

A large, white, stylized number '2' is positioned on the left side of the page. The background consists of a complex pattern of overlapping teal and blue geometric shapes, creating a sense of depth and movement.

Our data on
medical students
and doctors in
training in the UK

Summary

This chapter focuses on our data on medical students and doctors in training in the UK. After graduating from medical school, doctors begin two years of foundation training. Doctors are provisionally registered with a licence to practise during their first foundation year and can apply for full registration on completion of this first year.

After two years of foundation training, doctors can apply to enter general practice (GP), core or specialty training. Graduates of non-UK medical schools can join the training programmes at each stage (foundation, core, specialty or GP).

The data relating to medical students are based on figures from 2016 and make comparisons with the previous years from 2012 to 2015. The data used to describe doctors in training are based on figures from 2017 and make comparisons with 2012.

Medical students

- There were 39,185 medical students at UK universities in 2016 compared with 41,422 in 2012, a drop of 5.4%
- The proportion of medical students coming from the UK, Europe and overseas is broadly similar to 2016 in comparison with 2012, though the proportion of students with non-UK nationalities has increased slightly.
- 8% of those who entered medical school in 2016 had already completed a degree in another subject. Almost three quarters of these graduate entry students identified as white compared with 58% on standard entry programmes.

- There is a higher proportion of international students in graduate entry programmes compared with school leaver programmes (16.6% versus 11.7%).

Doctors in training

- In 2017 there are 60,810 doctors in training, an overall increase of 1.7% since 2012, which does not match the UK population growth of 3.7%.
- The number of UK graduates in training, however, has increased by 11.3% since 2012. The number of international medical graduates has decreased by 39.6% since 2012.

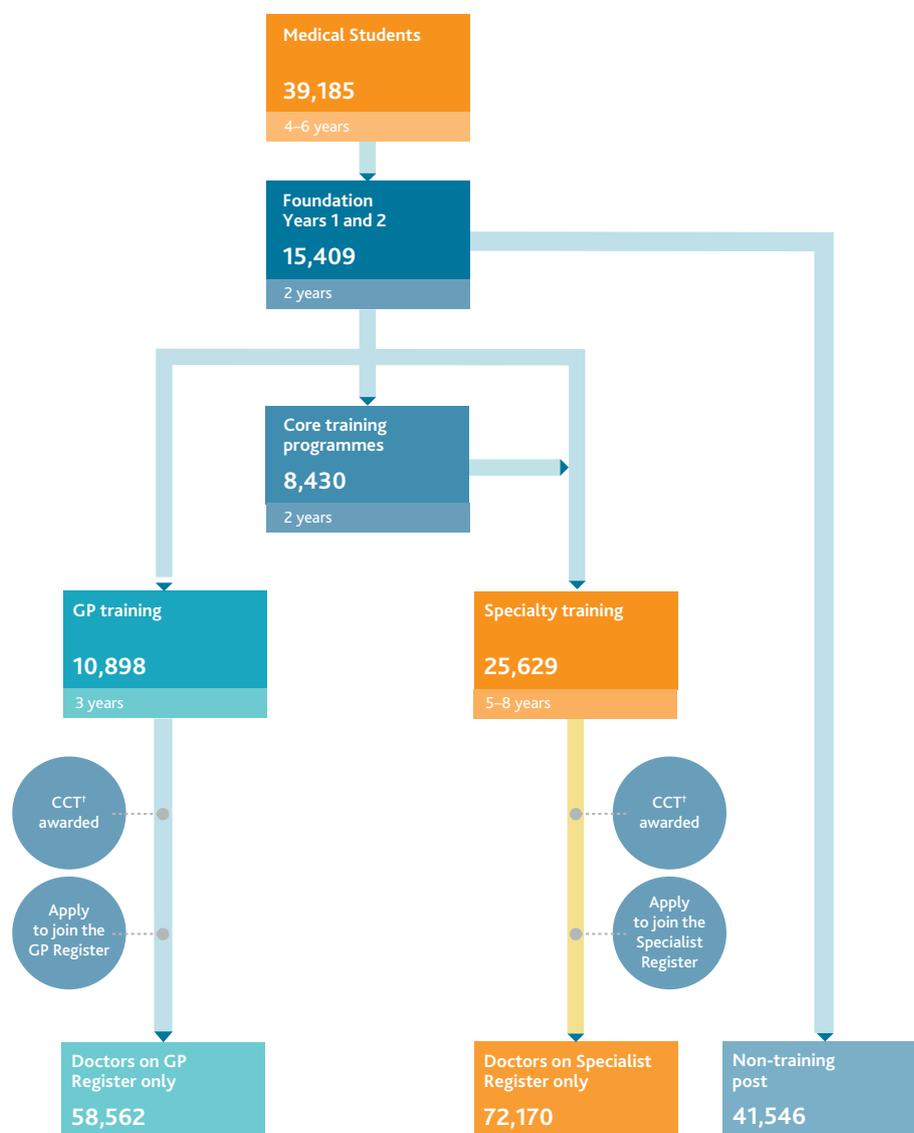
- The GMC has changed the way it records data on ethnicity of doctors in training, enabling more sources of information to be used. This has reduced the number of times ethnicity is not recorded by a quarter. Over a third of UK graduate doctors in training identify as black and minority ethnic (BME).
- The number of doctors in training with a declared disability has increased to 1.93% in 2017 from 0.58% in 2012. This increase could be partly down to the fact that doctors now have more opportunities to provide this information.
- Specialties vary considerably in size. For example there are only 29 doctors in training for sexual and reproductive health in 2017 of which 27 are female. The next lowest number is in intensive care, with 192. The specialty with the highest number of doctors in training is medicine with 7,148.
- Psychiatry has the highest proportion of IMG doctors in training, but its reliance on them is reducing, dropping from 48% in 2012 to 31% in 2017.
- Female doctors continue to make up the majority of all doctors in training in 2017, at 58%, but the growth of female doctors in training under 30 years old continues to slow.
- Almost a third of surgeons in training are female, which is up from a quarter, but surgery has the lowest proportion of any specialty.
- Less than full-time training appears to be most popular in general practice, where more than a third of doctors in training choose it. Monitoring changes in participation of less than full-time training is complex, due to the numbers applying and the numbers approved.

