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**UK-trained junior doctors' intentions, three years after graduation, to work in medicine in the UK in future:  
current generation compared with 40 years of previous surveys**

Short title: **Doctors' intentions to work in medicine in the UK**

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This is an independent report commissioned and funded by the Policy Research Programme in the Department of Health. The views expressed are not necessarily those of the Department.

## **Abstract**

**Objectives:** To report on the career intentions, three years after qualification, of 12 national cohorts of UK-trained doctors who qualified between 1974 and 2012; and, specifically, to compare recent UK medical graduates' intentions to work in medicine in the UK with earlier graduates.

**Design:** Questionnaire surveys of cohorts of UK medical graduates defined by year of graduation.

**Setting:** United Kingdom.

**Participants:** 30272 UK medical graduates.

**Main outcome measures:** Stated level of intention to pursue a long-term career in medicine in the United Kingdom.

## **Methods:**

We used self-completed questionnaires from multi-purpose surveys of UK-trained doctors to track career intentions and progression. We examined responses to the question *"Do you intend to practise medicine in the United Kingdom for the foreseeable future?"*

## **Results:**

The response rate was 62% (30272/48927). Of doctors from UK homes, 90% had specified that they would 'definitely or probably' practise medicine in the UK in the surveys of 1977-1986, 81% from 1996-2011, and 64% in 2015. Those who said that they would probably or definitely not practise medicine in the UK comprised 5% in 1977-1986, 8% in 1996-2011, and 15% in 2015. Most who were not definite about a future career in UK medicine indicated that they would wish to practise medicine outside the UK rather than to leave medicine.

## **Conclusions:**

The wish to remain in UK medical practice in the 2015 survey was unprecedentedly low in this unique series of 40 years of surveys.

[236 words]

**Keywords:** medical education; medical careers; attrition from medicine.

## Introduction

All health care systems are critically dependent on an adequate supply of doctors. High income countries should aim to be self-sufficient in training enough doctors for their own needs. However, countries like the United States, Canada, Australia and the United Kingdom are not: in the early 2000s, about 25% of practising physicians in these countries received their basic medical training in other countries, many of them in resource-poor countries.(1) Training doctors is expensive: it is important to understand and quantify attrition from the health service in the country of training, in order to maximise value for the investment. For these reasons, a key to medical workforce planning in each country is knowledge about the future career plans and work trajectories of their medical graduates. This includes knowing about the extent of young doctors' intentions to continue practising medicine in their own country. Furthermore, knowledge of trends in young doctors' intentions about future practice may indicate emerging problems of commitment to and retention in their own country.

About three years after graduation in the UK, most doctors are expected to enter into specialist training in general practice or in specialties in hospital practice. Surveys of doctors' intentions at that time can help in anticipating any trends in future intentions to continue working in the National Health Service. Our research group, the UK Medical Careers Research Group (UKMCRG), has undertaken UK-wide multi-purpose surveys of doctors in various year-of-qualification cohorts over many years. In this paper, we report on the answers given, three years after qualification, by several successive cohorts, to the question: *"Do you intend to practise medicine in the United Kingdom for the foreseeable future?"* Our aim in this paper is to report on whether levels of intention to work in medicine in the UK have changed in recent cohorts of UK medical graduates.

## Methods

### ***Data used for this analysis***

The UKMCRG surveyed UK medical graduates from all UK medical schools in 1977, 1980, 1983, 1986, 1996, 1999, 2002, 2003, 2005, 2008, 2011 and 2015. The target population for each survey was all the doctors who had graduated three years previously. We used postal questionnaires until 2008, and identical web-based and postal surveys since then (giving doctors the choice of whether they preferred web or paper). Up to four

reminders were sent to non-respondents. Further details of the methodology are available elsewhere.<sup>(2,3)</sup> Doctors' contact details have been provided by the General Medical Council (GMC), for all registered doctors willing to take part in research.

All survey questionnaires used included a range of open and closed questions on doctors' career intentions, career progression, and views and attitudes. Among the questions in each survey about career intentions, aimed to aid workforce planning, we asked about choice of future specialty, future intentions about full and part time working, and we also asked *Apart from temporary visits abroad, do you intend to practise medicine in the United Kingdom for the foreseeable future?* The qualifying phrase about temporary visits abroad was included in recognition that it is quite common for doctors at this stage in their career to seek experience overseas. The response options, supplied by us, were: *Yes-definitely, Yes-probably, Undecided, No-probably not* and *No-definitely not*.

