

# Recruitment of UK-trained doctors into general practice: findings from national cohort studies

Trevor W Lambert, Julie Evans and Michael J Goldacre

## SUMMARY

**Background:** In recent years there have been difficulties with recruitment in the United Kingdom (UK) to principalships in general practice.

**Aim:** To compare recruitment trends in cohorts defined by year of qualification and to report attitudes of young doctors about the attractiveness of a career in general practice.

**Design of study:** Cohort studies.

**Setting:** UK medical qualifiers in the years 1974, 1977, 1983, 1988, 1993, and 1996.

**Method:** Postal questionnaire surveys conducted from 1975 to 1999.

**Results:** Five years after qualification, 23.8% of 1993 qualifiers were in UK general practice, compared with 25.9% and 32.8% of 1988 and 1983 qualifiers respectively. Six per cent of responders in the 1993 cohort were general practitioner (GP) principals, compared with 10% of the 1988 cohort and 20% of the 1983 cohort. Ten years after qualification, 37.7% of 1988 qualifiers and 42.7% of 1983 qualifiers were in UK general practice. Older GPs had lower job satisfaction than their contemporaries in hospital practice, while younger GPs were more satisfied than younger hospital doctors with the time available for leisure. Although young doctors are less inclined to enter general practice nowadays, over half of the 1996 qualifiers, when surveyed in 1999, actually regarded general practice as a more attractive career than hospital practice.

**Conclusion:** Patterns of entry into and commitment to UK general practice are changing. Fewer young doctors are choosing and entering general practice and early commitment to full-time principalships is falling. The 1996 cohort, however, took an encouragingly positive view of the attractiveness of careers in general practice.

**Keywords:** GP recruitment; career choice; cohort studies.

## Introduction

GENERAL practice in the National Health Service in the United Kingdom (UK) is currently experiencing difficulty with the recruitment of general practitioners (GPs). Furthermore, among those recruited, there has been an increase in less-than-full-time work. In England, the recruitment of new GP trainees (i.e. GP registrars) declined from a peak of 1735 in the year 1989, to 1305 in the year 1996,<sup>1</sup> although this has since risen to 1659 in 2000.<sup>2</sup> In each year since 1993, over half of new GP registrars were women and the percentage is increasing: in the year 2000 the percentage was the highest ever at 60%.<sup>2</sup> The higher level of part-time working among women means that any increase in numbers of recruits will result in a proportionately smaller increase in GP whole time equivalents. Several studies have demonstrated the reduction in commitment of newly-trained GPs to long-term principal posts and the tendency among established GPs towards reducing their working time commitments and increased early retirement.<sup>3-9</sup> A recent survey indicates that the shortfall as a consequence of these trends is unlikely to be alleviated by 'relying on the non-principal pool increasing their time commitment to general practice work'.<sup>10</sup>

Despite this, the number of GPs joining the NHS workforce each year still exceeds the number leaving. This is partly because there has been a large increase in medical school intake over the past 30 years. GPs now nearing retirement age are from much smaller 'qualification cohorts' than GPs who are now in training. Furthermore, there has been considerable medical immigration over recent decades. The total number of NHS GP principals in England increased by 2082 (8%) between 1990 and 2000 although, because of the increase in part-time working, the number of whole time equivalent GP principals rose by only 762 (3%).<sup>2</sup>

Profiles of the GP workforce available from national statistics do not distinguish UK-trained and overseas-trained doctors. They also do not relate information about the workforce to defined qualification cohorts. As a consequence, it is not easy to use national statistics to identify the true extent of the shift away from general practice in successive cohorts of doctors. We have undertaken national surveys of doctors' career choices and career progression over many years. By following cohorts defined by year of qualification we can compare different generations of doctors at the same time point in their careers.

We have shown that there was a substantial fall during the 1990s in career choices for general practice among newly qualified doctors.<sup>11,12</sup> For example, among the qualifiers of the years 1983, 1993, and 1996 respectively, 45%, 26%, and

T W Lambert, MSc, statistician and study co-ordinator; J Evans, MSc, social scientist; and M J Goldacre, FFPHM, director, UK Medical Careers Research Group, Unit of Health Care Epidemiology, University of Oxford.

## Address for correspondence

Trevor Lambert, Unit of Health Care Epidemiology, Old Road, Oxford OX3 7LF. E-mail: trevor.lambert@dphc.ox.ac.uk

Submitted: 15 May 2001; Editor's response: 20 August 2001; final acceptance: 5 October 2001.

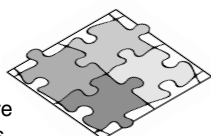
© *British Journal of General Practice*, 2002, 52, 364-372.

**HOW THIS FITS IN***What do we know?*

GP supply in the UK is under pressure because of reduced training numbers, reduced commitment after training to full-time work and to work as principals, and increased levels of early retirement.

*What does this paper add?*

This study compares cohorts of medical qualifiers defined by year of qualification. Recruitment trends away from general practice are detectable in data from 1993 onwards but are more pronounced in recent years. Men are turning away from general practice more than are women. Qualifiers from 1996 now working as senior house officers have more positive views of general practice careers but the percentage intending to enter general practice remains low.



20% of responders said that they wanted a long-term career in general practice.<sup>11,12</sup> However, early career intentions are not always translated into actual career destinations. In this paper, we report on trends in career destinations in UK general practice. We also report on attitudes towards careers in general practice.

**Method***Career destinations*

The surveys are undertaken by postal questionnaire. The questionnaires include structured, closed questions about career choices, factors that influence them, posts held, future career intentions, and views on a number of aspects of training and work. For each cohort studied, data were available on the posts held by each responder on 30 September in each year following qualification. For the qualifiers in the years 1974, 1977, 1983, 1988, 1993, and 1996, employment data were available up to the years 1998, 1995, 1998, 1999, 1998, and 1999 respectively. Each post was recorded as full-time or less than full-time, as indicated by the responder.