Medical education and training

The pathway that most doctors follow is from medical school into two years of foundation training, with many doctors then going into GP training, specialty training or core training programmes, or they can practise as a doctor

without further training. This is illustrated in figure 19. Doctors who have studied or trained outside the UK may join this pathway at different points or join the register as a fully-qualified doctor.

Figure 19: Medical students and doctors at each stage of medical education in 2016*



* Not all medical students and doctors in training will continue to the next stage – they may pause their training, leave the profession or change their training programme. Doctors who are on both the Specialist and the GP Registers are not counted in this figure.

† Core training programmes include acute care common stem, broad based training, and other core training programmes.

‡ Certificates of Completion of Training (CCT).

Medical students

The number of undergraduate students in our UK medical schools has dropped by 5.4% since 2012. There were 39,185 medical students at UK universities in 2016 compared with 41,422 in 2012. This decrease is partly due to a planned reduction in medical school intakes in England since 2013.⁵⁷

The number of male students has fallen by 5.9% and the number of female students has fallen by 5.0% between 2012 and 2016.

However, the numbers of medical students are expected to rise from September 2018 with the announcement that 1,500 additional medical school places will be available per year in England.^{30, 58}

There are more female than male medical students

Medicine is still attracting a higher percentage of female students than male. Women make up 55% of UK medical students compared with men at 45% (see figure 20, page 62).

Medical students in the UK are increasingly diverse

The number of black and minority ethnic (BME) medical students continues to rise steadily (see figure 20, page 62). A quarter identify as Asian or Asian British, 3.3% identify as black or black British, 5% identify as mixed and 3% classed themselves as 'Other'. The number of students identifying as white has dropped from 63.1% in 2012 to 59.3% in 2016. The data collection method for medical students has not changed over that period so we believe these changes reflect the population of medical students.