Responses were analysed according to cohort of qualification and year of survey.

In surveys from 1999, doctors whose intention to work in UK medicine was not definite were asked three supplementary questions about their future plans: *Are you considering practising medicine abroad?*, *Are you considering leaving medicine but remaining in the UK?* and *Are you considering leaving medicine and leaving the UK?*

### **Data analysis**

We compared responses given by subgroups of doctors using chi-square tests and rank-based nonparametric methods as appropriate.

## Results

### ***Response***

All cohorts totalled 50 505 doctors. For various reasons, some doctors were not contactable by us including those having died before survey, having gone abroad without a forwarding address, or whose contact details are embargoed to researchers by the GMC at the doctor's request. Of a total of 48 927 contactable doctors, 62.4% (30 508) replied to the survey three years after graduation. Numbers were further reduced to 30 272 respondents who replied to the specific question about their intentions to practise in the UK and it is these data which have been used in the following analysis, see Appendix 1. Response rates have continually declined from the early surveys to the latest.

### ***Intentions to practise in the UK***

Over all surveys combined, of the doctors who replied three years after graduation, 81.5% intended definitely or probably to practise in the UK, 10.4% were undecided, and 8.0% definitely or probably did not intend to practise in the UK. A total of 28 709 doctors completed the question about their family home location prior to starting medical school. Of these, 95.0% of respondents came from UK family homes and 5.0% came from homes outside the UK. A much higher proportion of doctors from UK family homes stated they definitely or probably intended to work in UK medicine long-term, compared with non-UK residents (UK 82.7%, non-UK 59.7%). Proportionately more non-UK residents (22.4%) than UK residents (7.3%) definitely or probably would *not* work in the UK long-term. Of the 27 269 doctors from UK homes, 10% were undecided, and 7.3% definitely or probably did not intend to practise in the UK. For the rest of the results, we focus on the doctors from UK homes (Table 1). Data about those from non-UK homes can be found in Appendix 2.

### ***Differences by cohort: doctors from UK homes***

Doctors surveyed in the 1980s showed the highest level of intention to practise in the UK (ranging from 49.7% to 57.8% definitely intending to stay). Intentions to do so in surveys conducted from the 1990s through to 2011 were stable but somewhat lower (range: 37.5% to 49.6%, Table 1). The most recent survey, undertaken in 2015, of the graduates of 2012, showed a substantial fall, with only 25.8% (95% confidence interval: 23.9% to 27.8%) *definitely* intending to practise in the UK, compared with 49.6% (47.6% to 51.6%) of the 2008 graduates in 2011. The corresponding figures for those *definitely or probably* intending to stay in UK medicine were 63.9% (61.7% to 66.0%) of the 2015 survey compared with 82.0% (80.4% to 83.5%) of the 2011 survey.

Those *definitely or probably not* intending to stay rose from 8.5% in 2011 (7.5% to 9.7%) to 15.0% in 2015 (13.5% to 16.7%).

#### ***Possible future plans – supplementary questions (see Method)***

The respondents, from the combined surveys from 1999 onwards, who did not *definitely* intend to practise in UK medicine comprised, as percentages of all respondents, 11.6% who were considering leaving medicine, 42.9% who were considering working in medicine outside the UK, and 4.2% who did not state either intention. A higher percentage of doctors surveyed in 2015 than in earlier years were considering leaving medicine or were unsure about their intentions (Table 2).

In Tables 3-5, we show the profiles of what the doctors might do in future, in successive categories of uncertainty or certainty about not remaining in UK medicine. In Table 3 we report the intentions of those who were '*undecided* about staying in UK medicine, or who *definitely or probably would not* stay'. This shows a pronounced difference between the 2015 survey and earlier surveys, with higher percentages in the 2015 survey than in earlier surveys considering leaving medicine or working in non-UK medicine.

Table 4 shows the results for those who would '*probably or definitely not* work in UK medicine, and Table 5 for those who would '*definitely not*' work in UK medicine. Each table illustrates that, whatever combination of uncertainty or certainty about intentions, a substantially higher percentage of doctors in the survey of 2015 than in previous surveys were considering working in medicine abroad or leaving medicine.

#### ***Intentions to work in the UK and choice of specialty: comparison of general practice with hospital specialties***

The percentage of those who chose general practice stating they would *definitely* work in the UK was larger than the percentage who chose a hospital specialty, in each survey year group (see footnote to Appendix 3 for statistical results). When *definitely* and *probably* responses were combined, the percentage differences remained but were less marked. Comparison of the percentages who replied *probably not* or *definitely not* showed less evidence of a difference by specialty choice, particularly in the 2015 survey.