We calculated the percentage of responders who worked in UK general practice as follows. The denominator was all responders whose occupation was known in each year. The numerator was all those working in general practice in the UK, including those in the NHS, in universities, in the public sector outside the NHS, and in private general practice.

The grades of those working in UK general practice were classified as 'principals', 'locums', 'registrars', and 'others'. To take account of changes in terminology in the NHS, the term 'registrar' has been used to denote all those undergoing training in general practice, including those who in previous years described themselves as 'trainees'. Responders were not categorised in this study as working in general practice until they described themselves as GP registrars or GP trainees. For this reason the 1996 cohort — few of whom were in general practice by 1999 — are not included in the account of career destinations. In these studies, the grades of GP non-principals in the 1974 and 1977 cohorts were not recorded fully; detailed analysis of grades is therefore restricted to the cohorts of 1983, 1988, and 1993.

*Attitudes*

Responders from the 1996 cohort of graduates were asked on two separate occasions, in 1997 and in 1999, to rank their level of agreement with the statement: 'In my opinion general practice is more attractive than hospital practice to doctors at present', using a five-point response scale covering 'strongly agree', 'agree', 'neither agree nor disagree', 'disagree' and 'strongly disagree'.

*Job satisfaction*

Job satisfaction was measured using a scale score derived from the responses to the following five statements: 'I find enjoyment in my current post', 'I am doing interesting and challenging work', 'I feel dissatisfied in my current post', 'Most days I am enthusiastic about my work', 'I am often bored with my work', each of which was scored on a five-point scale covering 'strongly agree', 'agree', 'neither agree nor disagree', 'disagree' and 'strongly disagree'. These responses were assigned numerical values from 1 to 5 for the third and fifth statements and 5 to 1 for the rest, and the aggregate score for each responder was calculated. The final result was a score in the range from 5 to 25; this range was divided into three (5 to 10, 11 to 19, and 20 to 25) for the purpose of reporting and we described these groupings as low, medium, and high levels of job satisfaction.

*Satisfaction with the time available outside work*

This was measured by response on a scale from 1 to 10 to the question: 'How satisfied are you with the amount of time your work currently leaves you for family, social and recreational activities?' The value 1 was designated to 'not at all satisfied' and 10 to 'extremely satisfied'. We tabulated scores in the range 1 to 3, 4 to 7 and 8 to 10 as low, medium, and high levels of satisfaction respectively.

Score distributions were compared using  $\chi^2$  tests.

**Results***Decline in the percentage of qualifiers entering UK general practice*

The percentage of men and women qualifiers working in UK general practice rises rapidly over the first five years or so following qualification, and levels off by about ten years (Figure 1(a) and (b)). The 1974, 1977, and 1983 cohorts were similar to one another, with the percentage in UK general practice rising to between 40% and 45% of responders after about ten years (Table 1). However, the percentages of 1988 and 1993 responders in UK general practice, particularly among men, were lower. For example, only 19% of 1993 male responders had entered UK general practice five years after qualification, compared with 28% of women; after ten years in the 1988 cohort the corresponding figures were 33% of men and 42% of women.

*Decline in the percentage of young UK GPs working as principals*

At five years after qualification, only 6.4% of all 1993 responders were GP principals compared with 10.6% and 20.3%