Figure 20: Number and proportion of medical students by gender and by ethnicity, from 2012 to 2016

| | 2012 | % change | 2016 |
|------------------|----------------------------|--------------|----------------------------|
| | Number of medical students | | Number of medical students |
| TOTAL | 41,422 | -5.4% | 39,185 |
| Gender | | | |
| Male | 18,731 | -5.9% | 17,619 |
| Female | 22,691 | -5.0% | 21,566 |
| Ethnicity | | | |
| BME | 12,883 | 11.1% | 14,308 |
| White | 26,125 | -11.0% | 23,248 |
| Unknown | 2,414 | -32.5% | 1,629 |

Medical students in the UK are increasingly international

The number of students identifying as British decreased again in 2016 by 3%, with a total drop of 6.5% since 2012 (see figure 21, page 63).

In 2016 British students made up 87.9% of UK medical students compared with 88.9% in 2012. The number of European students rose

slightly from 2.6% in 2012 to 3.1% in 2016. Non-European nationality students make up 9% of the medical student population, which is a 6.6% increase from 2015 to 2016 but is similar to the proportion of non-European students in 2012.

Figure 21: Number and proportion of medical students by nationality from 2012 to 2016

| | 2012 | | % change | 2016 | |
|--------------|---------|----------------------------|--------------|---------|----------------------------|
| | % total | Number of medical students | | % total | Number of medical students |
| TOTAL | 100% | 41,422 | -5.4% | 100% | 39,185 |
| UK | 88.9% | 36,836 | -6.5% | 87.9% | 34,453 |
| EEA* | 2.6% | 1,064 | 14.7% | 3.1% | 1,220 |
| IMG† | 8.5% | 3,522 | -0.3% | 9.0% | 3,512 |

Graduate entry students are more likely to be white and international‡

As many as 3,073 (8%) of those who entered medical school in 2016 had already completed a degree in another subject.

The ethnicity and nationality of these graduate entrants differ slightly from those on standard entry programmes. Almost three quarters (73%) of graduate entry students identify as white compared with 58% on standard entry programmes.

Graduate entry appears to be more appealing to international students than standard entry. 16.6% of graduate entrants are not UK nationals (made up of 4.9% European and 11.6% non-European) while 11.7% of standard entrants are international (3% European and 8.7% non-European). This is an important consideration for workforce planners when looking at ways to attract more people into the medical profession.

* EEA graduates are doctors who gained their primary medical qualification in the EEA, but outside the UK, and who are EEA nationals or have European Community rights to be treated as EEA nationals.

† IMGs are doctors who gained their primary medical qualification outside the UK, EEA and Switzerland, and who do not have European Community rights to work in the UK.

‡ Graduate entrants are students who enter medical school having already completed a degree in another subject.

Doctors in training

When we are reporting on doctors in training we are able to provide data up to 2017, as our data sources are more recent than for medical students where our data rely on submissions from medical schools.

For 2017 there are 60,810 doctors in training, which is a slight increase on the figure we reported in 2016 and an overall increase of 1.7% since 2012. By comparison over the same time period the UK population has expanded by 3.7%.

Doctors in training are more likely to be UK graduates, but are more diverse than the UK population as a whole

Doctors in training are increasingly likely to have gained their primary medical qualification in the UK. Overall the number of UK graduates in training has increased by 11.3% since 2012 (see figure 22, page 65). The number of graduates from the rest of the European Economic Area (EEA graduates) has remained stable since 2012. In 2016 we reported a reduction of international medical graduates (IMGs) in training, and this trend has continued with an overall drop of 39.6% from 2012 to 2017.

The proportion of UK graduate doctors in training who identify themselves as BME is 31% (of those with a known ethnicity), the same as 2012. In comparison with the latest census data for the

UK population in 2011, which showed that 14% of the population in England and Wales are BME, doctors in training are much more ethnically diverse than the UK population.

The slowdown in growth of female doctors in training continues

In our 2016 report we highlighted an overall increase in the proportion of female doctors in training. That trend has continued with female doctors making up 58% of all doctors in training in 2017, up from 57% in 2015.

We also previously described how the historical growth in the number of female doctors in training might be starting to slow. This trend has continued, with a 9% overall reduction in the number of female doctors in training under 30 years old between 2012 and 2017; over the same period male doctors in training of the same age increased by 8%.

The possible reasons for this change are complex, as it may be that more female doctors in training are taking career breaks, and will take longer to complete their training. Tracking the register over a longer period of time will allow us to monitor the extent to which the gender balance is levelling.