There was substantial variation between the hospital specialties (Appendix 4), though small numbers in some cells meant it was not possible to undertake meaningful statistical testing. Those choosing a career in emergency medicine had the lowest proportion (30.8%), over all survey years, of any specialty *definitely* intending to stay in the UK to practice (excluding specialties with fewer than 300 respondents).

### ***Variation of intentions by gender, country of UK family home, and graduate entry status (UK residents only)***

Differences on all three groups were small (Appendix 5). For gender, 44.1% of men and 46.1% of women were *definite* that they would work in UK medicine ( $\chi^2_1 = 11.0$ ,  $p < 0.001$ ). For UK country of family home, the percentage *definite* ranged from Scotland (42.4%) to Wales (46.6%:  $\chi^2_3 = 17.2$ ,  $p < 0.001$ ). The 2008 and 2012 graduates were asked whether their medical school course was classed as graduate entry (fast track). Graduate entrants were slightly more positive than non-graduate entrants about future intentions to work in the UK, with 43.1% *definite* compared with 37.4% of non-graduate entrants ( $\chi^2_1 = 6.5$ ,  $p = 0.01$ ).

## **Discussion**

### **Main findings**

Commitment among UK-trained doctors, surveyed three years after graduation, to practising medicine in the UK long-term has declined over time and, most strikingly, fell in 2015 to a low level that is unprecedented in 40 years of UKMCRG surveys. Of those who were not certain about practising medicine in the UK for the foreseeable future, a majority specified that they would stay in medicine but seek work outside the UK. Only a minority specified that they might leave medicine; but, as with the overall findings, the intentions of the doctors surveyed in 2015 gave results that are unprecedented in scale. Doctors who chose to specialise in general practice had a greater level of commitment to practising in the UK than doctors who chose other specialties. There was variation across the hospital specialties, with those choosing emergency medicine having particularly low levels of intention to stay in the UK. Unsurprisingly, doctors whose residence prior to medical school was outside the UK were less committed to practising medicine in the UK in the long-term than were doctors from UK homes.

Compared to differences in intention by year of graduation, by intended specialty, and by place of residence, differences by gender, by UK country of origin, and by graduate entry versus undergraduate entry, were small.

### **Comparison with other studies**

Our studies are, we believe, unique in tracking the intentions of UK medical graduates over a very long period. There is little else published with which to compare our findings on long-term trends except as single snapshots in time. Others have found, like us, that a smaller percentage of UK doctors who chose emergency medicine than others were definitely planning to remain in the UK to practise in the long-term.(4,5)

Our study reports long term intentions to pursue a career in UK medicine. Some young doctors take a short break in their postgraduate training, either to work in medicine outside the UK, or to step off the training ladder temporarily for another reason. Others may be unsure of their specialty choice and not ready to commit to a specific training programme. These considerations are not incompatible with a long term intention to work in UK medicine. However, it is worthy of note that the UK Foundation Office, which annually conducts a census of the career destinations of UK graduates two years after they graduate, has reported successive falls in the percentage moving straight into specialist training in the UK for the last five years, from 72% in 2011 to 50% in 2016.(6) This perhaps reflects a declining level of certainty about a UK medical career evidenced in our data reported here.

We found that marginally more women doctors than men were expecting to stay and work in the UK for the long-term. A survey carried out by the British Medical Association (BMA) also found that greater proportions of women than men indicated their wish work in the UK but their survey showed a greater differential between the genders.(7) Over the period of our study, the gender balance in UK medicine has changed greatly: the General Medical Council (GMC) reported recently that whereas 75% of doctors aged fifty and over were male, only 45% of medical students were male.(8) The higher the percentage of doctors who are women, the higher the percentage of doctors who are likely to stay in UK medicine. The gender shift alone is unlikely to be enough, however, to counteract the increasing proportion of doctors desiring to work abroad permanently once trained.

### **Interpretation and implications**

It would be surprising if medical practitioners were not influenced by societal changes in recent years, which have included an increasing tendency for workers of all kinds to pursue careers outside their own country of origin. However, the marked increase in 2015 of doctors thinking of pursuing their careers elsewhere, or even giving up a medical career completely, is a concern. It seems likely that the increase is due, at least in part, to UK doctors' increasing concerns, now well documented, about whether they feel valued in the UK, whether the NHS will continue to be a good working environment for doctors, and about the new junior doctors' contract.(9,10,11,12) In the course of our survey we also obtained 'free text' comments from many of the doctors on why they may not continue in UK medicine, if they signified that they might leave. The analysis of these comments is beyond the scope of this paper; but we will report elsewhere on insights obtained. We do not know when decisions to leave UK medical practice were made, for example whether before starting



training or whether during training. Further research could include the use of focus groups to explore junior doctors' reasons for not wishing to remain in UK medical practice and when that decision was made.

