

The state of medical education  
and practice in the UK

# **The workforce report**

**2022**



General  
Medical  
Council

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Published by:

General Medical Council

Regent's Place

350 Euston Road

London NW1 3JN

Telephone: 0161 923 6602

Website: [gmc-uk.org](http://gmc-uk.org)

Published October 2022

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# Foreword

As the NHS faces the most challenging years in its history, our workforce report gives a clear warning of what lies ahead if the system does not act now to make the most of a changing medical workforce.

The data, gathered for *The state of medical education and practice in the UK* study we publish each year, reveal significant imbalances in the profession. But with that comes a real opportunity to make positive changes that will meet patients' needs, enable more doctors to fulfil their potential, and keep highly skilled doctors in our health services for longer.

The research paints a stark picture. While the number of doctors joining the workforce overall has grown by around 17% over the last five years, that growth is not consistent. It varies considerably between different groups of doctors, leaving a shortfall in primary care that puts at risk patients' ability to access GP services.

The number of specialty and associate specialist (SAS) and locally employed (LE) doctors on the GMC register has increased at six times the rate of GPs, largely driven by doctors coming from overseas. If the trend continues, by 2030 SAS and LE doctors in secondary care will form the largest group in the medical workforce.

SAS and LE doctors are a valuable asset: we are fortunate to have access to their knowledge and expertise. But the system does not always make the most of their talents. Supporting the varied career aspirations of SAS doctors, either by enabling them to progress further within their chosen specialties or by offering opportunities in different areas of the healthcare system, will be crucial to a sustainable medical workforce.

Many SAS doctors tell us they want better working environments, more support with career development and progression, and more flexibility in positions available to them – but instead, too many of them encounter barriers that hinder their development. Furthermore, rules actively prevent these doctors from working in areas like primary care, where we see the most significant workforce challenges.

We must make the most of the incredible pool of ability at our disposal in SAS and LE doctors. One way to start immediately would be for the government to change the Performers List criteria, to allow more doctors to work in general practice.

Lifting the barriers that prevent SAS doctors from working alongside GPs in complementary primary care roles would expand SAS doctors' career options and provide new opportunities for those who want them. Importantly, it would also give GPs much-needed support, allowing them to focus on the areas of practice where their particular skills and specialist expertise are most in demand, to the benefit of health services, doctors and patients.

Significantly, our data also show a dramatic increase in international medical graduates (IMGs) practising in the UK. While the recent expansion in UK medical school places and postgraduate training is welcome, it is far outstripped by the growth in registrants from overseas: UK graduates joining the workforce rose by 2% from 2017, compared to a 121% rise in IMGs.

Our health services could not function without IMGs, but this reliance puts healthcare systems in a precarious position. Not only is the flow of IMGs into the workforce unpredictable, but our data also show that IMGs leave the UK workforce at a higher rate.

As a regulator, the GMC does everything within its power to maintain the flow of IMGs who help to keep health services afloat: over 10,000 joined the UK medical register last year alone. But employers must step up and look more closely at the reasons IMGs – and other doctors – are leaving UK practice.

Our research published in 2021, *Completing the picture*, shows that poor working environments have been a key factor in driving doctors away. Burnout, stress, lack of flexible working arrangements and poor organisational and team cultures were cited repeatedly by doctors across all groups as reasons for leaving the profession. The message is clear: we must address these issues urgently if we are to retain the doctors required to meet patients' needs.

The solutions to these problems are within our grasp if the wider healthcare system – from training bodies to employers, and legislators to regulators – works together. Health services must make sure doctors, irrespective of background or identity, have the supportive workplaces they need. And doctors new to UK practice must get the high quality and consistent induction that they deserve if they are to be as productive as they can be and provide the best possible patient care.

For our part, we will continue to build equality and inclusion into our guidance, provide a supportive welcome for IMGs registering to practise in the UK, and set ambitious targets for fairer fitness to practise referrals and eliminate attainment gaps.

But we are only one part of a wider system. And every organisation in that system must take urgent action to improve the cultures and environments in which it expects doctors to work. Employers must also provide more structured support for their growing numbers of IMG doctors as they adjust to life and work in the UK, and to the complexities of our healthcare system.

Our health services would be mistaken to look at inclusion from a purely ethical viewpoint. Of course, it is the right thing to do, but we must recognise that it is also – like stress management and wellbeing – a crucial factor in productivity and workforce retention. By making it a priority, we can encourage much-needed doctors to remain in UK healthcare and make the most of their potential.

