Clinical training of specialist registrars in neurology: the registrar's perspective

G N Fuller

ABSTRACT - Objectives: To find out how closely consultants supervise specialist neurology registrars in different clinical settings (acute admissions, routine admissions, ward referrals, new outpatients and old outpatients) and how much registrars value this supervision.

Design: Questionnaire asked: how often clinical assessments were done (from 'not done' to 'almost always'); how useful these were for training (from 'not useful' to 'very useful').

Subjects: Distributed via regional education supervisors to registrars in their region.

Results: Sixty-one responses from 88 distributed questionnaires (69%). Acute admissions were closely supervised (>80%), and valued as training. Routine admissions and ward referrals were less frequently reviewed, though review was valued. New outpatients were reviewed 'infrequently' or 'not at all' in 65%, though review was valued for training (>80%). Old outpatients were less frequently reviewed but this was less valued.

Conclusions: Inpatient supervision of neurology trainees is close and valued by trainees, though review of ward referrals is often a missed opportunity for training. Outpatient supervision is limited, though highly valued by trainees. Time needs to be made available within the outpatient clinic to allow supervision and training.

The clinical training of neurology specialist registrars is now contained within a five-year training programme. A core curriculum of lectures has already been drawn up. However, much of the most important training in clinical neurology is done by consultant neurologists working individually with their trainees in outpatients and on the ward whilst seeing patients clinically.

There are many different ways in which this type of training can be done and we are not aware of any published data to indicate that one approach is superior to another. However, this clinical apprenticeship is generally thought to be important and has not been previously studied. We do not know how it is done by different neurologists, how effective the training is, nor how useful it is considered to be by the trainees.

This type of training does take time and therefore is in conflict with other demands on the time of both the trainer and trainee. So changes in this type of teaching must be based on data to allow informed discussions with the hospital trusts and health authorities.

This study was designed to find out how this type of clinical training is currently undertaken in different clinical settings and how useful the trainees perceive it to be.

Methods

Questionnaire

The registrars were assured of anonymity. They were asked to state which year of training they were in.

Registrars were asked to score how often their clinical assessments were reviewed by their consultants in their current post in five clinical settings: (1) for new outpatients; (2) old outpatients; (3) acute ward admissions; (4) routine ward admissions; and (5) ward referrals. They scored the frequency of: (a) review of history; (b) assessment of examination; (c) discussion of diagnosis; and (d) discussion of management using a five-point scale: not done, infrequent (<25%), often (25–49%), usually (50–75%), almost always (>75%). They were also asked to assess how useful they found these reviews in terms of their training. This was on a four-point scale: not useful; some use; useful; and very useful. Assessment was made for each element of the clinical assessment (a–d above) in all five clinical settings.

The registrars were invited to make any comments on how their clinical skills could be improved in their current post.

Distribution

The questionnaires were sent to the 18 educational supervisors of neurology postgraduate education with a request that these be distributed to the specialist registrars at their next Calman teaching session. The number of questionnaires distributed was recorded on a return slip or by follow-up contact by post or phone.

Statistics

The chi-squared method was used to test differences between groups.

Results

A total of 88 questionnaires was distributed. Sixty-one replies were received, a 69% response rate. Two from research registrars were excluded from subsequent analysis.
The registrars were in the following years of their training: year 1 = 5, year 2 = 14, year 3 = 13, year 4 = 14, year 5 = 12, not recorded = 3. A chi-squared linear by linear test found no significant difference between specialist year and frequency of assessment or perceived usefulness of any part of the assessment. The results will therefore be considered together and are summarised in Tables 1 and 2.

**Outpatients**

*New patients.* Over 65% of registrars have their history and examination reviewed infrequently or not at all for new outpatients. In 17% it is usually or almost always reviewed. Discussion of diagnosis and management occurs more commonly, usually or almost always happening in 25%, though in 58% it is infrequent or not done.

This contrasts with the perceived usefulness of these assessments. Training value was generally scored as useful or very useful for all parts of the clinical assessment, particularly for discussion of diagnosis and management (over 80%), history review (73%) and review of examination (66%).