We make our primary purpose, that of collecting good data on various aspects of doctors' future intentions in order to reliably inform workforce planning, very clear when communicating with doctors. It is possible that, in 2015, some doctors responding to us used our survey as a 'poll' to express their 'political' views about current policy. However, at least for the majority, we doubt this.

An important issue is whether early intentions in respect of our questions about 'the foreseeable future' have predictive value. We know that there is a strong association between doctors' specialty choice expressed in year three after qualification and their eventual destinations.<sup>(13)</sup> We have also previously published on the question about practising medicine in the UK 'for the foreseeable future'.<sup>(13)</sup> We reported on doctors who qualified in the 1970s and 1980s. Of those who as juniors wrote to us that they probably or definitely intended to practise medicine in the UK for the foreseeable future, 91% eventually did so. Of those who were undecided, 78% eventually practised in the UK. Of those who, as juniors, wrote that they were probably or definitely not going to practice in the UK, 63% eventually practised in the UK. Thus, although it is common for doctors who tell us they may not practice in the UK to change their minds, it is also the case that early intentions do have predictive value.<sup>(14)</sup>

In the current study and in previous studies, the majority of those who are not definitely intending to practise medicine in the UK intend to stay in medicine but elsewhere.<sup>(15)</sup> It is very uncommon for doctors to leave medicine altogether, at least in the early years after qualifying.<sup>(16)</sup> If a large percentage of the doctors in the 2015 survey do, in fact, leave medicine, this would be unprecedented in our experience.

If increasing numbers of junior doctors do leave the UK, the UK will have to recruit increasing numbers of doctors from abroad.<sup>(17)</sup> Foreign-trained staff may need extensive further training, may need to improve their English and, ultimately, may be inclined to leave again.<sup>(7)</sup> The UK Government announced in October 2016 that there would be increased funding for an additional 1500 training places at medical schools.<sup>(18)</sup> Students taking up these places would not commence their studies until the 2018/19 academic year and hence would not become clinical service providers until 2023/24 at the earliest.

### **Strengths and limitations**

Our surveys are large and with a generally good response. Non-responder bias, however, is a possibility. Stated intentions do not necessarily turn into reality: however, we know from our own work, as stated above, and that of others that there is association between stated intention and subsequent action.(14,19)

## **Conclusions and implications**

Commitment among UK medical graduates to practising medicine in the UK long-term has declined over recent surveys. Our 2015 results indicate the lowest level of commitment to UK medicine, and perhaps the highest level of dissatisfaction with the prospect of a career in medicine in the UK, in 40 years of UKMCRG surveys. It is too soon to tell whether this decrease is a temporary response to recent developments in the UK and in the NHS, including concerns about junior doctors' contractual and working arrangements and resourcing of services; or whether it presages a longer term tendency to leave the UK after graduation in greater numbers; or indeed whether stated intentions will or will not become reality.

[2941 words]

## **Contributors**

MJG and TWL designed the study. GS and TWL performed the statistical analysis. GS wrote the first draft of the paper and all authors contributed to the interpretation of the results, revisions and final draft of the manuscript. All authors are guarantors.

**Funding:** This is an independent report commissioned and funded by the Policy Research Programme in the Department of Health (project number 016/0118). The views expressed are not necessarily those of the Department.

**Ethical approval:** This study was approved by the National Research Ethics Service, following referral to the Brighton and Mid-Sussex Research Ethics Committee in its role as a multi-centre research ethics committee (ref 04/Q1907/48 amendment Am02 March 2015).

**Competing interests:** All authors have completed the Unified Competing Interest form at [www.icmje.org/coi\\_disclosure.pdf](http://www.icmje.org/coi_disclosure.pdf) (available on request from the corresponding author) and all authors want to declare: (1) financial support for the submitted work from the policy research programme, Department of Health. All authors also declare: (2) no financial relationships with commercial entities that might have an interest in the submitted work; (3) no spouses, partners, or children with relationships with commercial entities that might have an interest in the submitted work; (4) no non-financial interests that may be relevant to the submitted work.

