sup>7</sup> of neurological care undertaken in primary care practice, shows the important role occupied by general practitioners in the UK as "gatekeepers" to specialist neurological care.<sup>8</sup>

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