

## ■ PROFESSIONAL ISSUES

# The feminisation of British neurology: implications for workforce planning

CB Carroll, DSNA Pengiran Tengah, C Lawthom and G Venables

**Editorial note:** As the authors point out the response rates to the questionnaire are low but the importance of the topic is not in doubt. Larger studies are required to validate these findings.

**ABSTRACT** – As in other hospital specialties, an increasing proportion of neurology trainees are female. To predict the workforce implications it is necessary to determine what life choices future neurologists will make. A questionnaire survey of life choices was administered to neurology consultants and trainees, general medical senior house officers, and medical students. Of the 344 respondents, 3% of specialist registrars (SpRs) and 4.6% of consultants work part time. Eighty-seven per cent of female and 22% of male junior doctors plan to work part time for, on average, 7.5 and 1.5 years respectively. Thirty percent of consultants also plan to work part time. A number of SpRs (14.3%) and consultants (6%) have taken a career break while 37.5% of SpRs and 18.2% of consultants are planning a career break. The changing demands of both sexes will have a greater impact on the neurology workforce than the increasing proportion of women alone. Increased part-time working will require additional trainees to ensure service requirements are met.

**KEY WORDS:** demographics, female doctors, part-time working, workforce implications

## Introduction

The number of women entering medicine has increased dramatically over the last 20 years. In 2006, just over 60% of medical school graduates were female. A smaller proportion of women enter hospital medical specialties, however, and this is evident in neurology (33% of specialist registrars (SpRs) and 12.5% of consultants are female). If the upward trend in female graduates continues then the percentage of female neurology SpRs and consultants is likely to increase to 50% and 20% respectively over the next 10 years. Neurology is a small specialty in the UK, with 506 consultants and 231 SpRs (at 30 September 2006). As women are more likely to want

to work part time or take career breaks, the increasing proportion of women could have serious implications for future workforce planning for British neurology services.

In order to predict the impact of the increased proportion of women in neurology, it is necessary to determine what life choices have been made by present female consultant neurologists, to establish whether female consultant neurologists of the future will make the same decisions and to compare these choices with those made by their male colleagues.

## Methods

A questionnaire survey of four different groups was carried out in April and May 2005: neurology consultants, neurology SpRs, general medical senior house officers (SHOs) and general medical students. Questionnaires were sent by email to all full and associate members of the Association of British Neurologists (ABN), medical SHOs at Derriford Hospital in Plymouth and Queen's Medical Centre, Nottingham, and medical students at Warwick University, Nottingham University and Queen's University, Belfast. Questionnaires were also hand-delivered to medical SHOs at Walsgrave Hospital, Coventry. The questionnaire could be returned by email or post. Questions addressed various life choices including the demand for part-time working and career breaks.

## Results

### Number of responses

The total number of responses was 344. Females were slightly over-represented in each group (Table 1). As questionnaires were distributed by email it was not possible to calculate response rate.

### Children

At every level more male than female doctors have children, the differences being most evident in junior posts. Of those consultants who have children, 12% of men were consultants when they had their first child, compared with 25% of women. The average age of female consultants when their first child was

### CB Carroll<sup>1</sup>

PhD MRCP, Honorary Consultant Neurologist

### DSNA Pengiran

Tengah<sup>2</sup> MRCP, Specialist Registrar

### C Lawthom<sup>3</sup>

MRCP, Clinical Research Fellow

### G Venables<sup>4</sup>

DM(Oxon) FRCP, President Association of British Neurologists; Consultant Neurologist

<sup>1</sup>Department of Neurology, University Hospital, Birmingham

<sup>2</sup>Department of Neurology, Queens Medical Centre, Nottingham University Hospitals NHS Trust

<sup>3</sup>Department of Neurology, University Hospital of Wales, Cardiff

<sup>4</sup>Sheffield Teaching Hospitals, Royal Hallamshire Hospital, Sheffield

*Clin Med* 2007;7:339–42

**Table 1. Breakdown of responses to the questionnaire survey.**

	Neurology		General medicine	
	Consultants	Specialist registrars	Senior house officers	Medical students
Total	126	69	44	105
Proportion of females (%)	27.8	47.8	50	67.6
Average age (years)	45.7	33	27.3	24

born was 33.4 years old. At every level the average number of children is lower for women than men, for example the average number of children per female consultant is 1.9 while male consultants have an average of 2.4 children.

