

NEUROLOGY IN THE UNITED KINGDOM

NUMBERS OF CLINICAL NEUROLOGISTS AND TRAINEES

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SUMMARY

1. In mid-1995 there were 250 Consultant Neurologists in the United Kingdom, a population ratio of 1:233,600. (*Page 1*).
2. Hitherto the Association of British Neurologists has regarded 1:200,000 as an appropriate target. Daily experience suggests that this target is too low and the considerable increase in the number of new consultant posts in recent times suggests the same.
3. The number of Consultant Neurologists that are actually required in the United Kingdom can be calculated. This document illustrates the methodology that has been employed.
4. The calculations (*pages 2-9*) take account of the following:
 - the time that Consultant Neurologists have available for out-patient work,
 - the number of patients that can be seen in that time,
 - existing data on the distribution of patients with different conditions in the out-patient practices of Consultant Neurologists,
 - the epidemiology of certain neurological diseases.
5. It has been concluded (*page 10*) that the ideal number of Consultant Neurologists that are required is approximately 1:100,000.
6. If this expansion in consultant numbers is to be realised within a reasonable timescale, then there has to be an expansion in the number of trainees in neurology (*pages 11-15*).
 - In the near future there will be 158 trainees in the United Kingdom. If there is no further expansion in these numbers, then the target of 1:100,000 will not be achieved until the year 2014.
 - An increase of one extra trainee per year will allow the national ratio of 1:100,000 to be achieved in the year 2010.
 - With two extra trainees per year the target will be reached in the year 2008.
7. Overall, it is concluded that there is a national shortage of Consultant Neurologists and that a considerable increase in numbers is required. To service this increase, there must be more trainees.

1. INTRODUCTION

Outline of the problem and a summary of the solution

In the middle of 1995 there were 250 Consultant Neurologists in England, Wales, Scotland and Northern Ireland. Using the mid-1994 estimate of the National population of 58,400,000¹, this gives a ratio of Neurologists to the population of 1: 233,600.

This document addresses the question of how many Clinical Neurologists will be required in the United Kingdom in the foreseeable future. This is a topic that has been addressed before, but the estimates produced in the past appear to have been based rather more on inspired guess work and assumptions of what is achievable than on a formal analysis of what might constitute the real need. In 1988 the Association of British Neurologists (ABN) suggested that the ideal figure was one Consultant Neurologist per 200,000 of the population², which more or less matches the value proposed in 1986 by the Committee on Neurology of the Royal College of Physicians³. Even though such ratios have yet to be achieved everywhere, the experience of most Neurologists of increasingly long waiting lists and a steadily rising demand for neurological services would suggest that this figure is incorrect and that it seriously underestimates the real need.

In the paragraphs that follow, an attempt at a structured analysis of this topic is presented. The calculations, upon which the analysis is based, constitute a serious attempt to measure how many Consultant Neurologists and how many trainee Neurologists will be required in the United Kingdom in the near future. This whole exercise is based upon the assumption that if the out-patient workload can be dealt with satisfactorily, then all the other duties that are required from Consultant Neurologists should be more than adequately covered by the number of Consultants that will be serving a given population.

The values that have emerged reveal that, in the future, Consultant numbers in the vicinity of 1:100,000 will be required, which is twice the value that we are attempting to achieve at the moment. It is acknowledged that there are some weaknesses in the data that is employed in some of the calculations (which at the moment cannot be avoided), but the basic approach seems reasonably sound.

2. DUTIES OF CLINICAL NEUROLOGISTS

What Neurologists do

Clinical Neurology is the medical speciality that is concerned with the diagnosis, treatment and, in some instances, the continuing assessment and care of patients with diseases of the central and peripheral nervous systems and the muscles. The primary function of the Neurologist is to care for such patients. For some, the Neurologist is the principal provider of specialist care, but for a much larger number, care is provided in collaboration with other physicians and surgeons. How Consultant Clinical Neurologists should organise their time has been defined in a previous Association of British Neurologists' publication entitled "Good Neurological Practice: with particular reference to Job Plans for Consultant Neurologists in the United Kingdom" (1993)⁴. That document describes in detail the different work patterns of Academic, Centre-based and District General Hospital Consultant Neurologists and it illustrates that these Neurologists have a wide variety of duties. Before proceeding further, it is appropriate to give some information on the nature of these duties.