**Acknowledgements:** We would like to thank Janet Justice and Alison Stockford for data entry and Ritva Ellison for her work as data quality analyst. We are very grateful to all the doctors who participated in the surveys.

**Supplementary materials:** It may be possible for the authors to make tabulated data, produced in the course of this work but not included in the paper, available to interested readers on request.

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Table 1: Intentions of UK-based\* UK-trained doctors, three years after graduation, to practise medicine in the UK

*Question: Apart from temporary visits abroad, do you intend to practise medicine in the United Kingdom for the foreseeable future?*

Year of survey	Definitely yes	Probably yes	Undecided	Probably no	Definitely no	Total (100%)
	% (n)	% (n)	% (n)	% (n)	% (n)	
1977	39.9 (545)	43.5 (594)	9.1 (125)	5.3 (72)	2.3 (31)	1367
1980	49.7 (1079)	40.1 (872)	6.0 (131)	2.9 (64)	1.2 (27)	2173
1983	57.8 (1531)	34.4 (910)	3.4 (90)	3.1 (81)	1.3 (35)	2647
1986	57.0 (1597)	33.6 (942)	5.0 (139)	2.9 (82)	1.5 (42)	2802
1996	41.6 (1005)	37.0 (893)	12.3 (297)	6.8 (165)	2.3 (55)	2415
1999	47.0 (1185)	36.3 (917)	10.3 (260)	4.9 (123)	1.5 (38)	2523
2002	37.5 (825)	42.7 (938)	11.2 (246)	6.1 (134)	2.5 (56)	2199
2003	40.9 (980)	42.0 (1008)	10.3 (248)	5.3 (127)	1.5 (36)	2399
2005	46.1 (981)	35.2 (749)	11.0 (2334)	6.1 (130)	1.5 (32)	2126
2008	38.9 (884)	38.9 (884)	14.7 (334)	5.4 (123)	2.0 (45)	2270
2011	49.6 (1209)	32.4 (789)	9.6 (233)	6.1 (148)	2.4 (59)	2438
2015	25.8 (492)	38.2 (729)	21.1 (403)	11.4 (217)	3.6 (69)	1910
Total	45.2(12313)	37.5(10225)	10.0 (2740)	5.4 (1466)	1.9 (525)	27269

\* 'UK-based' means doctors whose family home prior to entering medical school was in the UK

Table 2: UK-trained UK-based\* doctors who did not 'definitely' intend to practise medicine in the UK for the foreseeable future: their possible future plans showing numbers and percentages of all doctors in each cohort

Year of survey	Future plans of those not definite about UK medicine				Total (100%)
	Considering leaving medicine	Considering working in medicine outside the UK	Intention not stated	Definite about working in UK medicine	
	% (n)	% (n)	% (n)	% (n)	
1999	13.4 (337)	36.1 (912)	3.5 (89)	47.0 (1185)	2523
2002	10.4 (228)	48.9 (1076)	3.2 (70)	37.5 (825)	2199
2003	9.3 (222)	46.4 (1112)	3.5 (85)	40.9 (980)	2399
2005	7.1 (152)	42.3 (900)	4.4 (93)	46.1 (981)	2126
2008	14.7 (334)	42.8 (972)	3.5 (80)	38.9 (884)	2270
2011	8.1 (198)	38.6 (941)	3.7 (90)	49.6 (1209)	2438
2015	19.0 (362)	46.8 (893)	8.5 (163)	25.8 (492)	1910
Total	11.6 (1833)	42.9 (6806)	4.2 (670)	41.3 (6556)	15865

\* 'UK-based' means doctors whose family home prior to entering medical school was in the UK



Table 3: UK-trained UK-based doctors who were uncertain, or would probably or definitely not practise medicine in the UK for the foreseeable future: their possible future plans showing numbers and percentages of all doctors in each cohort

Year of survey	Future plans of those not definitely or probably intending a career in UK medicine			Definitely or probably intending a career in UK medicine	Total (100%)
	Considering leaving medicine	Considering working in medicine outside the UK	Intention not stated		
	% (n)	% (n)	% (n)	% (n)	
1999	4.1 (104)	10.6 (267)	2.0 (50)	83.3 (2102)	2523
2002	3.5 (76)	15.3 (336)	1.1 (24)	80.2 (1763)	2199
2003	3.3 (78)	12.6 (302)	1.3 (31)	82.9 (1988)	2399
2005	2.7 (58)	13.7 (292)	2.2 (46)	81.4 (1730)	2126
2008	5.4 (123)	15.1 (343)	1.6 (36)	77.9 (1768)	2270
2011	3.0 (74)	12.3 (301)	2.7 (65)	82.0 (1998)	2438
2015	9.6 (183)	20.3 (387)	6.2 (119)	63.9 (1221)	1910
Total	4.4 (696)	14.0 (2228)	2.3 (371)	79.2 (12570)	15865

