Combining parenthood with a medical career: questionnaire survey of the UK medical graduates of 2002 covering some influences and experiences

Trevor W Lambert, Fay Smith, Michael J Goldacre

ABSTRACT

Objectives To report the self-assessed views of a cohort of medical graduates about the impact of having (or wanting to have) children on their specialty choice and the extent to which their employer was supportive of doctors with children.

Setting United Kingdom (UK).

Participants UK medical graduates of 2002 surveyed by post and email in 2014.

Results The response rate was 64.2% (2057/3205). Most respondents were living with a spouse or partner (86%) and, of these, 49% had a medical spouse. Having children, or wanting to have children, had influenced specialty choice for 47% of respondents; for 56% of doctors with children and 29% of doctors without children; for 59% of women and 28% of men; and for 78% of general practitioners compared with 27% of hospital doctors and 18% of surgeons. 42% of respondents regarded the National Health Service as a family-friendly employer, and 64% regarded their specialty as family-friendly. More general practitioners (78%) than doctors in hospital specialties (56%) regarded their specialty as family-friendly, while only 32% of surgeons did so. Of those who had taken maternity/paternity/adoption leave, 49% rated the level of support they had received in doing so as excellent/good, 32% said it was acceptable and 18% said the support had been poor/very poor.

Conclusions Having children is a major influence when considering specialty choice for many doctors, especially women and general practitioners. Surgeons are least influenced in their career choice by the prospect of parenthood. Almost half of doctors in hospital specialties regard their specialty as family-friendly.

BACKGROUND

Many factors may affect doctors’ work–life balance (WLB). These include factors related to their work, such as their stage of training, specialty, seniority and working pattern, and personal factors including whether or not the doctor has children, whether they live with a spouse or partner and their gender. Longer working hours are associated with a higher possibility of work–home ‘conflict’, which in turn is associated, research suggests, with increased likelihood of burn-out. Women doctors in the USA were found to have a higher divorce rate than men doctors; greater work hours among women were associated with increased divorce prevalence, but not among men. A Swiss study found that women doctors, especially those with children, have lower rates of employment and lower levels of career success than male doctors; the women doctors in the study showed higher levels of life satisfaction—regardless of parenthood status. A review of women physicians’ status and experiences in Japan, Scandinavia, Russia and Eastern Europe found that women were under-represented in leadership positions even in countries where they were well represented in the workforce. Despite differences among these countries in terms of women’s participation in medicine, societal norms and policies, gender differences remain across specialties and within ‘the medical hierarchy’.

Women doctors consider future WLB when making their career choices. In the United Kingdom (UK), domestic circumstances and working hours were of more importance to women doctors than to men doctors when choosing a career specialty. There are clear differences in specialty choice between men and women, with surgery being chosen by a predominance of men, and general practice,
paediatrics and obstetrics and gynaecology being chosen by a predominance of women. A UK study found that only 40% of female doctors report taking on roles in addition to their clinical work, compared with 87% of male doctors. Female general practitioners (GPs), especially those with children, have been found to be less involved in education, training, primary care trusts (management organisations covering general/family practice) and hospital service delivery than male GPs.

We undertook a multipurpose survey of all UK-trained doctors who graduated in 2002, 12 years after qualification in 2014. The main objective of this paper is to report on the self-assessed views of these doctors about the impact of having (or wanting to have) children on their specialty choice. Secondary objectives were to report doctors’ views about how family-friendly they felt the National Health Service (NHS) was generally for doctors with children and specifically in their specialty. We compared the replies of men and women, of those with and without children and of those working in different areas of medicine.

**METHODS**

The UK Medical Careers Research Group surveyed the UK medical graduates of 2002. Identical web-based and postal questionnaires 12 years after qualification (in 2014) were sent. Up to four reminders were sent to non-respondents. Further details of the methodology are available elsewhere.

Contact details of doctors were supplied to us by the General Medical Council (GMC) under a data sharing agreement. The original cohort size of 4436 (2460 women, 1976 men, 55.5% female) was reduced by 6 deceased doctors (1 man, 5 women), 71 doctors (45 men, 26 women) who asked to be excluded and 290 doctors (113 men, 177 women) for whom the GMC could not be approached. A further 864 doctors (507 men, 357 women) who had not replied to any of our previous surveys of the cohort were excluded from the study due to a GMC embargo that restricted our survey to of those working in different areas of medicine.