Because the work pattern of Academic Neurologists is significantly different from that of other Neurologists, the details given in Table 1 below refer to Consultants who are either Centre or District General Hospital-based. The values for sessions refer to an average week.

Table 1. Average duties of Consultant Clinical Neurologists (see text for details)

Out-patient clinics	3 sessions
Correspondence resulting from out-patient work	Variable (at least 1 session)
Care of in-patients	2 sessions
Ward referrals: (patients under the care of other specialists)	1 or 2 sessions
Attending postgraduate meetings at the centre	1 session
Administration and traveling	1 session
Audit – local and/or regional	½ session
On-call duties	Variable
Advice on emergency admissions	Variable
Teaching of undergraduates and trainees	Variable
Liaison with neurosurgeons and other colleagues	Variable
Specialist services, which in some instances may include neurophysiology or rehabilitation	Variable
Research	Variable

How the problem has been analysed

There is a modest literature that describes the nature of the out-patient practice of British Neurologists, some of which refers to the work of individuals^{5,6} and some to groups of Neurologists^{7,8}. Many of the calculations and hence the conclusions to be discussed here are based, at least in part, on the data published in these papers.

The literature on the topic of what Clinical Neurologists could or should do is rather more sparse^{9,10} and is confined exclusively to the expression of opinions. Account has been taken of these opinions and, amongst the calculations, to be given later, are some which imply that the future pattern of work of Clinical Neurologists will be different and that in particular they should have a greater involvement in the care of patients with stroke and dementia than has traditionally been the case.

It would be extremely difficult to calculate the number of Consultant Neurologists that are required for a given population, by individually analysing in detail each of the activities listed in Table 1. Instead, the approach that has been employed is based on the belief that if we have enough Neurologists to satisfy the demands for out-patient work, then it is highly likely that we will have enough for all of the other duties of an average Clinical Neurologist. This is an entirely reasonable assumption.

3. DATA USED IN THE CALCULATIONS

Epidemiology

In order to calculate how many patients with different neurological diseases are likely to need to attend out-patients in a given time period, it is necessary to take account of the epidemiology of these diseases. Neither of the sources^{11,12} that have been used to provide such data are perfect, but they provide a reasonable basis for calculating how much neurological disease is likely to exist in the community. ,

Neurology out-patient practice

There is a modest amount of data available in the literature on the current pattern of work in Neurology out-patient clinics and account has also been taken of this. There are four available sources for data on this topic^{5,6,8,13} and there is general agreement that different neurological disorders are distributed in a particular way in the out-patient practice of the average Clinical Neurologist.

The study done on the workload of 34 Consultant Neurologists, by the ABN Services Committee¹³ in 1991, is representative of this type of data and it has been used as the basis for some of the calculations. The ABN study revealed that 16 conditions make up 74% of the out-patient workload of the average United Kingdom Neurologist. Table 2 shows the rank order of these 16 conditions.:

Table 2 Top 16 conditions seen in Neurology Out-patient clinics (see text for details)

(i) epilepsy	(ix) Transit ischaemic attacks
(ii) headaches other than migraine	(x) Dizziness and giddiness
(iii) migraine	(xi) Parkinson's disease
(iv) cerebrovascular disease (not TIA)	(xii) Lumbosacral spinal disease
(v) multiple sclerosis (definite, probable and possible)	(xiii) Cranial nerve palsy
(vi) faints and blackouts	(xiv) Peripheral neuropathy
(vii) Cervical disc disease	(xv) Facial pain
(viii) Peripheral nerve palsies	(xvi) Dementia

4. METHODS USED IN THE CALCULATIONS

Assumptions and methods

The calculations are based on certain assumptions which relate to Neurology out-patient practice. These are listed below:

- **Distribution of diagnoses.**

It has been assumed that in the future, when the clinical workload may be somewhat different to that observed 'now, the top 16 diagnoses will, nevertheless, continue to be those listed in Table 2.

- **Numbers of New and Follow-up appointments.**

For each of the 16 conditions listed in Table 2, an attempt has been made to calculate the likely number of new and follow-up appointments that will be generated by a population of 100,000 people. To avoid a lengthy justification of each figure, appropriate references or comments are given in Table 5, which lists the calculated values. During the time that it has taken for this document to be produced, the figures in Table 5 have been reviewed by the many neurologists who are members of the Services Committee and the Council of the Association of British Neurologists and there is general agreement that the figures given are likely to be about right.