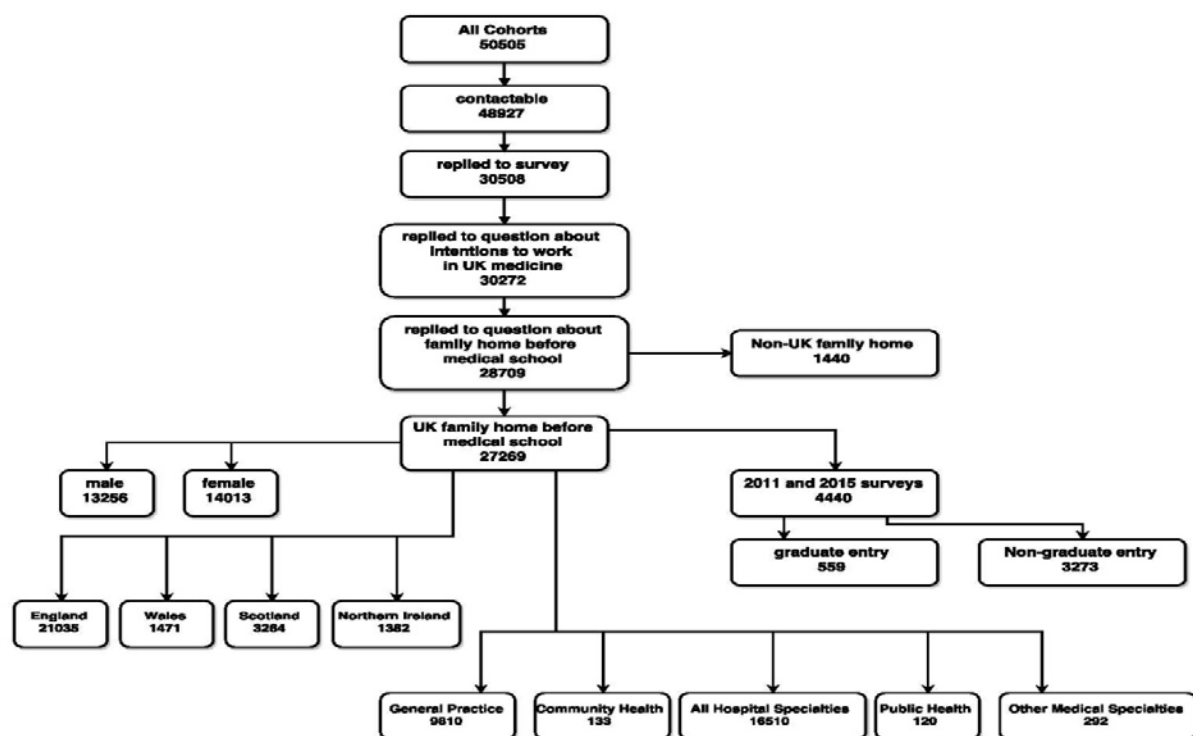
Table 4: UK-trained UK-based doctors who would probably or definitely not practise medicine in the UK for the foreseeable future: their possible future plans showing numbers and percentages of all doctors in each cohort

Future plans of those who would probably or definitely <u>not</u> practise medicine in the UK					
Year of survey	Considering leaving medicine	Considering working in medicine outside the UK	Intention not stated	Definitely or probably intending a career in UK medicine, or undecided	Total (100%)
	% (n)	% (n)	% (n)	% (n)	
1999	1.4 (36)	3.8 (95)	1.2 (30)	93.6 (2362)	2523
2002	1.5 (34)	6.3 (138)	0.8 (18)	91.4 (2009)	2199
2003	1.5 (35)	4.3 (104)	1.0 (24)	93.2 (2236)	2399
2005	1.1 (24)	4.8 (103)	1.6 (35)	92.4 (1964)	2126
2008	1.4 (31)	5.1 (116)	0.9 (21)	92.6 (2102)	2270
2011	1.2 (29)	5.3 (130)	2.0 (48)	91.5 (2231)	2438
2015	3.4 (64)	7.4 (142)	4.2 (80)	85.0 (1624)	1910
Total	1.6 (253)	5.2 (828)	1.6 (256)	91.6 (14528)	15865