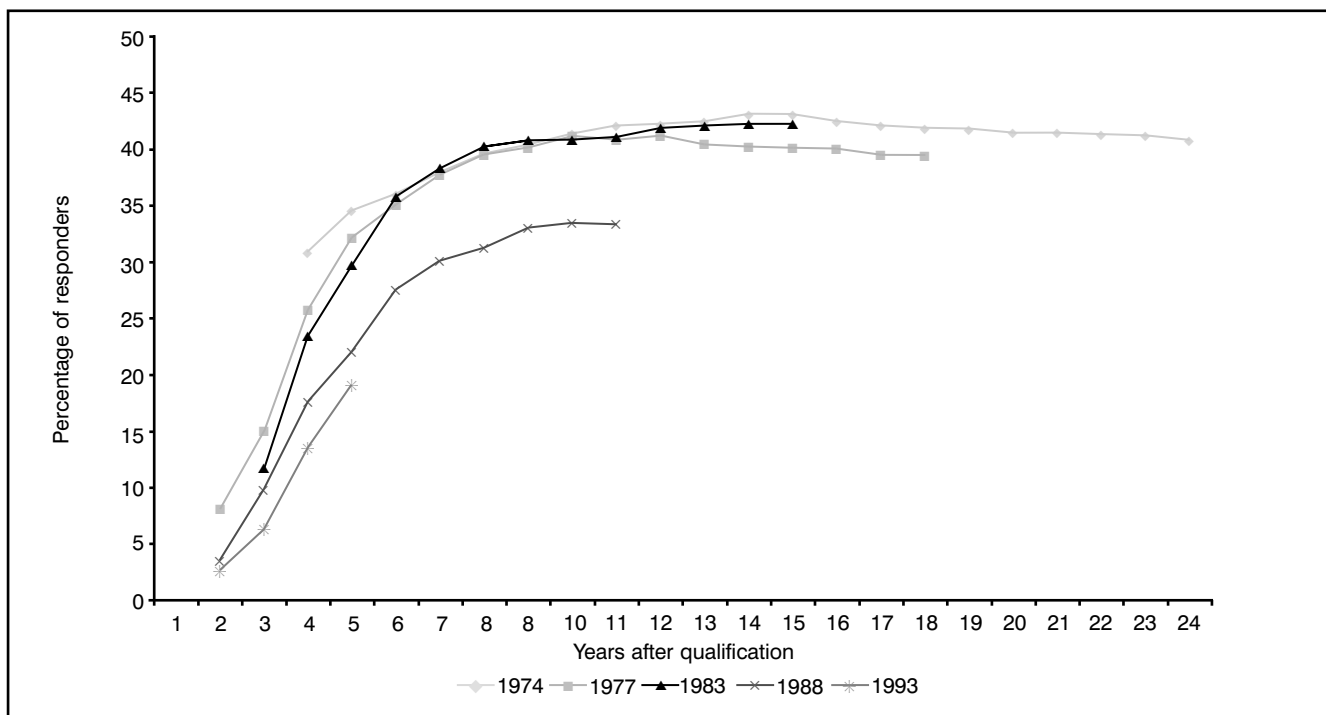


Figure 1(a). Percentage of male responders working in UK NHS general practice.

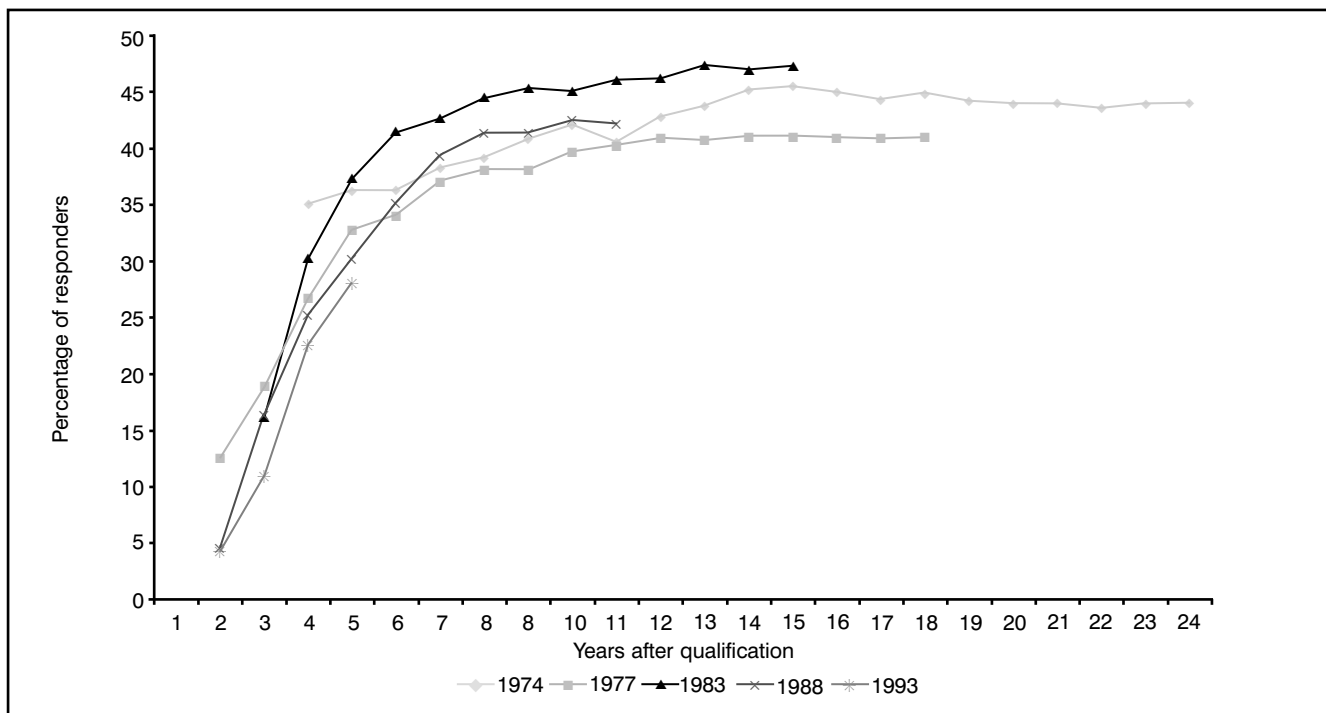


Figure 1(b). Percentage of female responders working in UK NHS general practice.

respectively of 1988 and 1983 responders. This trend was similar for men and women (Table 1), and was accompanied by a rise in locum employment.

Of the GPs in the 1974, 1977, and 1983 cohorts, over 95% of the men and approximately 80% of the women had become principals by ten years after qualification (Figure 2(a) and (b)). In the 1988 and 1993 cohorts, comparisons at five years after qualification show considerably lower per-

centages of principals, both men and women, than in the 1983 cohort.

**Increase in the percentage of young UK GPs working less than full-time**

Of the UK responders in general practice, levels of part-time working were similar and stable for the 1974 and 1977

Table 1. Percentages of responders in cohorts from different years of qualification who were working in UK general practice five and ten years after graduation.