- **Time allocation for new and follow-up appointments.**

The ABN has published an opinion⁴ on how much time should be allocated for consultations in out-patients. This allows the introduction of what can be called "the unit of out-patient time". An average follow-up patient takes one unit and an average new patient two units. This unit is 15 minutes for a Consultant Neurologist and 20 minutes for a Registrar or Senior Registrar. Many Neurologists do not have access to such senior help and instead have to use Senior House Officers to help them in their clinics. A specific study was conducted¹⁴ to investigate this topic and it was established that with such junior doctors the duration of a unit is 30 minutes.

- **Time allocated for out-patient clinics.**

A session is regarded as three and a half hours¹⁵ and the ABN has expressed the view⁴ that all activities associated with a particular session

should be completed within that time. For an out-patient clinic that includes clinical work, immediate correspondence and other relevant duties.

- **Number of out-patient clinics per week.**

The ABN has indicated⁴ that the job plan of a Consultant Neurologist should not contain more than three fixed out-patient sessions per week, although Consultants may, if they wish, conduct a fourth non-fixed outpatient clinic. Special interest clinics, if such are held, may be either fixed or non-fixed.

The out-patient work of a Consultant Neurologist

The methods described already, when combined with other data on the availability of non-consultant doctors who work in Neurology out-patient clinics, allow calculation of the values shown in Table 3.

Table 3. Weekly and annual numbers of clinic sessions.

	Formulae	Notes	Consultants	Registrar Senior Registrar	Other doctors(*)
Availability of doctors	(x)	(a)	1.0	0.34	0.4
Number of clinics/week		(b)	3	3	3
Working weeks/year		(c) (d)	42	42	42
Number clinics/year	(y)		126	126	126
Equivalent clinics/year	(x x y)	(e)	126	42.8	50.4

(*) Senior House Officers. Clinical Assistants.

Notes:

- Data derived from an analysis¹⁴ of 58.5 different clinics conducted each week by 14 Consultant Neurologists in the South West of England. The values represent an average across a range of neurology clinics.
- ABN recommendation⁴
- Calculated from the following data : 52 weeks minus 6 weeks annual holiday, minus 10 days study leave, minus 2 additional weeks for Bank Holidays, Christmas week (in many hospitals all clinic work is cancelled during this period) and absence from clinic for committee work, audit or other reasons.
- The values for junior doctors take account of the rule that such doctors must not conduct clinics independently if the Consultant is not present.
- Annual equivalent number of clinics = Availability (x) x No. of clinics/year (y)

Using the constraints that have already been defined, the figures given in Table 3 represent, for consultants, the number of out-patient clinics that are available each year. In addition, an attempt has been made to illustrate the contribution, expressed as equivalent clinics per year, made by junior doctors of varying levels of seniority.

These values allow the number of available out-patient units to be calculated. The results of these calculations are given in Table 4.

Table 4. Number of out-patient units per annum.

	Formulae	Notes	Consultants	Registrar Senior Registrar	Other junior doctors	TOTAL
Duration of unit in minutes		(f)	15	20	30	
Units per 3.5 hour clinic	(z)	(g)	14	10.5	7	
Equivalent clinics per year	(x x y)		126	42.8	50.4	219.2
Actual units per year	(x x y)x z	(h)	1764	450	353	2567

Notes:

- (f) Duration of units defined in ABN Job Plan document⁴ and South West data¹⁴.
- (g) Terms and Conditions of service¹⁵
- (h) Actual units per year = Equivalent clinics per year (x x y) x Units per clinic (z)

Thus, using the rules and data items introduced so far, it is possible to calculate that an average Consultant Clinical Neurologist, with support from an average number of junior doctors, will have available 2567 units of out-patient time in a year.

5. FUTURE OUT-PATIENT ACTIVITY

The number of appointments required

Table 5 refers to a population of 100,000 and it contains estimates of the number of new and follow-up units in out-patients that could be generated by patients suffering from the conditions that constitute the top 16 disorders seen by Clinical Neurologists (see Table 2 above). To avoid making this analysis too lengthy, the basis for the calculated values are given in the form of annotations and, where relevant, as literature citations.

Table 5. Calculations of number of new and old out-patient units required by patients with the top 16 diagnoses for a population of 100,000

Column A gives references concerning epidemiology. Column B gives the basis for the calculated number of new visits. Column C gives the same for follow-up visits.