The rationale for timing the survey approximately 12 years after graduation was that the majority of the target population were of peak childbearing age and were likely to be particularly aware of health service provision with regard to employment and family formation.

We asked the following questions about family formation and children: ‘Has the fact of having children, or of wanting to have children, influenced your choice of career specialty?’ ‘Do you regard the NHS as a family-friendly employer for doctors with children?’ ‘Do you regard your specialty as a family-friendly specialty for doctors with children?’ Each of these questions had the options of Yes, No, Don’t know or Prefer not to answer.

Finally, we asked relevant doctors ‘How would you describe the level of support you received from employers in helping you to return to work after your most recent period of Maternity/Paternity/Adoption leave?’ (with the options of Excellent, Good, Acceptable, Poor, Very poor, Did not return or Prefer not to answer). In analysis, we combined responses of excellent and good and referred to the combined group as ‘excellent/good’, and we similarly combined poor and very poor to form ‘poor/very poor’; thereby reducing the five response categories of assessment to three.

The data were initially analysed by univariable crosstabulation. To test statistical significance we used $\chi^2$ statistics, Mann-Whitney tests and Kruskal-Wallis tests. Responses of groups of doctors were compared using the following factors: gender; specialty (except where otherwise stated, grouped by us for analysis into four groups: hospital medical specialties, surgical specialties, general practice/family medicine and other hospital-based specialties combined); whether or not the doctor had children; whether or not the doctor had a spouse/partner and whether or not any spouse/partner was medically qualified. Under the group ‘hospital medical specialties’ we included the following: general medicine, cardiology, dermatology, endocrinology, geriatrics, nephrology, neurology, chest medicine, rheumatology/rehabilitation, academic medicine, genitourinary medicine, genetics, gastroenterology, clinical pharmacology, infectious diseases and occupational medicine. Under ‘other hospital-based specialties’ we combined the following: paediatrics, emergency medicine, obstetrics and gynaecology, anaesthesia, radiology, clinical oncology, psychiatry and pathology. We used multivariable binary logistic regression to assess the joint effect of factors.

**RESULTS**

**Response rate**

The response rate from the target population (see the Methods section) was 64.2% (2057/3205). Among women, the response rate was 66.0% (1250/1895) and among men, it was 61.6% (807/1310). A total of 60.8% of respondents were women compared with 55.5% in the original cohort (ie, prior to the exclusions).

**Overview of the sample**

Of the 2057 respondents, 91.4% (n=1880) told that they were working in medicine in the UK, 5.4% (111) were working in medicine outside the UK and the remainder were in employment outside medicine (1.3%, 26), not in paid employment (1.4%, 28) or did not give employment details (0.6%, 12).

We focused on the 1880 respondents in UK medical employment. Of these, 60.5% were female and 39.5% male. The median age of the respondents was 35.4 years. Most respondents were living with a spouse or partner (86.0%). Of those living with a spouse, 49.2% had a medical spouse. Of 1763 doctors who told us how many children aged under 16 years were resident in their household, 32.7% answered none, 22.6% had one, 35.2% had two and 9.5% had more than two. The average
age of the eldest child was 3.7 years (SD=2.7). A total of 75.3% of respondents in UK medical employment were working full time. GPs were more likely to be working part time (42.5%) than doctors working in other specialties (15.1%).

Women were much less likely than men to be working full time (men 94.4% (695/736) and women 62.6% (696/1112); \( \chi^2 = 239.5, p<0.001 \)). Within general practice, 84.3% of men and 47.3% of women were working full time (150/178 and 221/467; \( \chi^2 = 70.5, p<0.001 \)). Within hospital practice, 97.8% of men and 73.5% of women were working full time (534/546 and 456/620; \( \chi^2 = 131.4, p<0.001 \)). Women were more likely than men to have no spouse or partner (men 11.1% (80/720) and women 15.9% (173/1097); \( \chi^2 = 7.8, p=0.005 \)). Among those with a spouse or partner, men were more likely than women to have a medically qualified spouse or partner (men 53.0% (338/638) and women 46.6% (426/914); \( \chi^2 = 5.8, p=0.016 \)). Women and men were equally likely to have children (men 67.3% (477/709) and women 67.3% (709/1054); \( \chi^2 = 0.0, p=1.0 \)).

Responses to the question: ‘Has the fact of having children, or of wanting to have children, influenced your choice of career specialty?’