**Maternity and paternity leave**

The amount of parental leave taken per child has increased for both men and women over time and is likely to continue to rise at all levels according to doctors’ stated plans (Table 2). Of female consultants, 29% are planning to have an average of 1.3 more children compared with 14% of male consultants. Of female SpRs, 91% are planning to have an average of 2.1 more children compared with 81% of their male colleagues.

**Location**

At every stage, more women than men are or have been in a long-distance relationship and have changed geographical location because of their partner’s work commitments, with 49% of female consultant respondents having done so, most as SpRs or consultants, compared with 10% of male consultants.

**Part-time working and career breaks**

Very few neurology SpRs or consultants work part time or have done so for any reason other than childcare. The demand for part-time working and career-breaks, however, is set to increase among doctors of both sexes at all levels (Table 2). The majority of women planning part-time work or career breaks are doing so for family reasons, whereas the majority of men cite other reasons,

including exams, sport, travel, sabbatical, working abroad and semi-retirement. Most women have partners in full-time work, whereas most men have partners that do not work, work part-time or have had career breaks in the past (Table 2). Of female consultants and SpRs with children 46% and 42% respectively work part-time or have done so in the past; 3.6% and 0.3% respectively have had a career break.

**Giving up medicine**

Overall, a higher proportion of men than women are planning to give up medicine (Table 2). The most commonly cited reason was disenchantment with aspects of a medical career for example on-call work, lack of flexibility, and new consultant contracts.

**Discussion**

The proportion of female neurologists will increase. A questionnaire-based survey to determine the impact of the increasing proportion of women in British neurology was performed. Female respondents to the survey were over-represented in each

**Table 2. Summary of responses to the questionnaire survey.**

		Neurology		General medicine	
		Consultants	Specialist registrars	Senior house officers	Medical students
Percentage with partners in full-time work	Men	25.6	44.4	36.4	32.4
	Women	91.4	81.8	77.3	49.3
Percentage with children	Men	92.3	47.2	13.6	5.9
	Women	80.0	21.2	0.0	2.8
Parental leave taken per child (months)	Men	0.1	0.3	0.2	0.0
	Women	4.1	5.4	0.0	3.0
Parental leave planned per child (months)	Men	0.4	0.4	0.5	0.7
	Women	5.9	5.7	6.7	9.0
Percentage planning part-time work	Men	24.4	22.2	22.7	41.2
	Women	68.6	87.9	86.4	87.3
Percentage who have taken career break	Men	5.6	13.9	18.2	2.9
	Women	8.6	15.2	9.1	2.8
Percentage planning career break	Men	16.7	30.6	45.5	29.4
	Women	28.6	51.5	63.6	64.8
Percentage planning to give up medicine	Men	14.4	11.1	22.7	5.9
	Women	2.9	9.1	27.3	7.0

**Box 1. Differences in life choices demonstrated by female and male neurologists.**

- More female than male neurologists remain childless
- Female neurologists have fewer children and have them later
- Female neurologists are more likely to change location because of a partner's career than male neurologists
- Female neurologists are more likely to have partners in full-time work than male neurologists

of the four groups surveyed (neurology consultants, neurology SpRs, general medical SHOs and general medical students), and the respondents were self-selecting. As the questionnaire was distributed by email it was not possible to calculate the response rate. Despite follow-up emails, a large number of recipients had not received the initial questionnaire and others had deleted it un-opened. Responses, however, were received from roughly 30% of neurology SpRs and consultants. Due to the small number of responses, interpretation of the collected data is limited. Nevertheless, the study has generated some interesting results that illustrate factors likely to be significant in future workforce planning of British neurology services.