|                            | Five years after graduation |      |      |      |      | Ten years after graduation |      |      |      |
|----------------------------|-----------------------------|------|------|------|------|----------------------------|------|------|------|
|                            | 1974                        | 1977 | 1983 | 1988 | 1993 | 1974                       | 1977 | 1983 | 1988 |
| <i>Total</i>               |                             |      |      |      |      |                            |      |      |      |
| In UK NHS general practice |                             |      |      |      |      |                            |      |      |      |
| Full-time principals       | 22.2                        | 20.2 | 16.7 | 8.1  | 4.6  | 31.5                       | 31.8 | 29.8 | 20.0 |
| Part-time principals       | 3.1                         | 2.7  | 3.6  | 2.4  | 1.8  | 4.3                        | 4.9  | 7.8  | 10.6 |
| Locums                     |                             |      | 3.9  | 6.9  | 8.3  |                            |      | 1.8  | 3.4  |
| Registrars                 | }9.7                        | }9.4 | 6.9  | 6.8  | 7.1  | }5.8                       | }3.9 | 0.5  | 0.6  |
| Others                     |                             |      | 1.7  | 1.6  | 2.0  |                            |      | 2.6  | 3.2  |
| In non-NHS UK GP           | 0.1                         | 0.1  | 0.1  | -    | 0.1  | 0.1                        | -    | 0.2  | -    |
| Not in UK GP               | 64.9                        | 67.6 | 67.2 | 74.1 | 76.2 | 58.4                       | 59.3 | 57.3 | 62.3 |
| All responders (100%)      | 1851                        | 2838 | 2905 | 3069 | 2569 | 1994                       | 2343 | 3061 | 2620 |
| <i>Men</i>                 |                             |      |      |      |      |                            |      |      |      |
| In UK NHS GP               |                             |      |      |      |      |                            |      |      |      |
| Full-time principals       | 25.2                        | 24.3 | 18.9 | 10.3 | 5.5  | 36.2                       | 38.7 | 36.9 | 27.6 |
| Part-time principals       | 1.5                         | 1.2  | 0.7  | 0.4  | 0.8  | 2.0                        | 1.2  | 1.7  | 1.9  |
| Locums                     |                             |      | 2.9  | 5.9  | 6.4  |                            |      | 1.1  | 2.6  |
| Registrars                 | }7.8                        | }6.6 | 6.4  | 4.7  | 5.3  | }8.1                       | }1.3 | 0.6  | 0.2  |
| Others                     |                             |      | 0.7  | 0.7  | 1.1  |                            |      | 0.4  | 1.0  |
| In non-NHS UK GP           | 0.1                         | -    | 0.1  | -    | 0.1  | 0.1                        | -    | 0.2  | -    |
| Not in UK GP               | 65.4                        | 67.9 | 70.2 | 78.0 | 80.8 | 58.6                       | 58.9 | 59.1 | 66.7 |
| All responders (100%)      | 1369                        | 1895 | 1747 | 1605 | 1257 | 1441                       | 1535 | 1847 | 1371 |
| <i>Women</i>               |                             |      |      |      |      |                            |      |      |      |
| In UK NHS GP               |                             |      |      |      |      |                            |      |      |      |
| Full-time principals       | 13.7                        | 11.9 | 13.2 | 5.7  | 3.7  | 19.2                       | 18.7 | 18.9 | 11.7 |
| Part-time principals       | 7.7                         | 5.8  | 8.0  | 4.6  | 2.7  | 10.1                       | 12.0 | 17.1 | 20.1 |
| Locums                     |                             |      | 5.3  | 8.0  | 10.1 |                            |      | 2.9  | 4.2  |
| Registrars                 | }4.9                        | }5.0 | 7.7  | 9.2  | 8.8  | }2.9                       | }9.1 | 0.2  | 1.0  |
| Others                     |                             |      | 3.2  | 2.6  | 2.8  |                            |      | 6.0  | 5.5  |
| In non-NHS UK GP           | -                           | 0.2  | -    | -    | 0.2  | -                          | 0.1  | 0.3  | -    |
| Not in UK GP               | 63.7                        | 67.0 | 62.6 | 69.8 | 71.7 | 57.9                       | 60.1 | 54.5 | 57.5 |
| All responders (100%)      | 482                         | 943  | 1158 | 1464 | 1312 | 553                        | 808  | 1214 | 1249 |

cohorts, among both men and women (Figure 3(a) and (b)). Among women, the 1983 and 1988 cohorts showed higher levels of part-time working that increased with time. The 1988 and 1993 cohorts showed much higher levels of part-time working among men than in earlier cohorts.

Part-time principals were a small percentage of responders in all cohorts after five years (Table 1). In the 1988 cohort 10.6% of all responders (1.9% of men, 20.1% of women) were part-time principals ten years after qualification. Among women in this cohort there were approximately twice as many part-time principals as full-time principals (Table 1).

### Job satisfaction in 1998/1999, comparing GPs with other doctors

Questions on job satisfaction were asked in surveys undertaken in 1998/1999 of four cohorts. Internal consistency of the five scale items making up the job satisfaction measure was high (Cronbach's  $\alpha = 0.88, 0.88, 0.86,$  and  $0.88$  for the 1974, 1983, 1988, and 1993 cohorts respectively). Job satisfaction was scored as low, medium or high for each responder based on their replies to the five scale items used. The majority of responders in each cohort had high levels of job satisfaction (Table 2). The cohorts differed in their distribution of job satisfaction between the low, medium, and high categories ( $\chi^2_6 = 23.4, P < 0.001$ ), though the differences

were not large (Table 2).

In each cohort, NHS GPs were compared with NHS hospital doctors and with doctors abroad. In the 1974, 1983, and 1988 cohorts — older and more experienced doctors than the 1993 cohort — NHS GPs had substantially lower job satisfaction than NHS hospital doctors and those working in medicine abroad ( $P < 0.001$  using  $\chi^2$  test in each case). In the 1993 cohort, NHS GPs had slightly higher job satisfaction than NHS hospital doctors ( $P = 0.01$ ); and those working abroad showed no significant difference from NHS GPs ( $P = 0.29$ ).

### Satisfaction with time available outside work

This was tabulated for full-time doctors only (Table 2) and, as for job satisfaction, was recorded in one survey of each cohort, undertaken in 1998/1999. Scores were grouped into low, medium, and high levels of satisfaction with time available outside work (see Method). The cohorts differed significantly ( $\chi^2_6 = 85.0, P < 0.001$ ) with 42%, 35%, 32% and 29% of responders in the 1974, 1983, 1988, and 1993 cohorts respectively having low levels of satisfaction.