Of all respondents who were working in medicine in the UK and who answered the question (n=1811), 47% answered yes and 53% answered no/don’t know.

To examine differences in response by gender, having children, specialty group, partner/spouse status and working hours, we reduced the working data to the 1716 doctors for whom we had complete data for the five predictors.

Each of these five predictors showed significant (p<0.001) variation when analysed in isolation (table 1):

- 59% of women and 28% of men agreed that consideration of children had influenced their career choice;
- 56% of doctors with children and 29% of doctors without children agreed;
- 18% of surgeons, 27% of doctors in the hospital medical specialties, 34% of doctors in other hospital specialties and 78% of doctors in general practice agreed;
- 50% of doctors with a medically qualified spouse,

### Table 1 Responses to the question ‘Has the fact of having children, or of wanting to have children, influenced your choice of career specialty?’ (numbers and percentages of doctors who replied ‘yes’)

| Group                        | Men  | Women                   |
|------------------------------|------|-------------------------|
|                              | % agreement | n/N | % agreement | n/N |
| All                          | 28.3 | 195/690                 | 59.4 | 609/1026 |
| Has child(ren)               |      |                         |      |         |
| Yes                          | 35.5 | 162/456                 | 70.8 | 472/667 |
| No                           | 14.1 | 33/234                  | 38.2 | 137/359 |
| Specialty                    |      |                         |      |         |
| Hospital medical specialties | 13.5 | 20/148                  | 38.5 | 65/169  |
| Surgery                      | 14.0 | 19/136                  | 28.8 | 17/59   |
| General practice             | 65.3 | 111/170                 | 83.1 | 368/443 |
| Paediatrics                  | 8.0  | 2/25                    | 35.1 | 33/94   |
| Emergency medicine           | 10.3 | 3/29                    | 26.1 | 6/23    |
| Obstetrics and gynaecology   | 10.0 | 1/10                    | 11.5 | 3/26    |
| Anaesthesia                  | 11.1 | 9/81                    | 52.4 | 43/82   |
| Radiology                    | 50.0 | 12/24                   | 73.3 | 22/30   |
| Clinical oncology            | 20.0 | 2/10                    | 50.0 | 9/18    |
| Pathology                    | 28.6 | 8/28                    | 62.9 | 22/35   |
| Psychiatry                   | 27.6 | 8/29                    | 44.7 | 21/47   |
| Partner/spouse status        |      |                         |      |         |
| Medical spouse               | 27.7 | 89/321                  | 68.4 | 273/399 |
| Non-medical spouse           | 32.2 | 94/292                  | 59.7 | 276/462 |
| No spouse                    | 15.6 | 12/77                   | 36.4 | 60/165  |
| Working hours                |      |                         |      |         |
| Full time                    | 26.5 | 173/652                 | 47.9 | 301/628 |
| Less than full time          | 57.9 | 22/38                   | 77.4 | 308/398 |

All p<0.001 except where indicated. Statistical tests on % agreement: Children (\( \chi^2 \)); men 34.0, women 101.5; Specialty group (\( \chi^2 \)); men 173.6, women 223.9; Partner/spouse status (\( \chi^2 \)); men 8.4 (p=0.015), women 49.8; Working hours (\( \chi^2 \)); men 15.9, women 86.4.
49% of doctors with a non-medical spouse and 30% of doctors with no spouse agreed; and 37% of doctors who worked full time agreed compared with 76% of doctors who worked less than full time (LTFT).

A multivariable logistic regression model was then fitted, starting with all five predictors in the model. Partner/spouse status was found not to be a significant predictor. The other four predictors were retained. No interaction terms between predictors were found to improve the fit of the model. The significance of specialty group as a predictor was due to the difference between the responses of GPs and radiologists compared with those of other specialty groups. Online supplementary appendix 1 shows ORs and CIs for the multivariable model by specialty group with four significant factors (the specialty, gender, having children and full-time or part-time working).

Among women with children, 91% (300/331) of GPs and 51% (172/336) of hospital doctors agreed that consideration of children had influenced their career choice, while among men with children, 75% (92/122) of GPs and 21% (70/334) of hospital doctors agreed.

Among women without children, 61% (68/112) of GPs and 28% (69/247) of hospital doctors agreed, while among men without children 40% (19/48) of GPs and 7% (14/186) of hospital doctors agreed.