*Old patients.* History and examination are either not reviewed or infrequently reviewed in over 80% of these patients. Diagnosis and management is slightly more commonly discussed, with about 15% discussing patients usually or almost always. The review of history and examination is rated to be of less training value than for other types of patients, being rated not useful or only of some use in over 30%. Discussion of diagnosis and management is thought to be useful or very useful by 60–70% of registrars. However, fewer thought it to be very useful when compared to other patient types.

**Inpatients**

*Acute admissions.* The registrars are closely supervised in their management of these patients. Clinical assessments were reviewed usually or almost always (the history in over 75%; examination 60%), with discussion of diagnosis and management in over 80%.

These assessments were highly valued by the registrars, 75% finding review of history and examination useful or very useful and 85% finding discussion of diagnosis and 92% finding discussion of management useful or very useful.

*Routine admissions.* The history and examination of 25–30% of registrars is reviewed only infrequently or not at all, the diagnosis is discussed infrequently or not at all in 33% and management is discussed infrequently or not at all in over 50% of patients. The reviews of history and examination are perceived as being valuable training (useful or very useful)

---

**Table 1. The frequency of consultant review of different aspects of clinical assessment in different clinical settings (n=59, percentage in brackets).**

|                        | New outpatients | Old outpatients | Acute admissions | Routine admissions | Ward referrals |
|------------------------|-----------------|-----------------|------------------|--------------------|---------------|
| **History review**     |                 |                 |                  |                    |               |
| Not done               | 14 (24)         | 18 (31)         | 3 (5)            | 5 (9)              | 2 (3)         |
| Infrequent             | 27 (46)         | 30 (51)         | 4 (7)            | 11 (19)            | 18 (31)       |
| Often                  | 7 (12)          | 5 (9)           | 4 (7)            | 9 (15)             | 16 (27)       |
| Usually                | 2 (3)           | 1 (2)           | 14 (24)          | 19 (32)            | 9 (15)        |
| Almost always          | 8 (14)          | 3 (5)           | 31 (53)          | 12 (20)            | 10 (17)       |
| **Exam assessed**      |                 |                 |                  |                    |               |
| Not done               | 20 (34)         | 26 (44)         | 4 (7)            | 7 (12)             | 9 (15)        |
| Infrequent             | 31 (53)         | 26 (44)         | 9 (15)           | 10 (17)            | 23 (39)       |
| Often                  | 2 (3)           | 3 (5)           | 7 (12)           | 15 (25)            | 14 (24)       |
| Usually                | 5 (9)           | 1 (2)           | 11 (19)          | 16 (27)            | 8 (14)        |
| Almost always          | –               | –               | 25 (42)          | 8 (14)             | 1 (2)        |
| **Diagnosis discussed**|                 |                 |                  |                    |               |
| Not done               | 6 (10)          | 10 (17)         | –                | 2 (3)              | 1 (2)         |
| Infrequent             | 28 (48)         | 34 (58)         | 5 (9)            | 18 (31)            | 13 (22)       |
| Often                  | 9 (15)          | 5 (9)           | 3 (5)            | 16 (27)            | 19 (32)       |
| Usually                | 6 (10)          | 5 (9)           | 8 (14)           | 9 (15)             | 10 (17)       |
| Almost always          | 9 (15)          | 3 (5)           | 40 (68)          | 10 (17)            | 12 (20)       |
| **Management discussed**|                 |                 |                  |                    |               |
| Not done               | 4 (7)           | 8 (14)          | –                | 9 (15)             | 1 (2)         |
| Infrequent             | 30 (51)         | 34 (58)         | 4 (7)            | 23 (39)            | 13 (22)       |
| Often                  | 9 (15)          | 6 (10)          | 4 (7)            | 14 (24)            | 17 (29)       |
| Usually                | 4 (7)           | 4 (7)           | 8 (14)           | 8 (14)             | 9 (15)        |
| Almost always          | 11 (19)         | 5 (9)           | 39 (66)          | 1 (2)              | 13 (22)       |

Note: Figures do not total 100%; balance = non-respondents.
by over 60% and discussion of diagnosis and management by over 75%.