Condition	Notes A	New patients	New units	Notes B	Follow up units	Notes C	TOTAL UNITS
Epilepsy	12,16,17	32	64	a	300	a	364
Stroke	18,19,22,23	100	200	22 i	100	12	300
Migraine	11	50	100	11 c	30	11 c	130
Headache	11	50	100	11 c	30	11 c	130
TIA's	11, 22	35	70	11, 22	75		145
Dementia	11	50	100	a	50		150
Multiple sclerosis	21	15	30	a	100		130
Parkinson's disease	11	20	40	20	80		120
Dizziness	D	29	58	20 e	10		68
Blackouts – not epilepsy	D	33	66	20	10		76
Cervical spine disease	11	15	30	20 e	15		45
Peripheral nerve palsies	11	20	40	a, f	10		50
Lumbosacral disease	11	25	50	20 g	10		60
Cranial nerve palsies	D	20	40	h	20		60
Facial pain	D	20	40	a	20		60
Peripheral neuropathy	11	20	40	a, f	10		50
TOTALS		534	1068		870		1938

Notes for Table 5:

- (a) Estimated from prevalence data.
- (b) A reasonable assumption
- (c) 25% of Kurtzke¹¹ figure of the number that should see a Neurologist
- (d) Figure unknown
- (e) 50% of all referrals made by General Practitioners²⁰ could go to Neurologists
- (f) 50% of Kurtzke's¹¹ figure for referral to Neurologists
- (g) 20% of referrals made by General Practitioners²⁰ could go to Neurologists
- (h) Guesses based on : Bell's palsy = 25/100,000
- (i) Derived from data provided by Brown²² on the number of patients with stroke seen at a Cerebrovascular disease clinic and Fuller²³ on the number of patients with stroke presenting to a District Hospital. An assumption has been made that all stroke patients under 65 years and a third of those over that age will be seen by the Neurologist.

The total number of out-patient appointments that will be required per year.

The figures given in the Table generate 534 new patients and 870 follow-up visits per year - a new:old ratio of approximately 1:2, which corresponds to the current practice of many Neurologists. These values represent the workload generated by the top 16 conditions (74%) seen by Clinical Neurologists. From these values can be derived the final figures for 100% of patients, by making the assumption that the same new:old ratio applies to the remaining 26%. Table 6. summarises these calculations.

Table 6. Total out-patient attendances for a population of 100,000

		NEW PATIENTS	OLD PATIENTS	NEW UNITS	OLD UNITS	TOTAL UNITS
Top 16	74%	534	870	1068	870	1938
The rest	26%	188	306	375	306	681
TOTAL	100%	722	1176	1443	1176	2619

6. THE TOTAL NUMBER OF NEUROLOGISTS NEEDED TO DO THIS WORK

The number of Neurologists needed per 100.000 population

In section 4 it was calculated that one Consultant Neurologist, doing 3 clinics a week and with support from an average number of junior doctors, would have available 2567 units of out-patient time in a year. Thus, it can be calculated that a population of 100,000 will require 1.02 Consultant Neurologists, which indicates that the need is for one Consultant Neurologist for every 98,000 of the population. Other values can be calculated by envisaging different work patterns, including more clinics a week, less junior support or both. These are illustrated in Table 7.

Table 7. Calculations showing number of Neurologists

	Units required	Units available	Consultants required per 100000	Consultants per head of population
3 clinics/week + junior help	2619	2567	1.02	1:98000
4 clinics/week + junior help	2619	3423	0.77	1:130000
3 clinics/week + no help	2619	1764	1.48	1:67000
4 clinics/week + no help	2671	2352	1.11	1:90000

The values given in the table should be compared with the current (mid-1995) estimate of 1:233,600 for the number of Neurologists in the population.

7. CALCULATIONS OF REQUIRED NUMBER OF TRAINEE NEUROLOGISTS

Implications concerning numbers of trainees

Such a substantial increase in the number of Consultant Neurologists must inevitably have implications concerning the number of trainees that will be needed to permit this expansion. The Royal College of Physicians²⁴ is being asked to agree that, Unified Training Grade neurology trainees will undergo a 5 year programme in Neurology. At the time of writing this arrangement has yet to be finally agreed.

It has been calculated that at present there are 127 trainees in Neurology in England and Wales, 13 in Scotland and 3 in Northern Ireland, giving a National total of 143. A further 15 are to be added, which will give a total of Neurology trainees of 158. The technique used to derive this number apparently takes into account the average expansion of consultant numbers over the last three years, the current retirement rate and the current rate for early retirement. In this context it is worth noting that during the period preceding the preparation of this document there were 21 consultant vacancies advertised in 1994 and 46 in 1995.