Table 5: UK-trained UK-based doctors who would definitely not practise medicine in the UK for the foreseeable future: their possible future plans showing numbers and percentages of all doctors in each cohort

Year of survey	Future plans of those who would definitely <u>not</u> practise medicine in the UK			All except those definitely <u>not</u> intending a career in UK medicine	Total (100%)
	Considering leaving medicine	Considering working in medicine outside the UK	Intention not stated		
	% (n)	% (n)	% (n)	% (n)	
1999	0.7 (18)	0.6 (15)	0.2 (5)	98.5 (2485)	2523
2002	0.7 (15)	1.6 (36)	0.2 (5)	97.5 (2143)	2199
2003	0.5 (11)	0.8 (18)	0.3 (7)	98.5 (2363)	2399
2005	0.5 (10)	0.7 (15)	0.3 (7)	98.5 (2094)	2126
2008	0.4 (8)	1.5 (35)	0.1 (2)	98.0 (2225)	2270
2011	0.4 (10)	1.3 (31)	0.7 (18)	97.6 (2379)	2438
2015	1.2 (22)	1.5 (29)	0.9 (18)	96.4 (1841)	1910
Total	0.6 (94)	1.1 (179)	0.4 (62)	97.9 (15530)	15865

## Appendix 1: Records used in analysis



Appendix 2: Intentions of non-UK-based\* UK-trained doctors, three years after graduation, to practise medicine in the UK

Question: *Apart from temporary visits abroad, do you intend to practise medicine in the United Kingdom for the foreseeable future?*

Year of survey	Definitely yes	Probably yes	Undecided	Probably no	Definitely no	Total (100%)
	% (n)	% (n)	% (n)	% (n)	% (n)	
1977	21.3 (23)	40.7 (44)	19.4 (21)	8.3 (9)	10.2 (11)	108
1980	14.8 (8)	40.7 (22)	16.7 (9)	14.8 (8)	13.0 (7)	54
1983	32.5 (55)	34.3 (58)	8.9 (15)	15.4 (26)	8.9 (15)	169
1986	30.9 (58)	34.0 (64)	10.1 (19)	18.1 (34)	6.9 (13)	188
1996	16.9 (14)	31.3 (26)	24.1 (20)	14.5 (12)	13.3 (11)	83
1999	25.3 (22)	27.6 (24)	24.1 (21)	17.2 (15)	5.7 (5)	87
2002	16.8 (19)	44.2 (50)	15.0 (17)	17.7 (20)	6.2 (7)	113
2003	23.1 (31)	33.6 (45)	20.9 (28)	17.2 (23)	5.2 (7)	134
2005	23.2 (29)	32.8 (41)	24.0 (30)	12.8 (16)	7.2 (9)	125
2008	26.4 (33)	36.8 (46)	18.4 (23)	10.4 (13)	8.0 (10)	125
2011	31.9 (38)	36.1 (43)	15.1 (18)	10.9 (13)	5.9 (7)	119
2015	15.6 (21)	33.3 (45)	27.4 (37)	15.6 (21)	8.1 (11)	135
Total	24.4 (351)	35.3 (508)	17.9 (258)	14.6 (210)	7.8 (113)	1440

\* 'non-UK-based' means doctors whose family home prior to entering medical school was outside the UK.

Appendix 3: Levels of intention to practise medicine in the UK, comparing doctors who chose general practice with doctors who chose a hospital specialty

Survey years	Career choice	Definitely yes	Probably yes	Undecided	Probably no	Definitely no	Total
Percentages							
1977-1986	General Practice	60.7	32.6	3.5	2.0	1.2	100.0
	Hospital specialties	47.4	41.1	6.4	3.7	1.4	100.0
1996-2011	General Practice	49.1	35.8	9.3	4.6	1.2	100.0
	Hospital specialties	41.7	39.2	11.8	5.6	1.6	100.0
2015	General Practice	31.3	38.1	18.0	9.4	3.2	100.0
	Hospital specialties	24.1	39.4	22.2	11.5	2.7	100.0
Numbers							
1977-1986	General Practice	2507	1348	145	82	51	4133
	Hospital specialties	2137	1856	287	168	63	4511
1996-2011	General Practice	2498	1822	475	233	61	5089
	Hospital specialties	4482	4220	1273	606	175	10756
2015	General Practice	184	224	106	55	19	588
	Hospital specialties	300	490	276	143	34	1243

Chi square results comparing general practice and hospital specialties:

Definitely yes: 1977-86  $\chi^2_1=152.6$ ,  $p<.001$ ; 1996-2011  $\chi^2_1=76.8$ ,  $p<.001$ ; 2015  $\chi^2_1=10.2$ ,  $p=.001$ .