Comparison of agreement rates for women hospital doctors with children showed that 43% (84/196) of those working full time agreed that consideration of children had influenced their career choice, compared with 63% (88/140) of those working part time. Among female GPs with children the equivalent figures for full timers and less than full timers were much closer at 87% (117/135) and 93% (183/196). Numbers of men working LTFT were insufficient (38 in all) for meaningful comparisons with those working full time. Results are shown in online supplementary appendix 2 for specialties within our ‘other hospital specialties’ group, though the percentages are based on small counts, not suitable for multivariable modelling, and should be interpreted with caution.

Responses to the question: ‘Do you regard your specialty as a family-friendly specialty for doctors with children?’

Of all respondents, 64% of doctors answered yes and 36% answered no/don’t know. To examine differences in response by gender, having children, specialty group, partner/spouse status and working hours, we reduced the working data to the 1720 doctors for whom we had complete data for the five predictors.

Each of these five predictors showed significant (p<0.001) variation when analysed in isolation (table 3): 69% of women and 57% of men agreed that their specialty is a family-friendly employer for doctors with children; 68% of doctors with children and 57% of doctors without children agreed; 32% of surgeons, 53% of doctors in the hospital medical specialties, 88% of psychiatrists and 78% of doctors in general practice agreed; 63% of doctors with a medically qualified spouse, 69% of doctors with a non-medical spouse and 55% of doctors with no spouse agreed; and 59% of doctors who worked full time agreed compared with 81% of doctors who worked LTFT.

A multivariable logistic regression model was fitted, starting with all five predictors, which were significant univariably. Partner/spouse status was found not to be a significant predictor. The other two predictors were retained. The interaction term between the remaining two predictors did not improve the fit of the model. Online supplementary appendix 1 shows ORs and CIs for the multivariable model with two significant factors (specialty group and working hours).

Among women with children, 45% (148/330) of GPs and 56% (189/335) of hospital doctors agreed that the NHS is a family-friendly employer for doctors with children, while among men with children 42% (51/122) of GPs and 40% (135/335) of hospital doctors agreed.

Among women without children, 30% (34/112) of GPs and 34% (86/250) of hospital doctors agreed, while among men without children 35% (17/49) of GPs and 39% (72/187) of hospital doctors agreed.

Comparison of agreement rates for women hospital doctors with children showed that 52% (102/196) of those working full time agreed that the NHS is a family-friendly employer for doctors with children, compared with 63% (87/139) of those working part time. Among women GPs with children the equivalent figures for full timers and less than full timers were closer at 43% (58/135) and 46% (90/195). Numbers of men working LTFT were insufficient (38 in all) for meaningful comparisons with those working full time. Results are shown in online supplementary appendix 2 for specialties within our ‘other hospital specialties’ group, though the percentages are based on small counts, not suitable for multivariable modelling, and should be interpreted with caution.

Responses to the question: ‘Do you regard the NHS as a family-friendly employer for doctors with children?’

Of all respondents, 42% of doctors answered yes and 58% answered no/don’t know. To examine differences in response by gender, having children, specialty group, partner/spouse status and working hours, we reduced the working data to the 1720 doctors for whom we had complete data for the five predictors.

Each of these five predictors showed significant (p<0.001) variation when analysed in isolation (table 3): 69% of women and 57% of men agreed that their specialty is a family-friendly employer for doctors with children; 68% of doctors with children and 57% of doctors without children agreed; 32% of surgeons, 53% of doctors in the hospital medical specialties, 88% of psychiatrists and 78% of doctors in general practice agreed; 63% of doctors with a medically qualified spouse, 69% of doctors with a non-medical spouse and 55% of doctors with no spouse agreed; and 59% of doctors who worked full time agreed compared with 81% of doctors who worked LTFT.