Differences between NHS GPs and NHS hospital doctors, in their level of satisfaction with time available outside work, were most pronounced in the 1993 cohort ( $P < 0.001$ ), in which 38% of GPs and 18% of hospital doctors indicated a high level of satisfaction. Higher percentages of doctors

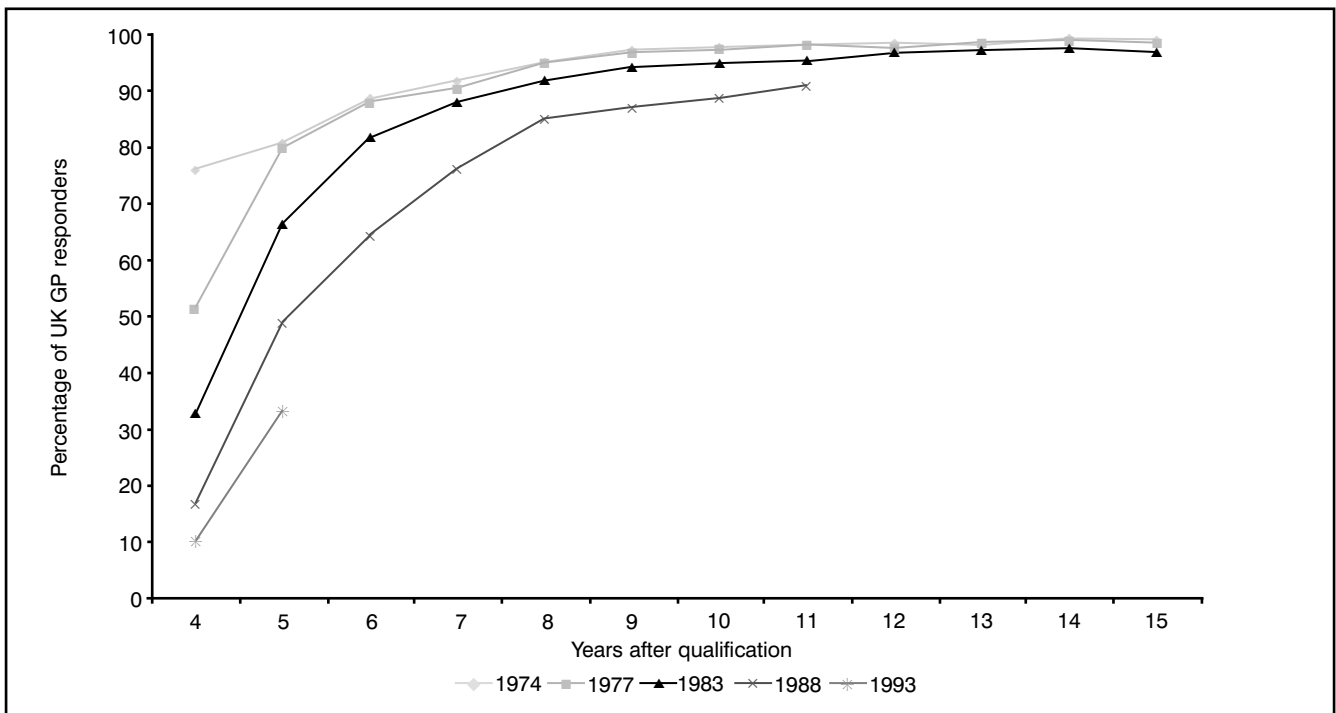


Figure 2(a). Percentage of male UK NHS GP responders working as principals.