In the Tables that follow, calculations are made of the rate of increase in consultant numbers that will occur if the number of trainees is increased from the present 143 to the new value of 158 and the period of training is five years. Further calculations are presented which show the effect that would be produced if the number of trainees is serially increased by one and two per year, over and above the planned expansion that has been mentioned already.

In order to make the calculations as transparent as possible, Table 8 contains an analysis of the number of trainees that should be in each of the five years of training if the system were really neat and tidy. At the moment things are not quite ordered thus, but with the new system. of training such an orderly scheme should emerge. The data in this Table illustrates how the extra 15 posts could be added to the current 143 trainees in Neurology. (The values in the Table of 29 per year and a current total of 145 are given to avoid meaningless fractions of trainees.)

Number of Clinical Neurologists in the United Kingdom

Table 8. Numbers of trainees in each of the five years of the training programme, starting with the 1995 values and increasing serially to achieve the proposed number of 158 (given here as 160 to avoid fractions of trainees - which would be meaningless).

	Year					Totals
	One	Two	Three	Four	Five	
1995	29	29	29	29	29	145
1996	32	29	29	29	29	148
1997	32	32	29	29	29	151
1998	32	32	32	29	29	154
1999	32	32	32	32	29	157
2000	32	32	32	32	32	160
Totals					148	

Table 9. Increase in Consultant numbers if all trainees become consultants five years after entering training and the number of trainees remains at the 1995 level (143) plus the extra 15 (see Text and Table 8) indefinitely.

5 years	Start number (a)	Trainees leaving per year (b)	Trainees leaving in 5 years (c)	Annual retirements (d)	Number retiring in 5 years (e)	New posts (f)	Finish number (g)	Population per neurologist (h)
1996-2000	250	29-32	148	8	40	108	358	167600
2001-2005	358	32	158	12	60	98	456	131600
2006-2010	456	32	158	14	70	88	544	110300
2011-2015	544	32	158	17	85	73	617	97200

Table 10. Numbers of trainees in each of the five years of the training programme, using the data given earlier in Table 8, but adding one extra trainee to each first year starting in 1996.

	Year					Totals
	One	Two	Three	Four	Five	
1996	33	29	29	29	29	149
1997	34	33	29	29	29	154
1998	35	34	33	29	29	160
1999	36	35	34	33	29	167
2000	37	36	35	34	33	175
2001	38	37	36	35	34	180
2002	39	38	37	36	35	185
2003	40	39	38	37	36	190
2004	41	40	39	38	37	195
2005	42	41	40	39	38	200

Number of Clinical Neurologists in the United Kingdom

Table 11. Increase in Consultant numbers if all trainees become consultants after five years and there is a serial increase in the number of trainees of one a year (over and above the planned increase of 15) - starting in 1996

5 years	Start number (a)	Trainees leaving per year (b)	Trainees leaving in 5 years (c)	Annual retirements (d)	Number retiring in 5 years (e)	New posts (f)	Finish number (g)	Population per neurologist (h)
1996-2000	250	29-33	149	8	40	109	359	167100
2001-2005	359	34-38	180	12	60	120	479	125300
2006-2010	479	39-43	205	16	80	125	604	99300

Table 12. Numbers of trainees in each of the five years of the training programme, using the data given earlier in Table 8, but adding two extra trainees to each first year starting in 1996.

	Year						1996
	One two	Three	Four	Five	Totals		
34	29	29	29	29	29	29	150
1997	36	34	29	29	29	29	157
1998	38	36	34	29	29	29	166
1999	40	38	36	34	29	29	177
2000	42	40	38	36	34	34	190
2001	44	42	40	38	36	36	200
2002	46	44	42	40	38	38	210
2003	48	46	44	42	40	40	220
2004	50	48	46	44	42	42	230
2005	52	50	48	46	44	44	240

Table 13. Increase in Consultant numbers if all trainees become consultants after five years and there is a serial increase in the number of trainees of two a year (over and above the planned increase of 15) - starting in 1996