A multivariable logistic regression model was fitted, starting with all five predictors in the model. Gender, having children and partner/spouse status were retained. The interaction term between these two predictors did not improve the fit of the model. Doctors from the following specialty groups differed significantly in their responses to this question from doctors in the hospital.
Table 2  Responses to the question ‘Do you regard the NHS as a family-friendly employer for doctors with children?’ (numbers and percentages of doctors who replied ‘yes’)

| Group                        | % agreement Men | n/N    | % agreement Women | n/N    |
|------------------------------|-----------------|--------|-------------------|--------|
| All                          | 39.7            | 275/693| 44.5              | 457/1027|
| Has child(ren)               |                 |        |                   |        |
| Yes                          | 40.7            | 186/457| 50.7              | 337/665|
| No                           | 37.7            | 89/236 | 33.1              | 120/365|
| Specialty                    |                 |        |                   |        |
| Hospital medical specialties | 40.4            | 61/151 | 41.2              | 70/170 |
| Surgery                      | 37.8            | 51/135 | 39.0              | 23/59  |
| General practice             | 39.8            | 68/171 | 41.2              | 182/442|
| Paediatrics                  | 32.0            | 8/25   | 46.3              | 44/95  |
| Emergency medicine           | 50.0            | 15/30  | 52.4              | 11/21  |
| Obstetrics and gynaecology   | 10.0            | 1/10   | 48.1              | 13/27  |
| Anaesthesia                  | 43.2            | 35/81  | 48.8              | 40/82  |
| Radiology                    | 47.8            | 11/23  | 56.7              | 17/30  |
| Clinical oncology            | 40.0            | 4/10   | 47.4              | 9/19   |
| Pathology                    | 42.9            | 12/28  | 51.4              | 18/35  |
| Psychiatry                   | 31.0            | 9/29   | 63.8              | 30/47  |
| Partner/spouse status        |                 |        |                   |        |
| Medical spouse               | 40.2            | 130/323| 46.1              | 184/399|
| Non-medical spouse           | 39.9            | 117/293| 47.5              | 221/465|
| No spouse                    | 36.4            | 28/77  | 31.9              | 52/163 |
| Working hours                |                 |        |                   |        |
| Full time                    | 40.0            | 262/655| 41.0              | 259/631|
| Less than full time          | 34.2            | 13/38  | 50.0              | 198/396|

All p<0.001 except where indicated. Statistical tests on % agreement: Children ($\chi^2$): men 0.5 (p=0.496), women 28.4; Specialty group ($\chi^2$): men 8.0 (p=0.634), women 14.5 (p=0.150); Partner/spouse status ($\chi^2$): men 0.4 (p=0.817), women 12.6 (p=0.002); Working hours ($\chi^2$): men 0.3 (p=0.590), women 7.5 (p=0.006).

medical specialties group: those in surgery were less likely to agree that their specialty was family-friendly, while those in general practice, radiology, pathology and psychiatry were more likely to agree. Online supplementary appendix 1 shows ORs and CIs for the multivariable model with two significant factors (specialty group and working hours).

Results are shown in online supplementary appendix 2 for specialties within our ‘other hospital specialties’ group.

Level of support received on return to work

Of 887 doctors who described the level of support received on their return to work after having a child, 18% said the support had been poor/very poor (table 4). Men rated the level of support more highly than did women. There were no significant differences by specialty group or by working hours. The small number of respondents without a partner appeared to score their support more negatively. See footnote of table 4 for statistical results.

DISCUSSION

Main findings

Almost half of all respondents said that having children, or wanting to have children, had influenced their specialty choice. More doctors with children, more women than men, more doctors who worked LTFT than those who worked full time and more GPs than hospital doctors agreed with this statement. Although more doctors living with a spouse/partner than those without agreed that having children had influenced their specialty choice, this difference was not significant after adjustment for these other factors. No difference was observed between doctors with a medical spouse and doctors with a non-medical spouse.

Two-fifths of doctors regarded the NHS as a family-friendly employer for doctors with children and two-thirds regarded their specialty as a family-friendly field of work for doctors with children. More women than men agreed with the latter statement. Three-quarters of
Table 3  Responses to the question ‘Do you regard your specialty as a family-friendly employer for doctors with children?’ (numbers and percentages of doctors who replied ‘yes’)