Figure 22: Place of primary medical qualification (PMQ), age, gender and ethnicity of doctors in training, from 2012 to 2017

| | 2012 | | 2017 |
|-----------------------------------------------------|-------------------------------|-------------|-------------------------------|
| | Number of doctors in training | % change | Number of doctors in training |
| TOTAL | 59,797 | 1.7% | 60,810 |
| Place of primary medical qualification (PMQ) | | | |
| EEA | 2,242 | 4.1% | 2,334 |
| IMG | 10,939 | -39.6% | 6,608 |
| UK | 46,616 | 11.3% | 51,868 |
| Age group | | | |
| 20-29 | 23,949 | -3.0% | 23,233 |
| 30-39 | 31,437 | 4.6% | 32,877 |
| 40-49 | 4,145 | 6.4% | 4,410 |
| >=50 | 266 | 9.0% | 290 |
| Gender | | | |
| Female | 33,039 | 6.1% | 35,048 |
| Male | 26,758 | -3.7% | 25,762 |
| Ethnicity | | | |
| White | 31,391 | 13.9% | 35,745 |
| BME | 20,752 | 1.7% | 21,114 |
| Not recorded | 7,654 | -48.4% | 3,951 |

Doctors in training aged between 30 and 39 years grew the most

Despite this slowdown, there has been an overall 6% increase in the number of female doctors in training from 2012 to 2017, and a decrease in the total number of male doctors in training.

Compared to 2016, in 2017 there has been an increase of 4% in the number of doctors in training aged between 30 and 39 years. This indicates that doctors in training are taking longer to complete their training, and this may be due to taking career breaks.

Box 3: Changes in the recording of the ethnicity of doctors in training

More doctors in training are disclosing their ethnicity to the GMC. The number of doctors in training whose ethnicity was not recorded reduced by a quarter from 5,279 in 2016 to 3,951 in 2017.

The mechanism for reporting these 'protected characteristics' changed in 2017. In previous years, this was only captured through a question in the national training surveys so those not completing the survey were listed as unknown. In 2017, doctors in training have been able to update their demographic data

when they provide or update their registration details. This means we have more sources to monitor protected characteristics, providing greater accuracy.

As a result, the total number of doctors identifying their ethnicity has increased from 2016 to 2017 in all ethnicities captured: by 2% in doctors identifying as white (59% of all doctors in training); by 14% in doctors identifying as black or black British (4% of all doctors in training); by 3% in doctors identifying as Asian or Asian British (24% of all doctors in training); and by 13% of doctors who identified as 'Other' (3% of all doctors in training).*

Doctors in training with a disability

The number of doctors in training with a declared disability has increased in 2017 to 1.9%, rising from 0.6% in 2012. This increase could be partly down to the fact that doctors now have more

opportunities to provide this information, making our data more accurate. In 2012, 16.1% of doctors in training provided no information as to whether they have a disability compared with 2017's figure of 9.2%.

* In previous years we reported a decrease in the number of Asian doctors in training. It is likely that this is still the case in 2017's data but is being masked by the increased number of doctors deciding to disclose their ethnicity to the GMC. Those doctors were likely always present in the 'Not recorded' category of past editions of *The state of medical education and practice in the UK*.

Training programmes

Changing numbers in training programmes

All doctors leaving UK medical schools need to complete foundation training, and this is reflected in it being the programme with the highest number of doctors at 15,133 (see figure 23, page 68). General practice is the next largest training programme, with 11,051 doctors, an increase of 8.8% since 2012.

Emergency medicine and intensive care medicine have both seen very large percentage increases in doctors in training between 2012 and 2017, though, as we reported in 2016, the increase for

emergency medicine is partly due to changes in the training programme. Radiology and public health have also seen noticeable increases.

Programmes that have experienced a drop in the proportion of doctors in training since 2012 include core training, pathology and psychiatry.

One specialty has very low numbers – there are only 29 doctors in training for sexual and reproductive health. The next lowest is intensive care, with 192.