Ward referrals. Registrars reported that for ward referrals their clinical assessment is not reviewed or infrequently reviewed in over a third (history 33% and examination 52%). Discussion of diagnosis and management were more commonly undertaken, with 37% of registrars reporting this as occurring usually or almost always.

There is a perception by the registrars that these reviews are useful or very useful to their training, with over 70% scoring each part of the assessment as such.

Comments

There were additional comments on 20 questionnaires. Six were wholly negative comments, such as ‘consultant supervision is virtually non-existent’. Of these, three specifically mentioned outpatient workload as a factor limiting training in outpatients. Three were positive, for example ‘some of my responses may suggest relatively little supervision, especially in outpatients. However such review, perhaps more importantly, is always available’ Ten made other suggestions or comments, five suggested opportunities for clinical teaching, for example seeing patients clinically on Calman training days, using videos, and two more suggested more training by sitting in on specialist clinics.

One comment had both positive and negative points: ‘Inpatient appraisal thorough and excellent. Outpatient appraisal virtually non-existent’

Table 2. The perceived value of consultant review of different parts of the clinical assessment to the registrar’s training in different clinical settings (n=59, percentage in brackets).

|                          | New outpatients | Old outpatients | Acute admissions | Routine admissions | Ward referrals |
|--------------------------|-----------------|-----------------|------------------|--------------------|---------------|
| **History review**       |                 |                 |                  |                    |               |
| Not useful               | 3 (5)           | 5 (9)           | 1 (2)            | 1 (2)              | 3 (5)         |
| Some use                 | 10 (17)         | 16 (27)         | 9 (15)           | 18 (31)            | 9 (15)        |
| Useful                   | 19 (32)         | 15 (25)         | 22 (37)          | 18 (31)            | 20 (34)       |
| Very useful              | 24 (41)         | 20 (34)         | 23 (39)          | 18 (31)            | 22 (37)       |
| **Exam assessed**        |                 |                 |                  |                    |               |
| Not useful               | 5 (9)           | 7 (12)          | 3 (5)            | 4 (7)              | 5 (9)         |
| Some use                 | 12 (20)         | 17 (29)         | 8 (14)           | 10 (17)            | 7 (12)        |
| Useful                   | 22 (37)         | 18 (31)         | 23 (39)          | 25 (42)            | 22 (37)       |
| Very useful              | 17 (29)         | 12 (20)         | 21 (36)          | 16 (27)            | 20 (34)       |
| **Diagnosis discussed**  |                 |                 |                  |                    |               |
| Not useful               | 1 (2)           | 2 (3)           | 1 (2)            | 1 (2)              | 2 (3)         |
| Some use                 | 8 (14)          | 13 (22)         | 5 (9)            | 10 (17)            | 7 (12)        |
| Useful                   | 18 (31)         | 17 (29)         | 14 (24)          | 16 (27)            | 12 (20)       |
| Very useful              | 30 (51)         | 25 (42)         | 36 (61)          | 29 (49)            | 32 (54)       |
| **Management discussed** |                 |                 |                  |                    |               |
| Not useful               | 1 (2)           | 2 (3)           | 1 (2)            | 1 (2)              | 2 (3)         |
| Some use                 | 6 (10)          | 10 (17)         | 4 (7)            | 8 (14)             | 7 (12)        |
| Useful                   | 16 (27)         | 15 (25)         | 13 (22)          | 18 (31)            | 12 (20)       |
| Very useful              | 34 (58)         | 20 (34)         | 38 (64)          | 29 (49)            | 34 (58)       |

Note: Figures do not total 100%; balance = non-respondents.

Key Points

This survey examines how closely specialist registrars in neurology are supervised in different clinical situations and how useful they consider it for their training

Management of new inpatients was closely supervised; new outpatients and ward referrals had limited consultant supervision

New inpatients, new outpatients and ward referrals were all areas in which supervision is highly valued for training

There is an opportunity for improving training of registrars in outpatients if time is made available to do so

Discussion

This survey has obtained the views of 59 of the 127 specialist registrars in neurology (46%). While the mechanism used to distribute the questionnaire potentially could have reached all registrars, the questionnaires were reported to be distributed to 88 (69%) of the registrars, with a high response rate (69%). Could the reduced distribution systematically bias the sample? This seems unlikely as response or lack of response was not determined by the respondent but by another party, so the responses are not self-selected. Theoretically the questionnaires could have only been given to those registrars who might have been thought likely to give a favourable or unfavourable
response. This seems unlikely as the variation in response is between rather than within Regions. The responses thus seem likely to reflect the views of all registrars.