The results indicate that female neurologists appear to have made life decisions influenced by their career (Box 1): less women than men have children; when women have had children they have had them later and have fewer than their male colleagues (male consultant neurologists have more children than the national average). This trend seems to be continuing. The level of childlessness among female consultants is consistent with the national figure of 22% among women with higher education.<sup>1</sup> In addition, the average age of female consultant neurologists when they have their first child (33.4 years) is about five years later than the national average by cohort, and is consistent with an increase in median age of first-birth timing of about five years with higher education.<sup>1</sup>

Female neurologists are more likely than women nationally to continue working rather than take a career break to look after children. This may reflect the difficulties inherent in returning to medicine after a break of several years. Currently 9.1% of female SpRs work part-time or have done so in the past compared with 0% of their male colleagues, reflecting the fact that although less female SpRs have children they are still more likely to take on the role of carer. It would be interesting to compare this figure with that from other medical and surgical specialties, as neurology may be seen to lend itself to part-time working with a large outpatient component and currently less out-of-hours commitments than other hospital specialties. This may change in the future, however, with the ABN promoting the involvement of neurologists in the care of acute admissions (25% of which are neurology patients), and increasing numbers of neurologists involved in regular acute work.

This study shows that in the future many more female doctors will want to work part time or take a career break to look after their children than at present. The percentage of females planning part-time work at some time in their career is around 87% in each of the four groups surveyed, most citing family commit-

ments as the main reason. This is higher than the figure of 75% of female SpRs planning part-time work quoted in a 2001 Royal College of Physicians (RCP) working party report,<sup>2</sup> but is nearer to the figure of 94% quoted in a BMA 10-year follow-up study of medical graduates.<sup>3</sup> Just fewer than 25% of working male doctors surveyed in each group plan to work part-time in the future, citing reasons such as sport, semi-retirement and travel. This demand for part-time working among doctors of both sexes has been noted in the past and has led to discussion in the UK medical press as to how this may be achieved.<sup>4</sup> The recommendations of the RCP working party report investigating the situation of women in medicine include established part-time training posts, increased opportunities for job-share, competence-based over length-dependent training requirements, increased educational opportunities for those not working standard hours and out-of-hours childcare provision within the NHS.<sup>2</sup> Although some of these recommendations have been addressed, most have not. It remains to be seen whether the difficulties of training and working flexibly within neurology compared with non-hospital or non-medical careers will deter future male or female trainees. These factors may also impact on retention of neurologists as a surprisingly high proportion of doctors surveyed stated intentions of leaving their medical career altogether, including 14.4% of current male consultant neurologists.

Of the neurology respondents, 3% of SpRs and 4.6% of consultants currently work part time. If the combination of the planned increase in part-time working among both sexes and the increase in the proportion of women in neurology occurs over the next 10 years, the overall percentage of SpRs and consultants working part time at some point in their careers could be as high as 55% and 35% respectively. These figures have obvious workforce planning implications for British neurology. For example, assuming the current rate of consultant expansion continues, there will be 850 neurology consultants in 10 years' time. Approximately 170 will be female, of whom 115 will work part time. Of the 680 men, 170 may want to work part time. Therefore over the next 10 years, approximately 140 additional whole time equivalent trainees are required to fill these posts to ensure adequate service provision. Further trainees are also required to account for part-time working among SpRs, as well as to compensate for those doctors wanting to take career breaks and for those giving up medicine. Similar considerations are likely to apply to other medical specialties which currently have a higher proportion of female doctors, eg general medicine, endocrinology and geriatric medicine.

The government's intention of increasing the medical workforce is a laudable one, but this study has highlighted the impact of ever-changing lifestyle choices made by female as well as male doctors. More research needs to be carried out across the medical profession with regards to these changes to determine whether the projection of an improved service through more medical graduates is achievable.

## References

- 1 Rendall MS, Smallwood S. Higher qualifications, first-birth timing, and further childbearing in England and Wales. *Population Trends* 2003;111:18–26.
- 2 Federation of Royal Colleges of Physicians. *Women in hospital medicine. Career choices and opportunities*. A report of a working party. London: RCP, 2001.
- 3 Health policy and economic research unit. *BMA cohort study of 1995 medical graduates. Tenth report. June 2005*. London: BMA, 2005.
- 4 Gray S, Finlay I, Black C. Women doctors and their careers: what now? The changing UK medical workforce's effect on planning and delivery of services. *BMJ* 2005;331:696.