| Group                           | Men          |          | Women          |          |
|---------------------------------|--------------|----------|----------------|----------|
|                                 | % agreement  | n/N      | % agreement    | n/N      |
| All                             | 57.0         | 393/690  | 69.1           | 712/1030 |
| Has child(ren)                  |              |          |                |          |
| Yes                             | 57.6         | 261/453  | 75.6           | 505/668  |
| No                              | 55.7         | 132/237  | 57.2           | 207/362  |
| Specialty                       |              |          |                |          |
| Hospital medical specialties    | 43.0         | 65/151   | 60.9           | 103/169  |
| Surgery                         | 32.6         | 44/135   | 31.7           | 19/60    |
| General practice                | 79.3         | 134/169  | 78.1           | 345/442  |
| Paediatrics                     | 52.0         | 13/25    | 65.3           | 62/95    |
| Emergency medicine              | 26.7         | 8/30     | 39.1           | 9/23     |
| Obstetrics and gynaecology      | 10.0         | 1/10     | 40.7           | 11/27    |
| Anaesthesia                     | 60.0         | 48/80    | 71.1           | 59/83    |
| Radiology                       | 95.7         | 22/23    | 80.0           | 24/30    |
| Clinical oncology               | 80.0         | 8/10     | 63.2           | 12/19    |
| Pathology                       | 89.3         | 25/26    | 74.3           | 26/35    |
| Psychiatry                      | 86.2         | 25/29    | 89.4           | 42/47    |
| Partner/spouse status           |              |          |                |          |
| Medical spouse                  | 53.4         | 172/322  | 70.3           | 281/400  |
| Non-medical spouse              | 62.4         | 181/290  | 72.7           | 339/466  |
| No spouse                       | 51.3         | 40/78    | 56.1           | 92/164   |
| Working hours                   |              |          |                |          |
| Full time                       | 55.8         | 364/652  | 61.5           | 390/634  |
| Less than full time             | 76.3         | 29/38    | 81.3           | 322/396  |

All p<0.001 except where indicated.

Statistical tests on % agreement: Children (χ²): men 0.2 (p = 0.687), women 36.5; Specialty group (χ²): men 138.0, women 93.4; Partner/spouse status (χ²): men 6.2 (p = 0.045), women 16.1; Working hours (χ²): men 5.3 (p = 0.021), women 43.8.

GPs regarded their specialty as family-friendly, while only one-third of surgeons did so.

Almost half of doctors said that the levels of support they had received when taking maternity/paternity/adoption leave was excellent/good, though one in five said the support had been poor/very poor. More men than women doctors rated the level of support as excellent/good. Of those doctors living with a spouse, half had a medical spouse. More doctors living with a spouse/partner rated their level of leave support as excellent/good than doctors not living with a spouse; and more doctors living with a medical spouse than doctors with a non-medical spouse rated this support as excellent/good.

Although it is not explicit in our study, there is interplay between doctors’ views of parenthood and the effect it may have on their careers and career choices, and the level of support available within different parts of the health service to doctors who are parents. Concepts such as family-friendliness may be hard to reconcile with the working requirements of certain specialty areas, particularly those in which unanticipated acute conditions may present, which require treatment of unknown length or at unsocial times of day or night. The challenge is to manage work in these areas to improve family-friendliness without compromising patient care, at a time when the health service is under unprecedented pressures.

Strengths and limitations

This was a national study, with a good level of response, of doctors who graduated from UK medical schools in 2002. The doctors were surveyed in their mid-30s, 12 years after they had graduated—a time by which about two-thirds of doctors have children and would be able to respond from their own experience to questions about the family friendliness, or otherwise, of the health service. The response rate was high for a self-completed survey. However, some level of non-responder bias is, as with all surveys, a possibility. The good response rate, the recency of the survey and the inclusion of most of the doctors who have had children in the 2002 cohort indicate that these findings are probably generalisable to doctors who are considering the impact of having children on their specialty choice in UK at present.
Table 4  Responses to the question ‘How would you describe the level of support you received from employers in helping you to return to work after your most recent period of Maternity/Paternity/Adoption leave?’

| Group                      | Excellent/good | Acceptable | Poor/very poor | Total |
|----------------------------|----------------|------------|----------------|-------|
|                            | % (n)          | % (n)      | % (n)          | N (100%) |
| All                        | 49.6 (440)     | 31.8 (282) | 18.6 (165)     | 887    |
| Gender                     |                |            |                |        |
| Men                        | 58.7 (135)     | 28.7 (66)  | 12.6 (29)      | 230    |
| Women                      | 46.4 (305)     | 32.9 (216) | 20.7 (136)     | 657    |
| Specialty                  |                |            |                |        |
| Hospital medical specialties| 50.4 (67)      | 30.8 (41)  | 18.8 (25)      | 133    |
| Surgery                    | 47.8 (32)      | 34.3 (23)  | 17.9 (12)      | 67     |
| General practice           | 51.1 (193)     | 31.5 (119) | 17.5 (66)      | 378    |
| Other hospital specialties | 46.7 (129)     | 33.7 (93)  | 19.6 (54)      | 276    |
| Partner/spouse             |                |            |                |        |
| Has spouse                 | 50.4 (432)     | 21.0 (266) | 18.6 (159)     | 857    |
| No spouse                  | 14 (3)         | 62 (13)    | 24 (5)         | 21     |
| Working hours              |                |            |                |        |
| Full time                  | 49.9 (264)     | 31.0 (164) | 19.1 (101)     | 529    |
| Less than full time        | 49.0 (166)     | 33.6 (114) | 17.4 (59)      | 339    |

