UK neurologists and the care of adults with acute neurological problems

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Clin Med JRCPL 2002;**2**:436–9

Abstract – In the UK, most patients admitted to hospital with acute neurological problems are not looked after or even seen by a consultant neurologist. As a result, the outcome of their care may be suboptimal. The Association of British Neurologists believes that, in order to provide a reasonable service, the number of consultant neurologists will have to increase more than threefold, to about 1,400. This should be achievable in the next 10–15 years and would bring UK neurological services up to the standards that already obtain in comparable European countries.

KEY WORDS: neurology, neurology services

Key Points

- **Most patients in the UK with an acute neurological problem are not looked after or even seen by a consultant neurologist**
- **This is because there are so few consultant neurologists – only about one per 177,000 of the population, which is far less than in other European countries**
- **Ideally, patients with acute neurological problems should be seen quickly by a neurologist and cared for in a neurology unit with neurologically trained staff**
- **This level of service would require at least five neurologists in each acute admitting hospital, making a total of about 1,400**
- **Therefore, the number of consultant neurologists needs to be increased threefold and this could be achieved in the next 10–15 years**
- **In the meantime, as the number of neurologists increases they must become more engaged in the day-to-day business of district general hospitals – patient care, training, audit and clinical governance**

The current situation

About one-tenth of adult patients coming to an accident & emergency department (A&E) have a neurological problem – mostly stroke, headache and alteration of consciousness[1,2]. Between one-tenth and one-fifth of patients admitted to hospital because of a medical problem have a neurological disorder – the majority have stroke, epilepsy, dementia or headache, and smaller numbers have multiple sclerosis in relapse or complicated by infection, the Guillain-Barre syndrome, cranial nerve palsies, meningitis and encephalitis[3–6]. However, only 8% of patients in hospital with epilepsy and less than half the patients with multiple sclerosis are under the care of a neurologist – most are looked after by general physicians and geriatricians[7]. Very few neurological inpatients are even seen by a neurologist and, for patients with epilepsy at least, diagnostic errors by non-neurologists are common[8]. Colleagues in other specialities are clearly doing the work of neurologists, and this should be acknowledged.

At present, almost every district general hospital (DGH) in the country is visited by a neurologist at least once a week, and a few have a consultant neurologist on site working more or less full time. But these neurologists tend not to be involved in acute admissions. Partly this is because of the lack of vital support structures: no allocated beds, no supporting neuroradiology and clinical neurophysiology, and no neurologically trained nurses, physiotherapists and other staff. But mainly it is because there are so few neurologists. Of course, regional neurology units take some patients, usually the most complicated cases and sometimes rather late for optimum care, but this is only a small proportion of the total. A few neurology departments – in Plymouth, Bath and Norwich – try to take *all* the acute neurology patients, but this creates a heavy workload and much stress for their staff. Current care for patients with acute neurological problems is thus unsatisfactory and must be improved.

Causes of the current situation

The specialty of neurology in the UK emerged from general medicine, but relatively early on most neurologists decided not to be involved in the acute medical take. Their time was more than taken up by outpatients, where even now the median waiting time for a non-urgent appointment is 18 weeks[9], and by the investigation of inpatients. They worked extremely hard, but not in acute neurology. In some places, specialisation in anything, including neurology, was discouraged by general physicians, and this contributed to the lack of growth in neurology.

There are other possible reasons why there have never been many consultant neurologists in the UK: neurologists were perhaps seen as elitist and separatist,

sometimes more interested in private practice; general physicians liked doing neurology (and claimed in some teaching hospitals that neurology was the only interesting subject they had to teach); and finally because the NHS is generally poorly funded in comparison with other developed countries. At present there are about 380 neurologists in the UK, some working partly in research. This represents about one neurologist per 177,000 of the population. Other European countries have at least five times as many per capita (Fig 1), including countries with good primary healthcare systems which act as 'gatekeepers' for secondary care, as in the NHS. In Holland, neurologists can and do take on all the acute neurology as there is one neurologist for about 26,000 of the population.

Are neurologists better equipped than others to do acute neurology?

This question can be addressed in two ways: by using the available evidence, and at a common sense level. Three prospective studies suggest that a neurologist's opinion is valuable in providing the correct diagnosis and management of patients under other specialists[2,10,11]. Although it is unclear whether their opinions were always correct, and what the effect was on patient outcomes, it is likely that the patients were better off. The same conclusion probably applies to the specialist care given by other specialists, according to a recent systematic review of 43 non-randomised studies across various medical conditions[12]. In general, specialists were more knowledgeable and also more likely to use medications known to improve outcome. However, they used more diagnostic tests and more resources. Few of the studies assessed patient outcomes, and only about half of those that did showed improved outcomes with specialist care.

Randomised trials of the kind required in evidence-based medicine would be difficult both to undertake and to interpret. Therefore, less robust forms of evidence are used to support the current tendency for specialists to look after patients in their own area of expertise – for example, cardiologists for myocardial infarction, respiratory physicians for asthma, gastroenterologists for bleeding from the gut. However, there is no good evidence, either, that the non-specialist does just as well, or better, than the specialist: lack of evidence of benefit is not the same as evidence of lack of benefit.