Figure 23: Changes in the number of doctors in each training programme from 2012 to 2017

| | 2012 | | 2017 |
|---------------------------------------|-------------------|---------------|-------------------|
| | Number of doctors | % change | Number of doctors |
| TOTAL | 59,797 | 1.7% | 60,810 |
| Foundation | 15,041 | 0.6% | 15,133 |
| Core training | 8,805 | -8.1% | 8,089 |
| Anaesthetics | 2,928 | -6.1% | 2,750 |
| Emergency medicine | 664 | 116.6% | 1,438 |
| General practice | 10,157 | 8.8% | 11,051 |
| Intensive care medicine | 60 | 220.0% | 192 |
| Medicine | 6,857 | 4.2% | 7,148 |
| Obstetrics and gynaecology | 2,349 | -7.8% | 2,166 |
| Ophthalmology | 694 | -1.0% | 687 |
| Paediatrics and child health | 3,688 | 2.6% | 3,783 |
| Pathology | 808 | -8.4% | 740 |
| Psychiatry | 1,460 | -8.8% | 1,331 |
| Public health | 253 | 7.1% | 271 |
| Radiology | 1,535 | 13.7% | 1,745 |
| Sexual and reproductive health | 14 | 107.1% | 29 |
| Surgery | 4,484 | -5.1% | 4,257 |

Psychiatry still has the highest proportion of international doctors in training

The specialty with the highest proportion of IMG doctors in training is psychiatry, though this has dropped from 48% in 2012 to 31% in 2017.

Public health has the highest number of UK graduates at 95%, followed by intensive care medicine (92%) and anaesthetics (89%). Sexual and reproductive health also has a very high proportion of UK graduates but, as noted previously, the total number for this specialty is extremely small (29 doctors in 2017).

The proportion of surgeons in training that are female has risen sharply but remains the lowest

Most foundation doctors in training are UK graduates (96%) with a higher proportion of women (56% compared with 44% of men).

The proportion of female doctors training in surgery has increased between 2012 and 2017 from 24% to 32% but it remains the training programme with the lowest proportion of women (see figure 24, page 70).

The training programmes with the highest proportions of female doctors are obstetrics and gynaecology (81%), paediatrics and child health (77%) and public health (73%). Sexual and reproductive health also has a high proportion of female doctors in training.

* Full data on this is found in the reference tables available at www.gmc-uk.org/somep2017

Figure 24: Gender of doctors in each training programme from 2012 to 2017

| Training programme | Female | | | Male | | |
|-------------------------------------|------------------------------------|----------|------------------------------------|------------------------------------|----------|------------------------------------|
| | Number of doctors in training 2012 | % change | Number of doctors in training 2017 | Number of doctors in training 2012 | % change | Number of doctors in training 2017 |
| Foundation | 9,006 | -5% | 8,517 | 6,035 | 10% | 6,616 |
| Core elements of specialty training | 4,622 | -8% | 4,258 | 4,183 | -8% | 3,831 |
| General practice | 6,581 | 15% | 7,592 | 3,576 | -3% | 3,459 |
| Medicine | 3,307 | 14% | 3,770 | 3,550 | -5% | 3,378 |
| Surgery | 1,086 | 24% | 1,351 | 3,398 | -14% | 2,906 |
| Paediatrics and child health | 2,575 | 13% | 2,912 | 1,113 | -22% | 871 |
| Anaesthetics | 1,372 | 2% | 1,398 | 1,556 | -13% | 1,352 |
| Obstetrics and gynaecology | 1,775 | -1% | 1,752 | 574 | -28% | 414 |
| Radiology | 690 | 22% | 843 | 845 | 7% | 902 |
| Psychiatry | 757 | 8% | 820 | 703 | -27% | 511 |
| All other programmes | 1,268 | 45% | 1,835 | 1,225 | 24% | 1,522 |

Less than full-time training

Less than full-time training is increasing, despite a reported decrease between 2016 and 2017

In 2017 the number of doctors who reported training less than full-time has fallen by 11% since 2016 (see figure 25). This is potentially due to changes in the question used to survey doctors in training and analysis of future data collection will allow us to understand this step change better. Similarly, this change may have caused an increased reported number (23%) of doctors in training whose status is unknown between 2016 and 2017.