Statistical tests: Gender $\chi^2=12.5, p=0.002$; Specialty $\chi^2=1.5, p=0.96$; Partner/spouse $\chi^2=12.9, p=0.002$; Working hours $\chi^2=0.8, p=0.67$.

The first of our questions asked whether having, or wanting to have, children had influenced the doctors’ choice of career specialty. A degree of recall bias is possible in the replies to this question. However, many doctors will have considered the implications of having a family at the time when they were making their career choices.

**Comparison with existing literature**

Our respondents told us that considerations of parenthood influenced their specialty choice, and we found that more women than men agreed with this, as did doctors with children. Other research in the UK has found that women in particular cite considerations of WLB as the most common reason for not pursuing certain career specialties. Research in the USA found that 78% of women believe that their career has been restricted by having children. Parenthood status has also been found to affect the career development of doctors, with parents being less likely to hold a senior role than doctors without children. We found that more GPs than hospital doctors say that parenthood influenced their specialty choice. A Swiss study found that more family doctors than hospital doctors are married, and more of them have children. A large-scale Australian study of GPs found that about half of the GPs were content with their WLB, and women reported a better WLB than men. One study reported that Australian medical students believed that ‘family commitments’ were very important when making career decisions, and female students believed that working part time was important for WLB.

We found that surgeons were less likely to agree that their specialty was family-friendly compared with doctors who worked in other specialties. In the USA, surgeons have been reported to face major challenges when trying to balance their personal and professional lives. In the UK, despite rising numbers of female surgical trainees, the number of LTFT posts available is inadequate.

Doctors living with a spouse were more positive than doctors without a spouse about support received when taking leave, and of those doctors with a spouse, doctors in dual-doctor relationships were the most positive. There could be financial reasons for this, as one study points out that those in dual-doctor relationships may be able to make lifestyle choices due to their high joint income.

This same study found that having a medically qualified spouse was associated with reduced hours in clinical practice.

**Implications/conclusions**

Parenthood is a key influence in choosing general practice as a career. It is noteworthy that considerations of parenthood should have such a profound effect on doctors’ career choice. Doctors in other specialties, especially surgery, are not influenced to the same extent by parenthood considerations when choosing their specialty. Policy-makers should address the fact that only half of doctors working in specialties other than general practice regard their specialty as family-friendly.
Acknowledgements  We thank Ritva Ellison for data management and Janet Justice and Alison Stockford for data entry. We are very grateful to all the doctors who participated in the surveys.

Contributors TWL and MJG designed and conducted the survey. FS and TWL designed the analysis. FS performed the analysis and wrote the first draft of the paper. All authors contributed to further drafts and all approved the final version.

Funding  This is an independent report commissioned and funded by the Policy Research Programme in the Department of Health (project no 016/0118).

Disclaimer  The views expressed are not necessarily those of the funding body.

Competing interests  None declared.

Ethics approval  National Research Ethics Service, following referral to the Brighton and Mid-Sussex Research Ethics Committee in its role as a multicentre research ethics committee (ref 04/01907/48 amendment Am02 March 2015).

Provenance and peer review  Not commissioned; externally peer reviewed.

Data sharing statement  It may be possible for the authors to make tabulated data produced in the course of this work, but not included in the paper and available to interested readers on request.

Open Access  This is an Open Access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited and the use is non-commercial. See: http://creativecommons.org/licenses/by-nc/4.0/

© Article author(s) (or their employer(s) unless otherwise stated in the text of the article) 2017. All rights reserved. No commercial use is permitted unless otherwise expressly granted.