When doctors themselves fall ill they usually get medical help from someone who knows what they are doing, and specialists are more likely to do so than generalists, and certainly more likely than specialists in another field altogether. Someone with a stroke would not go to an asthma doctor for help, unless there was no stroke physician available. The Royal College of Physicians (RCP) endorses this view[7] which is also the position of the Neurological Alliance representing the neurological charities in the UK[13].

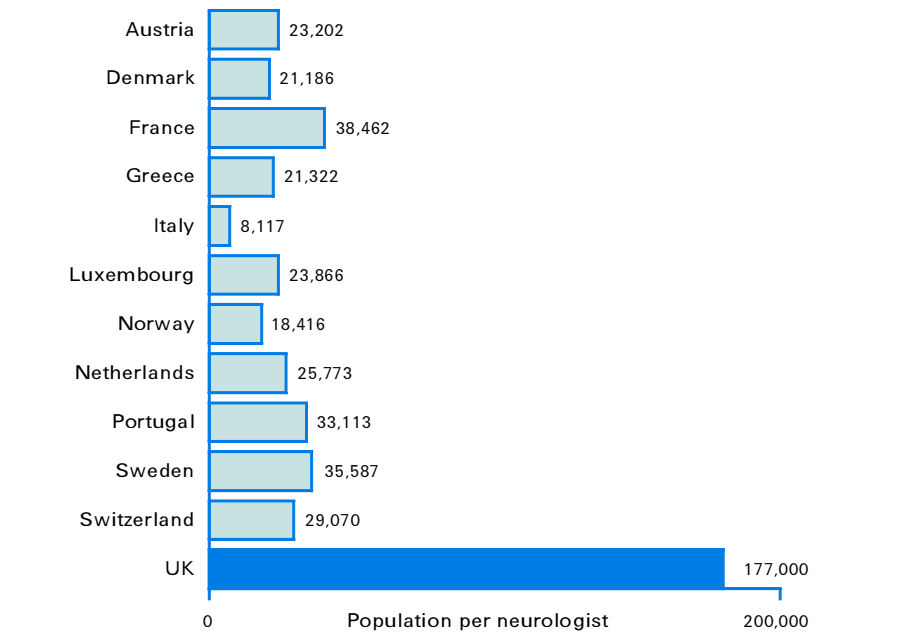
The near future

The world of acute hospital medicine is changing. Emergency patients are quickly triaged and many categories are speedily despatched to a specialist unit such as coronary care, or a stroke unit. For the rest, the on-take physician copes and the following morning many more patients are distributed to the care of an appropriate physician, or at the very least are seen by such a physician for advice. However, to the detriment of the care of neurology patients, neurologists are seldom involved in this process, because there are too few of them.

At the same time, physicians are becoming more and more specialised and any general medicine they still do is becoming vestigial – for example, looking after the acute take every so often (and transferring patients they cannot manage to the appropriate specialist as fast as possible). What the acute on-take physician needs is a neurology service that can see patients at once or, if not, the next morning, and admit them to a neurology unit if necessary. At the very least, neurologists should advise on all neurological patients shortly after their admission.

Neurologists need to work in acute neurology because no one else can do it: other specialist physicians will be too busy looking after patients in their own specialty. Also, because non-neurological specialists have seldom done even an SHO job

Fig 1. The number of people per neurologist in various European countries in 2001[14].



in neurology, they cannot be expected to cope with acute neurological emergencies, particularly in the light of increasing litigation, clinical governance and the demands of evidence-based medicine. After all, nowadays very few non-neurologists are prepared to deal with neurological outpatients, which is partly why waiting times are so long.

The ideal service

The vast majority of British neurologists want to be involved in acute neurology – they see it as their responsibility and feel that they are likely to provide better care than their non-neurological colleagues. This wish is set out in a recent document from the Association of British Neurologists (ABN)[14]. However, neurologists are not going to be able to fulfil this function unless either the number of consultants increases, or the number of acute admitting hospitals decreases, or both.

Bearing in mind the essentials of care (Table 1), the ABN believes that a 24-hour on-site acute neurology service to a hospital will require at least five consultant neurologists. They will need their own beds and staff, supported by proper neuroradiology and clinical neurophysiology services, as well as good rehabilitation services. Given that there are about 250 DGHs in the UK, the present number of consultant neurologists will need to increase threefold, to about 1,400 consultants, bearing in mind that some will be working part time in university appointments. This would be about the same number per capita as there are now in France, ie one per 43,000 population (Fig 1). If, as seems likely, the number of acute admitting hospitals falls, then acute neurology could be covered by under 1,400 consultants, but if many opt to work part time then more consultants will be needed.