The major finding is the discrepancy between training received in outpatients and the ward. There appears to be close supervision of acute admissions, which is found to be very valuable for training. The routine admissions are supervised with high frequency of review of history and examination but with less discussion of diagnosis and management. This contrasts with the infrequent or non-existent assessment of any aspect of new patient assessment in outpatients, something which is perceived as being of great potential value in training. The review of old outpatients is less frequent but is perceived as being less useful. Ward referrals are perceived as being valuable opportunities for training that are infrequently taken.

Outpatients make up the largest part of a consultant's workload so a good training in that specific clinical setting is important. Can this lack of training in outpatients be satisfactorily compensated for by such close supervision of acute admissions? This depends on whether the same skills and knowledge are required in the two settings.

Data on the type of problems seen by neurologists have been previously collected by the Association of British Neurologists (ABN). The 16 commonest conditions account for 74% of all patients seen. The ABN offered advice regarding management of these conditions, suggesting that of these conditions, seven would usually not be admitted and some of the other nine categories might be admitted. The commonest three diagnoses - headache, migraine and epilepsy - accounted for 37% and were usually not admitted, and of the nine commonest, which make up 57% of outpatients, only some patients with cervical disc disease, transient ischaemic attack (TIA) and multiple sclerosis might be admitted. This suggests the range of conditions seen in outpatients is quite different from those seen on the ward, particularly in regional units where there are few inpatient beds and a concentration of patients with rare and unusual conditions. Many common problems will not be seen in inpatients.

Many of the skills used will overlap between inpatients and outpatients, for example history taking and examination. However, the range of conditions seen differs, as does their management. The registrars perceived that discussion of diagnosis and management review of outpatients would be of particular value to their training, suggesting that this is an area of important current deficiency.

Part of a registrar's training is learning to make decisions about patient diagnosis and management independently. If this need dictated policy in supervising registrars in outpatients, then one would expect closer supervision of junior registrars. The lack of any difference in supervision of registrars at different stages of their training suggests this is not a deliberate policy.

The high value placed by registrars on all aspects of clinical review and its relative infrequency in outpatients suggests that consultants may not appreciate how useful their trainees find these reviews.

We can conclude that inpatient training is generally excellent. Registrars currently have closely supervised and highly valued training on acute admissions. There are opportunities for enhancing their training by more discussion of diagnosis and management of routinely admitted patients and greater review and discussion of ward referrals.

In contrast, outpatient training is limited. More consultant review, particularly with more discussion of diagnosis and management, would be of particular value. This could be done either by reviewing every patient with the registrar during the clinic or by a case-note review of patients after the clinic, combined with access to review if needed during the clinic. The level of supervision would need to be tailored to the experience of the registrar, with closer supervision in the early years and increased independence in later years.

The registrars also commented that they felt clinical workload pressures currently prevented this type of outpatient training. If this area of training is to be improved, the workload for clinics where registrars are being trained will need to take account of the time demanded by this type of training.

Acknowledgments

We are grateful to Susan Tann and Joanna Terry at the ABN, the Educational Training Supervisors of Postgraduate Neurological Education, for their help. We are especially grateful to Beverly Williams and Mark Aggleton of the Gloucestershire Royal Infirmary Audit Department who processed the data.

References

1 Joint Committee on Higher Medical Training. Curriculum for Higher Specialist training in neurology. J Neurol Neurosurg Psychiatry 1997;63(suppl):S75–8.

2 Association of British Neurologists. Guidelines for the care of patients with common neurological disorders in the United Kingdom. London: ABN, 1993.

Address for correspondence: Dr G N Fuller, Department of Neurology, Gloucester Royal Infirmary, Great Western Road, Gloucester GL1 3NN.