Less than full-time training is most popular in paediatrics and child health, and least popular in surgery

Within the paediatrics and child health training programme, 20% of those doctors reported being less than full-time; in general practice 17%

did so. The training programme with the lowest proportion of less than full-time working was surgery, which had only 4% (see figure 26, page 72).

Male and female doctors aged 30 to 39 years were more likely to be training less than full-time

15% of female doctors reported that they trained on a less than full-time basis, compared with 2% of males. Unsurprisingly, both female and male doctors aged between 30 and 39 years were more likely to be training on a less than full-time basis, probably due to childcare and other life commitments.*

Figure 25: Reported working patterns of doctors in training each year, from 2012 to 2017

| Working pattern | Number of doctors in training | | | | | | | 2016 to 2017 % change | 2012 to 2017 % change |
|---------------------|-------------------------------|--------|--------|--------|--------|--------|------|-----------------------|-----------------------|
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | | | |
| Full-time | 47,175 | 47,879 | 47,061 | 46,915 | 47,516 | 47,122 | -1% | 0% | |
| Unknown | 8,532 | 7,679 | 6,409 | 6,818 | 6,543 | 8,047 | 23% | -6% | |
| Less than full-time | 4,090 | 4,797 | 6,006 | 6,202 | 6,307 | 5,641 | -11% | 38% | |

* A full breakdown of data about doctors in training who were in less than full-time training between 2012 and 2017 is available in the reference tables at www.gmc-uk/somep2017

Figure 26: Reported working patterns for the ten largest training programmes from 2012 to 2017

| PROGRAMME SPECIALTY GROUP | 2012 | 2017 |
|---------------------------|-------------------------------|-------------------------------|
| Working pattern | Number of doctors in training | Number of doctors in training |

| PROGRAMME SPECIALTY GROUP | 2012 | 2017 |
|---------------------------|-------------------------------|-------------------------------|
| Working pattern | Number of doctors in training | Number of doctors in training |

| FOUNDATION | | |
|---------------------|--------|--------|
| Full-time | 14,014 | 14,320 |
| Unknown | 745 | 593 |
| Less than full-time | 282 | 220 |

| CORE ELEMENTS OF SPECIALTY TRAINING | | |
|-------------------------------------|-------|-------|
| Full-time | 7,546 | 7,135 |
| Unknown | 880 | 542 |
| Less than full-time | 379 | 412 |

| GENERAL PRACTICE | | |
|---------------------|-------|-------|
| Full-time | 7,788 | 7,760 |
| Unknown | 1,335 | 1,368 |
| Less than full-time | 1,034 | 1,923 |

| MEDICINE | | |
|---------------------|-------|-------|
| Full-time | 4,251 | 4,470 |
| Unknown | 2,009 | 1,988 |
| Less than full-time | 597 | 690 |

| SURGERY | | |
|---------------------|-------|-------|
| Full-time | 3,342 | 3,296 |
| Unknown | 956 | 800 |
| Less than full-time | 186 | 161 |

| PAEDIATRICS AND CHILD HEALTH | | |
|------------------------------|-------|-------|
| Full-time | 2,430 | 2,334 |
| Unknown | 717 | 698 |
| Less than full-time | 541 | 751 |

| ANAESTHETICS | | |
|---------------------|-------|-------|
| Full-time | 2,089 | 1,965 |
| Unknown | 569 | 383 |
| Less than full-time | 270 | 402 |

| OBSTETRICS AND GYNAECOLOGY | | |
|----------------------------|-------|-------|
| Full-time | 1,684 | 1,311 |
| Unknown | 441 | 519 |
| Less than full-time | 224 | 336 |

| RADIOLOGY | | |
|---------------------|-------|-------|
| Full-time | 1,179 | 1,303 |
| Unknown | 197 | 228 |
| Less than full-time | 159 | 214 |

| PSYCHIATRY | | |
|---------------------|-------|-----|
| Full-time | 1,047 | 882 |
| Unknown | 227 | 233 |
| Less than full-time | 186 | 216 |

| ALL OTHER TRAINING PROGRAMMES | | |
|-------------------------------|-------|-------|
| Full-time | 1,805 | 2,346 |
| Unknown | 456 | 695 |
| Less than full-time | 232 | 316 |