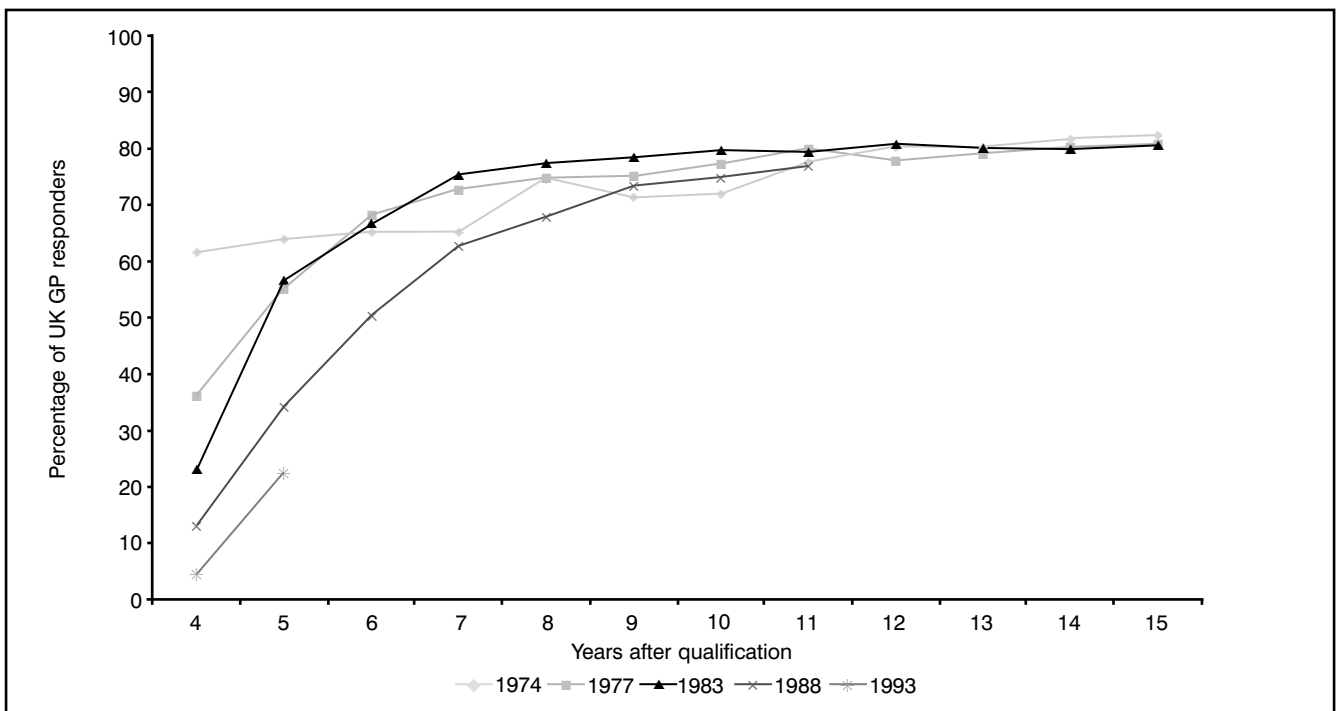


Figure 2(b). Percentage of female UK NHS GP responders working as principals.

abroad than of NHS GPs in the 1974, 1983, and 1988 cohorts indicated high satisfaction with their leisure time but numbers of doctors abroad were small and statistical power was low.

#### *Attitudes of recent graduates towards careers in general practice*

Qualifiers of 1996 who were surveyed in 1997 during their

house officer year were almost evenly split on the relative attractiveness of general practice and hospital practice: 34% agreed that general practice is more attractive than hospital practice and 36% disagreed (Table 3). Two years later, 59% agreed that general practice was the more attractive option, and 23% disagreed (Table 3). Only 3% strongly disagreed that general practice is more attractive than hospital practice.

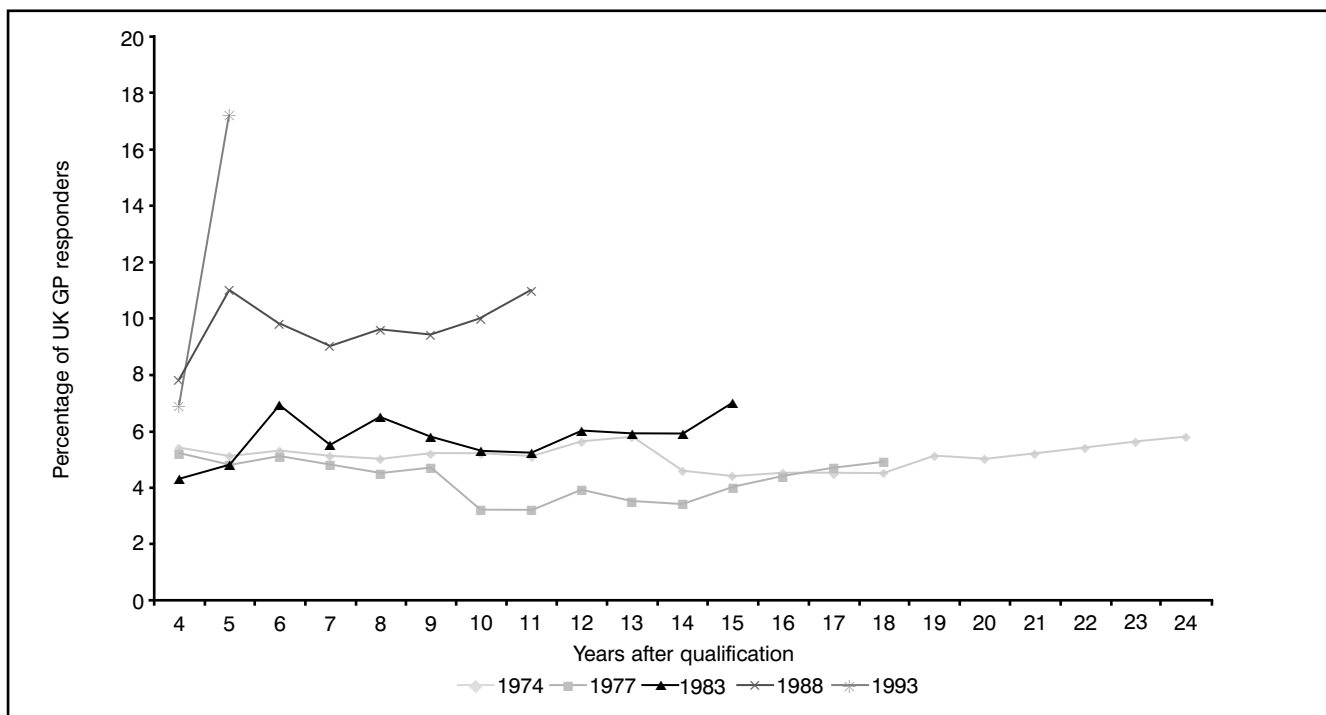


Figure 3(a). Percentage of male UK NHS GP responders working less than full-time.