5 years	Start number (a)	Trainees leaving per year (b)	Trainees leaving in 5 years (c)	Annual retirements (d)	Number retiring in 5 years (e)	New posts (f)	Finish number (g)	Population per neurologist (h)
1996-2000	250	29-34	150	8	40	110	360	166700
2001-2005	360	36-44	200	12	60	140	500	120000
2006-2010	500	46-54	250	17	85	165	665	90200

Notes for **Tables 9,11 and 13:**

- (a) The number of Consultants at the beginning of each 5 year period. 1995 = 250.
- (b) Trainees in the 5th and final year and, therefore, due to become consultants.
The data has been derived from Tables 8, 10 and 12.
- (c) This figure represents the total that reach the 5th year, summed for the 5 year period.
- (d) The current retirement rate is ca. 7-8 per year²⁵. This is about 3.3% or 1/30 of the total number of consultants and more-or-less corresponds with 30 years as a consultant from 35 to 65 years. The same formula has been used throughout. It is too simplistic and takes no account of the apparently increasing trend to early retirement or the current and future skew in the distribution of consultant ages towards the younger end of the age range.
- (e) Annual number retiring x 5 as appropriate.
- (f) Number of trainees appointed as consultants, minus the number of replacement posts.
- (g) The number of consultants at the end of the 5 year period.
- (h) The national population value is assumed to be stable at 60,000,000. In fact the predictions²⁶ for the national population are as follows:
1995:58,576,000; 2000:59,613,000; 2005:60,461,000;
2010:61,138,000; 2015:61,674,000; 2020:62,080,000
Taking account of these values makes only a modest difference to the final figures

The methodology used in these calculations is very simple and some rather crude assumptions have been made. However, they have revealed that Consultant numbers are rising at the moment and that this trend will continue with the projected number of trainees. At the moment it is envisaged that the number of trainees will change from 143 to 158 and it has been implied that the number will then be fixed at that value for ever. If that should be so, and if training continues for 5 years, then we will not achieve a ratio of 1:100,000 until the end of the year 2014.

If a very simple change in the rules that determine the number of trainees is introduced, then a much quicker expansion in consultant numbers could result. This change involves a programmed increase in the number of 1st year trainees by one or two each year. If only one extra trainee is added, the overall number in the fifth year will be 33 in five years time, 38 in ten years and 43 in the year 2010. These values compare with 32 each year if no such expansion is allowed. This modest increase will add very little to the annual salary costs and, if all trainees leave after 5 years, it will generate enough consultants to allow a ratio of 1:100,000 to be achieved at the end of the year 2010. An increase of two trainees per

year would give a total of 34 in the fifth year in 2000, 44 in 2005 and 49 in the year 2010. This approach would allow the target of 1:100,000 to be reached during the year 2008. These models look achievable and economical. When the target number is being approached and, assuming that a new target ratio is not being envisaged, the number of trainees will have to be reduced in order to prevent an over-supply of trained neurologists with no consultant posts to apply for.

It is worth noting that at the moment the ratio of consultants to trainees is 250:143 (1.8:1), whereas with the model that allows an increase in trainee numbers of one per annum, the ratio in the year 2010 will be 604:225 (2.7:1) and with an increase of two per annum, the ratio in 2010 will be 665:290 (2.3:1). These changes in the number of available junior doctors will alter the contribution that they make to out-patient work, thereby partially invalidating some of the calculations presented earlier.

This must be taken into account when interim calculations are done as the target ratio is approached. This comment and that made in the previous paragraph indicate clearly that it would be logical for the expansion of Consultant numbers to be closely monitored.

Recently an unprecedented number of new Consultant Neurologist posts have been advertised and we are in danger of running out of trainees to service this demand. There is no centralised mechanism for controlling this expansion and, indeed, such a mechanism would be inconsistent with a model driven by local health care needs. The rules of the market place are determining what is happening with consultant posts, but there is limited evidence that decisions concerning trainee numbers are being similarly influenced. The planned expansion in the number of trainee Neurologists is too small to allow for the rapid expansion in Consultant numbers that we feel is necessary. Furthermore, if the considerable demand nationally for new Consultant Neurologist posts continues at the current rate, then we will have too few trainees to service this demand, even with the 15 new posts that are planned. Thus, at the moment we are faced with a problem. We as a profession believe that there should be more Consultant Neurologists and, if the number of new posts being advertised is anything to go by, Purchasers and Providers of health care share our view. However, we cannot expand as we would wish or as Health authorities believe is necessary, because we do not have enough trainees. A formula has been presented here which should help to achieve the expansion that everybody appears to want.

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