In this ideal world, other specialists are likely to be working mainly in their own specialties. So it will not be feasible for specialists to provide safe treatment and care in all of acute general medicine – it requires too much up-to-date knowledge and skill. The new model of acute care will require a new breed of acute physician who will be at the forefront of acute hospital admissions, not a specialist trying to bring to mind what they once knew about another speciality altogether. The acute physician will be trained in acute medicine, not all of medicine[15,16]. Neurologists will need to train these physicians in the very early management of acute neurology, such as stroke, sudden headache and epilepsy. Acute physicians do not need to know about the 'cold' neurology (eg syringomyelia, Wilson's disease etc) which tortures examination candidates for the Membership of the Royal College of Physicians. Neurologists will have to be available 24 hours a day to support these acute physicians, perhaps even with a physical presence in A&E, along with other specialists, as is commonplace in other European countries.

There is a view that neurologists are incapable of dealing with the non-neurological problems of their neurological patients, such as chest infections, heart failure and arthritis. While this may be partly true, it is likely to be equally true of other specialists. All specialists are developing new ways of working and coping with this problem. Although in the UK, proper general professional training has to be undertaken before specialisation, it is impossible to remember enough to provide safe care for several decades, let alone keep up to date with new developments. More teamwork will be needed and a willingness to seek help from available colleagues. Dual accreditation in both general medicine and neurology is never going to be taken up by more than a handful of trainees, because the burden of knowledge and skills required is far too great.

Table 1. The essential elements of care of patients with acute neurological disease[14].

- Patients require a prompt and correct diagnosis
- They should be cared for by a team of medical, nursing and other staff who have the appropriate expertise to deal with their problems
- Ideally this team should be available on site 24 hours a day throughout the year, although a less comprehensive service is likely to exist in most hospitals
- The neurological service into which patients are admitted should have an adequate number of beds and be staffed by neurologically trained nurses
- There must be 24-hour availability of appropriate investigations, such as neuroradiology and neurophysiology
- There must be appropriate equipment to facilitate management and this includes 24-hour availability of intensive care unit services with skilled staff and monitoring facilities
- There should be a formal relationship with a neurosurgical centre
- The team dealing with the patients should be able to give adequate information and advice about prognosis
- All members of the team dealing with such patients should be members of a regional neurological audit and quality programme

An intermediate plan

The ideal acute neurology service described above will take 10–15 years to develop because of the time required to increase the number of medical students and therefore specialists, including neurologists. In the meantime, neurologists need to situate themselves correctly and move gradually to a position appropriate to such a reorganised service. How this is done, and how fast, will depend on local conditions such as the existing local services, the number of acute admitting hospitals in an area, local geography, local politics and, as always, local prejudices. It will also have to fit in with any changes in the way acute hospital services are organised in the future[17].

Doctors should not go into neurology if they expect to avoid the challenges of acute medicine. Neurology trainees must be exposed to, and be trained in, acute neurology, including stroke and some areas traditionally associated with neurosurgery such as subarachnoid haemorrhage and possibly even head injury. After all, acute admitting hospitals need experts in both these areas and very few will have an on-site neurosurgical department. Although some DGH physicians are not concerned about the lack of neurological colleagues available to help with emergency admissions, they must at least acknowledge the small

number of neurologists and insist on more consultant neurology appointments.

Largely as a result of unacceptably long outpatient waiting times[9], and the recommendations of the RCP[7], more neurologists are being appointed to DGHs. They must not limit themselves to outpatient work, but should engage with the rest of the hospital – go to the grand rounds, teach the junior staff, encourage ward referrals, audit and improve the service, work with those providing services for the neurologically disabled, and develop relations with local general practitioners. As their numbers increase, they should also be able to ensure that any acutely admitted neurology patient is seen by a neurologist within 24–48 hours of admission.

It may make sense for two to three neurologists to be responsible for the services in a DGH, with each one providing two to three days care and spending the rest of their time at a regional neurology and neurosurgery centre. At least the DGH would then have a neurologist available every day, and there would be cover for leave. These neurologists should all be part of a managed clinical network which plans and provides general and more specialised neurology services for a large area, perhaps 1–2 million people. This network would probably be co-ordinated from a neurology and neurosurgery centre which would also organise clinical governance, continuing professional development and postgraduate neurology education and training for the whole area. Neurologists based at DGHs should be supported by the centre and should participate in it, along with their other colleagues in the area. Indeed, the RCP recommends that even DGH-based neurologists should have a *minimum* of two sessions at the centre[7].

Soon one or two neurologists based in a DGH might be able to take part in an acute on-call rota, one in five maybe, with other consultant colleagues. This could not be for unselected acute general medicine for which they are not trained, but it could be for the stroke unit and the rehabilitation unit as well as for acute neurology, working with colleagues in geriatrics and rehabilitation medicine.

Conclusions

Many aspects of medicine are undergoing rapid and fundamental change, and the provision of acute medical care is one of them. Neurologists will have to keep pace with these changes, if patients with acute neurological problems are to get the expert care already available to them in most developed countries. Other physicians are not going to continue to provide neurological cover; they are too busy with their own speciality and also lack training in neurology. Despite their history and reputation, British neurologists will be equal to the task, provided there are enough of them.

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