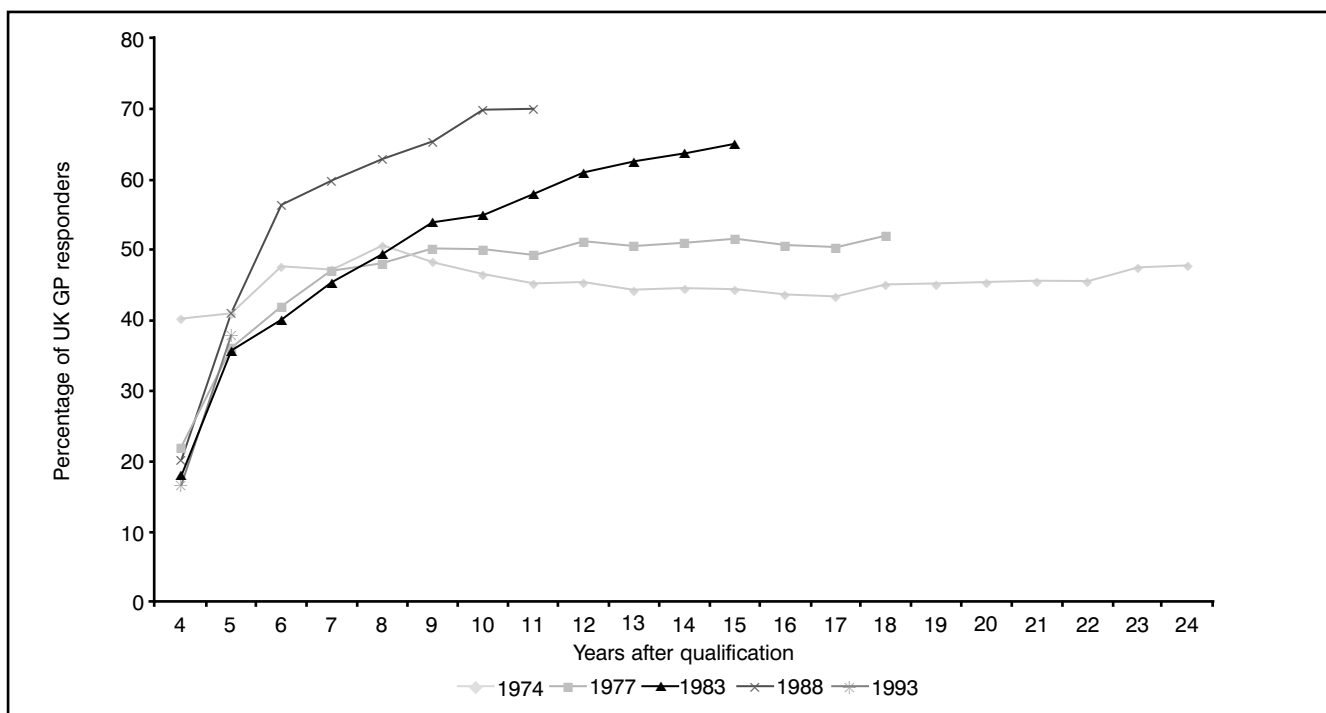


Figure 3(b). Percentage of female UK NHS GP responders working less than full-time.

**Discussion**

The percentages of 1988 and 1993 qualifiers working in general practice five years after qualification are much lower than those of earlier cohorts of qualifiers. The fall has been particularly large for men. Furthermore, our data show a move towards locum work among those who have entered general practice, and a disinclination to become principals,

at least during the early years after completion of registrar training. In recent years a much higher percentage of women than men has entered general practice. Almost half the women work less than full-time. There has also been a rise in less than full-time working among men, although overall it remains much higher among women than men.

In combination, these findings show a substantial shift in the pattern of entry of UK qualifiers into general practice. The

Table 2. Scores for job satisfaction and satisfaction with leisure time, comparing NHS GPs and other doctors. For definitions of low, medium and high scores see Method.  $\chi^2$  test results and associated P-values compare 'NHS hospital doctors' and 'doctors abroad' with NHS GPs in the same cohort.

| Subgroup               | Job satisfaction |            |          |          |            | Satisfaction with leisure time (full-time doctors only) |         |            |          |          |            |         |
|------------------------|------------------|------------|----------|----------|------------|---|---------|------------|----------|----------|------------|---------|
|                        | Low (%)          | Medium (%) | High (%) | n (100%) | $\chi^2_2$ | P-value   | Low (%) | Medium (%) | High (%) | n (100%) | $\chi^2_2$ | P-value |
| 1974 graduates in 1998 |                  |            |          |          |            |   |         |            |          |          |            |         |
| NHS GPs                | 6                | 48         | 46       | 690      |            |   | 38      | 45         | 17       | 579      |            |         |
| NHS hospital doctors   | 2                | 37         | 61       | 628      | 35.7       | <0.001  | 48      | 38         | 14       | 536      | 10.5       | 0.005   |
| Doctors abroad         | 0                | 20         | 80       | 131      | 52.1       | <0.001  | 32      | 43         | 25       | 117      | 4.5        | 0.11    |
| Total                  | 3                | 41         | 56       | 1449     |            |   | 42      | 42         | 16       | 1232     |            |         |
| 1983 graduates in 1998 |                  |            |          |          |            |   |         |            |          |          |            |         |
| NHS GPs                | 4                | 48         | 48       | 1148     |            |   | 34      | 51         | 15       | 784      |            |         |
| NHS hospital doctors   | 2                | 31         | 67       | 953      | 84.2       | <0.001  | 38      | 48         | 14       | 807      | 2.8        | 0.25    |
| Doctors abroad         | 0                | 26         | 74       | 144      | 36.0       | <0.001  | 25      | 45         | 30       | 108      | 15.6       | <0.001  |
| Total                  | 3                | 39         | 58       | 2245     |            |   | 35      | 49         | 15       | 1699     |            |         |
| 1988 graduates in 1999 |                  |            |          |          |            |   |         |            |          |          |            |         |
| NHS GPs                | 3                | 47         | 51       | 895      |            |   | 33      | 50         | 17       | 529      |            |         |
| NHS hospital doctors   | 1                | 29         | 69       | 1065     | 71.3       | <0.001  | 33      | 48         | 19       | 895      | 1.1        | 0.58    |
| Doctors abroad         | 1                | 27         | 72       | 179      | 28.0       | <0.001  | 21      | 49         | 30       | 149      | 14.6       | 0.001   |
| Total                  | 2                | 36         | 62       | 2143     |            |   | 32      | 49         | 19       | 1573     |            |         |
| 1993 graduates in 1999 |                  |            |          |          |            |   |         |            |          |          |            |         |
| NHS GPs                | 1                | 35         | 64       | 564      |            |   | 15      | 48         | 38       | 410      |            |         |
| NHS hospital doctors   | 3                | 37         | 59       | 1325     | 8.5        | 0.01  | 34      | 48         | 18       | 1292     | 89.6       | <0.001  |
| Doctors abroad         | 2                | 42         | 59       | 125      | 2.5        | 0.29  | 23      | 51         | 26       | 125      | 8.6        | 0.003   |
| Total                  | 2                | 37         | 61       | 2014     |            |   | 29      | 48         | 23       | 1827     |            |         |