REFERENCES
1. Dyrbye LN, Sotile W, Boone S, et al. A survey of US physicians and their partners regarding the impact of work-home conflict. J Gen Intern Med 2013;1:7.
2. Ly DP, Seabury SA, Jena AB. Divorce among physicians and other healthcare professionals in the United States: analysis of census survey data. BMJ 2015;350:h706.
3. Buddeberg-Fischer B, Stamm M, Buddeberg C, et al. The impact of gender and parenthood on physicians’ careers—professional and personal situation seven years after graduation. BMC Health Serv Res 2010;10:40.
4. Ramakrishnan A, Sambuco D, Jaggi R. Women’s participation in the medical profession: insights from experiences in Japan, Scandinavia, Russia, and Eastern Europe. J Womens Health 2014;23:927–34.
5. Treister-Goltzman Y, Peleg R. Female Physicians and the Work-Family Conflict. Isr Med Assoc J 2016;18:261–6.
6. Smith F, Lambert TW, Goldacre MJ. Factors influencing junior doctors’ choices of future specialty: trends over time and demographics based on results from UK national surveys. J R Soc Med 2015;108:396–405.
7. Svirko E, Goldacre MJ, Lambert T. Career choices of the United Kingdom medical graduates of 2005, 2008 and 2009: questionnaire surveys. Med Teach 2013;35:365–75.
8. Lambert TW, Goldacre MJ, Turner G. Career choices of United Kingdom medical graduates of 2002: questionnaire survey. Med Educ 2006;40:514–21.
9. Academy of Medical Royal Colleges. Results of the flexibility and equality survey: a report of the Academy Flexible Careers Committee. London, 2013.
10. Wedderburn C, Scallan S, Whittle C, et al. The views and experiences of female GPs on professional practice and career support. Educ Prim Care 2013;24:321–9.
11. Goldacre MJ, Lambert TW. Participation in medicine by graduates of medical schools in the United Kingdom up to 25 years post graduation: national cohort surveys. Acad Med 2013;88:699–707.
12. Goldacre MJ, Davidson JM, Lambert TW. Doctors’ age at domestic partnership and parenthood: cohort studies. J R Soc Med 2012;105:390–9.
13. Goldacre MJ, Goldacre R, Lambert TW. Doctors who considered but did not pursue specific clinical specialities as careers: questionnaire surveys. J R Soc Med 2012;105:166–76.
14. Levinson W, Tolle SW, Lewis C. Women in academic medicine. Combining career and family. N Engl J Med 1989;321:1511–7.
15. Stamm M, Buddeberg-Fischer B. How do physicians and their partners coordinate their careers and private lives? Swiss Med Wkly 2011;141:w13179.
16. Buddeberg-Fischer B, Stamm M, Buddeberg C, et al. The new generation of family physicians—career motivation, life goals and work-life balance. Swiss Med Wkly 2008;138:305–12.
17. Shrestha D, Joyce CM. Aspects of work-life balance of Australian general practitioners: determinants and possible consequences. Aust J Prim Health 2011;17:40–7.
18. Tohunton HM, Stewart SM. Balancing work, family and other lifestyle aspects: a qualitative study of Australian medical students’ attitudes. Med J Aust 2004;181:361–4.
19. Dyrbye LN, Freischlag J, Kaups KL, et al. Work-home conflicts have a substantial impact on career decisions that affect the adequacy of the surgical workforce. Arch Surg 2012;147:933–9.
20. Harries RL, McGoldrick C, Mohan H, et al. Council of the Association of Surgeons in Training. Less than full-time training in surgical specialties: consensus recommendations for flexible training by the association of surgeons in training. Int J Surg 2015;23:S10–S14.
21. Woodward CA. When a physician marries a physician: effect of physician-physician marriages on professional activities. Can Fam Physician 2005;51:850–1.
Combining parenthood with a medical career: questionnaire survey of the UK medical graduates of 2002 covering some influences and experiences

Trevor W Lambert, Fay Smith and Michael J Goldacre

BMJ Open 2017 7:
doi: 10.1136/bmjopen-2017-016822

Updated information and services can be found at:
http://bmjopen.bmj.com/content/7/8/e016822

These include:

References
This article cites 19 articles, 2 of which you can access for free at:
http://bmjopen.bmj.com/content/7/8/e016822#BIBL

Open Access
This is an Open Access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited and the use is non-commercial. See: http://creativecommons.org/licenses/by-nc/4.0/

Email alerting service
Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Topic Collections
Articles on similar topics can be found in the following collections

Medical education and training (278)

Notes

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/