Definitely or probably yes: 1977-86  $\chi^2_1=57.8$ ,  $p<.001$ ; 1996-2011  $\chi^2_1=37.2$ ,  $p<.001$ ; 2015  $\chi^2_1=5.7$ ,  $p=.017$ .

Definitely or probably no: 1977-86  $\chi^2_1=18.9$ ,  $p<.001$ ; 1996-2011  $\chi^2_1=11.8$ ,  $p=.001$ ; 2015  $\chi^2_1=0.8$ ,  $p=.79$ .

Appendix 4: Levels of intention to practise medicine in the UK, by choice of hospital specialty; total counts and (row) percentages

Career choice	Total counts			Definitely yes			Probably yes			Others, combined <sup>2</sup>		
	Survey year group <sup>1</sup>			Survey year group <sup>1</sup>			Survey year group <sup>1</sup>			Survey year group <sup>1</sup>		
	1	2	3	1	2	3	1	2	3	1	2	3
Surgical Specialties	992	2449	213	43.2	41.4	21.6	44.1	41.0	43.7	12.7	17.6	34.7
Medical Specialties	1066	2717	303	46.2	42.9	27.1	43.0	37.8	38.6	10.9	19.3	34.3
Paediatrics	342	1054	107	43.9	42.7	25.2	41.5	38.4	45.8	14.6	18.9	29.0
Emergency medicine	54	720	123	53.7	32.1	13.0	35.2	40.7	33.3	11.1	27.2	53.7
Obstetrics & Gynaecology	259	495	77	47.9	45.5	37.7	40.5	35.4	35.1	11.6	19.2	27.3
Anaesthetics	656	1507	207	46.0	37.5	18.4	43.0	43.1	39.6	11.0	19.4	42.0
Radiology	204	345	44	52.5	44.1	25.0	37.3	36.8	38.6	10.3	19.1	36.4
Clinical Oncology	85	302	31	58.8	48.7	29.0	28.2	34.8	35.5	12.9	16.6	35.5
Pathology	422	446	62	51.4	48.2	29.0	38.2	35.9	35.5	10.4	15.9	35.5
Psychiatry	431	721	76	55.0	44.0	31.6	35.3	38.1	40.8	9.7	17.9	27.6
Others:												
Community Health	107	20	- <sup>4</sup>	54.2	40.0	0.0	34.6	45.0	66.7	11.2	15.0	33.3
Public Health	0	107	13	0.0 <sup>3</sup>	25.2	15.4	0.0 <sup>3</sup>	38.3	30.8	0.0 <sup>3</sup>	36.4	53.8
Other Medical Specialties	142	144	- <sup>4</sup>	18.3	16.0	16.7	33.1	22.2	0.0	48.6	61.8	83.3

<sup>1</sup> Survey year group 1 = 1977, 1980, 1983 and 1986, 2 = 1996, 1999, 2002, 2003, 2005, 2008, and 2011, 3 = 2015.

<sup>2</sup> Combined percentage selecting undecided, probably not, or definitely not.

<sup>3</sup> Public health choices were not recorded in these survey years.

<sup>4</sup> < 10

Appendix 5: Levels of intention to practise medicine in the UK by gender, UK family home location, and graduate entry to medical school: doctors from UK family homes

	Definitely yes	Probably yes	Undecided	Probably no	Definitely no	Total	N
Gender							
Male	44.1	38.7	9.8	5.4	2.0	100.0	13256
Female	46.1	36.4	10.3	5.3	1.9	100.0	14013
Total	45.2	37.5	10.0	5.4	1.9	100.0	27269
Family home location							
England	45.7	36.9	10.1	5.4	2.0	100.0	21035
Wales	46.6	36.8	9.3	5.0	2.2	100.0	1471
Scotland	42.4	40.2	10.3	5.3	1.8	100.0	3264
Northern Ireland	42.6	42.5	9.0	4.7	1.2	100.0	1382
Total	45.2	37.5	10.0	5.4	1.9	100.0	27152
Graduate entry (2008, 2012 cohorts only)							
Yes	43.1	32.0	14.0	7.7	3.2	100.0	559
No	37.4	35.6	15.7	8.5	2.7	100.0	3273
Total	38.3	35.1	15.4	8.4	2.8	100.0	3832