Table 3. Attitudes of 1996 graduates in 1997 and 1999 towards work in general practice and hospital medicine.

| Statement and survey group   | Level of agreement |           |                                |              |                       | n (100%) | No opinion |
|--|--------------------|-----------|--------------------------------|--------------|-----------------------|----------|------------|
|  | Strongly agree (%) | Agree (%) | Neither agree nor disagree (%) | Disagree (%) | Strongly disagree (%) |          |            |
| 'In my opinion general practice is more attractive than hospital practice to doctors at present' |                    |           |                                |              |                       |          |            |
| 1996 graduates in 1997 – all NHS responders  | 9%                 | 25%       | 30%                            | 28%          | 8%                    | 2912     | 14         |
| 1996 graduates in 1999 – all NHS responders  | 18%                | 41%       | 18%                            | 20%          | 3%                    | 2482     | 239        |

fall in entry to general practice in percentage terms will be compensated to some extent by a rise in overall numbers as a consequence of medical school expansion. However, as a percentage of the general practice workforce, there will be a decline in UK-trained, full-time, male GP principals.

A demanding cut-off was set for rating job satisfaction as high. To reach the cut-off (a score of 20 or more), responders had to 'agree' or 'strongly agree' (on average) with all of the statements: 'I find enjoyment in my job', 'Most days I am enthusiastic about my work', 'I am doing interesting and challenging work' and two other similar statements. The fact that over half of all responders, and in two cohorts almost two-thirds of responders, met this level indicates, we believe, a generally satisfied medical workforce.

However, job satisfaction was slightly lower among senior NHS GPs than among their contemporaries who are NHS hospital doctors or doctors abroad. This difference may arise because of substantial changes in the organisation of general practice in recent years, which have involved senior GPs in role changes. We have explored this in a qualitative analysis of 'free text' comments made by the doctors. These comments indicate considerable dissatisfaction, at least among some GPs, about some of the organisational

changes.<sup>13</sup> Younger GPs in this study, who were as satisfied with their work as young hospital doctors, may feel more positive because they are enjoying clinical work without these additional managerial responsibilities. Dissatisfaction with the amount of leisure time was more of an issue for young full-time hospital doctors than for young GPs, and no doubt reflects the particular time demands of hospital specialist training compared with those of the early years as a GP.

The fact that a high percentage of 1996 qualifiers in 1999 regarded general practice as an attractive career even if they did not intend to pursue it themselves suggests that, at least for the majority of doctors in this cohort, the attractions of hospital practice may simply outweigh the attractions of general practice.

## References

1. Department of Health. *Statistics for General Medical Practitioners in England 1989 to 1999*. London: DoH, 2000.
2. Department of Health. *Statistics for General Medical Practitioners in England 1990 to 2000*. London: DoH, 2001.
3. Evans J, Shakespeare J. The Lost Doctors Project: a follow-up. *Educ Gen Pract* 1999; **10**(3): 355-358.
4. Baker M, Williams J, Petchey R. GPs in principle but not in practice: a study of vocationally trained doctors not currently working

- as principals. *BMJ* 1995; **310**: 1301-1304.
5. Harvey J, Davison H, Winsland J, et al. *Don't Waste Doctors: a report on wastage, recruitment and retention of doctors in the North West*. NHS Executive: Leeds; 1998.
  6. Muller E, Viney R, Griffiths G (eds). *Educating GP non-principals*. *Educ Gen Pract* 1999; [Supplement.] **10**(3).
  7. Taylor DH, Leese B. Recruitment, retention and time commitment change of general practitioners in England and Wales, 1990-1994: a retrospective study. *BMJ* 1997; **314**: 1806-1810.
  8. Taylor D, Quayle JA, Roberts C. Retention of young general practitioners entering the NHS from 1991-1992. *Br J Gen Pract* 1999; **49**: 277-280.
  9. Mathie T, McKinlay D. *A general practitioner retirement survey in the North West Region*. Leeds: NHS Executive, 1999.
  10. Baker M, Flett A, Williams J. The work commitments of British general practitioners: a national survey. *Br J Gen Pract* 2000; **50**: 730-731.
  11. Lambert TW, Goldacre M, Edwards C, Parkhouse J. Career preferences of doctors who qualified in the United Kingdom in 1993 compared with those of doctors qualifying in 1974, 1977, 1980 and 1983. *BMJ* 1996; **313**: 19-24.
  12. Goldacre MJ, Davidson JM, Lambert TW. Career choices at the end of the preregistration year of doctors who qualified in the United Kingdom in 1996. *Med Educ* 1999; **33**: 882-889.
  13. Evans J, Lambert TW, Goldacre MJ. *GP recruitment and retention: a qualitative analysis of doctors' comments about training for and working in general practice*. [Occasional Paper 83.] London: RCGP, 2002.

### Acknowledgements

We are very grateful to all the doctors who have participated in our studies. We thank Jean Davidson for programming and Karen Hollick, Janet Justice and Alison Stockford for clerical support. We thank the Institute for Employment Studies for permission to use their job satisfaction statements. The UK Medical Careers Research Group is funded by the Department of Health. The Unit of Health Care Epidemiology receives core funding from the South-East Regional Office of the National Health Service Executive.

---