If we do not take tangible action to make support, inclusivity and fairness the norm, we will be doing a disservice not only to the doctors who want to work here, but also to the patients in need of their care.

We are lucky to have a diverse and growing workforce of highly skilled, talented and experienced doctors. It is only by nurturing and valuing that workforce that we will keep it.



*Charlie Massey*  
**Charlie Massey**  
Chief Executive



*Carrie MacEwen*  
**Professor Dame Carrie MacEwen**  
Chair

# The changing medical workforce

## Introduction

This report analyses workforce trends in our medical register to provide a data resource for policymakers and workforce planners. Across all four UK nations, there is an increased focus on the steps needed to ensure health services have the capacity to meet patients' needs, now and into the future. This report contributes to the efforts led by the UK governments and healthcare organisations across the UK to secure the future workforce that health services need. The most important messages from our data on this topic are:

- The UK medical workforce headcount is growing, with large increases in international medical graduates (IMGs) whose primary medical qualification (PMQ) is from outside the UK and European Economic Area (EEA).
- The number of IMGs has increased by 40% in the last five years at a time when the number of UK graduates in the workforce increased by 10%
- Of the doctors who joined the workforce in 2021, half (50%) were IMGs and 39% were UK graduates.
- The workforce will grow by a third by 2030 compared to 2021 if current trends continue. However, if the rate of IMGs joining goes back to pre-2017 levels, there will be 23,000 fewer doctors in 2030. This highlights the importance of IMGs to the UK workforce.
- There are differences in growth between the four countries of the UK workforces – England and Wales have a higher proportion of IMGs who are growing more quickly than Northern Ireland and Scotland.
- The growth in IMGs has driven a shift in the composition of the workforce in terms of register types. In particular, specialty and associate specialist (SAS)\* and locally employed (LE)† doctors have grown at almost six times the rate of general practitioners (GPs) in the last five years and a little under four times the rate of specialists. If the trends from the last five years continue, by 2030 SAS and LE doctors will have become the UK workforce's largest group on the register.

\* The National Health Service (NHS) defines SAS doctors as specialty doctors and specialist grade doctors with at least four years of postgraduate training, two of which are in a specialty relevant to their area of work. Source: [www.healthcareers.nhs.uk/explore-roles/doctors/career-opportunities-doctors/sas-doctors/sas-doctors](http://www.healthcareers.nhs.uk/explore-roles/doctors/career-opportunities-doctors/sas-doctors/sas-doctors)

† LE doctors are not in training and do not appear on the GP or specialist registers. They are employed by a trust/provider, often on a short-term contract. They work in a wide variety of specialties and settings. Some may be known as trust grade, trust doctor, or staff grade, among other titles.

- In addition to the relatively low growth in the number of licensed doctors on the GP register, there has been a reduction in the proportion of GPs working full time.<sup>1</sup> We also know that over half of GPs (54%) reported working beyond their rostered hours and feeling unable to cope with their workload, which was the largest proportion of all register groups.<sup>2</sup> While the increased numbers of doctors in GP training – especially IMGs – is encouraging, greater efforts must be made to make general practice attractive for doctors. In addition, expanding those able to work in primary care should be part of the solution, with changes to the Performers List, and the creation of a SAS grade in primary care a key innovation to consider. Improving the primary care career options for physician associates may also yield sizeable immediate benefits.
- Although the number of SAS and LE doctors is growing, this group has, on average, left the workforce after a shorter period of service than any other register group, with many having joined on fixed-term arrangements who always intended to move on after a limited time. Over half (53%) of those who began work as a SAS or LE doctor in 2013 had left by 2021, compared to 9% for GPs. Among specialists, obstetrics and gynaecology had the highest rate of leaving, at 20%.
- The workforce is increasingly female and is moving closer to parity with males. More of the UK graduates joining are female and more of those leaving the workforce are male – especially those at retirement ages. This is largely being counterbalanced by the large increases in IMGs joining, more of whom are male.
- However, the female proportion of the workforce varies by country and specialty. For example, 53% of Scotland's workforce is female compared to 46% of Wales'. Obstetrics and gynaecology is 60% female, whereas surgery is 15%.

The data in this report are published in greater detail in the SoMEP reference tables that provide data on the UK register, doctors working within each UK country, doctors in training, trainers, and fitness to practise. This section expands on the most significant trends and patterns, which are summarised in the bullet points above. The chapters that follow provide more detail on the supporting data.



## The number of licensed doctors is growing

### Growth is increasingly driven by international doctors

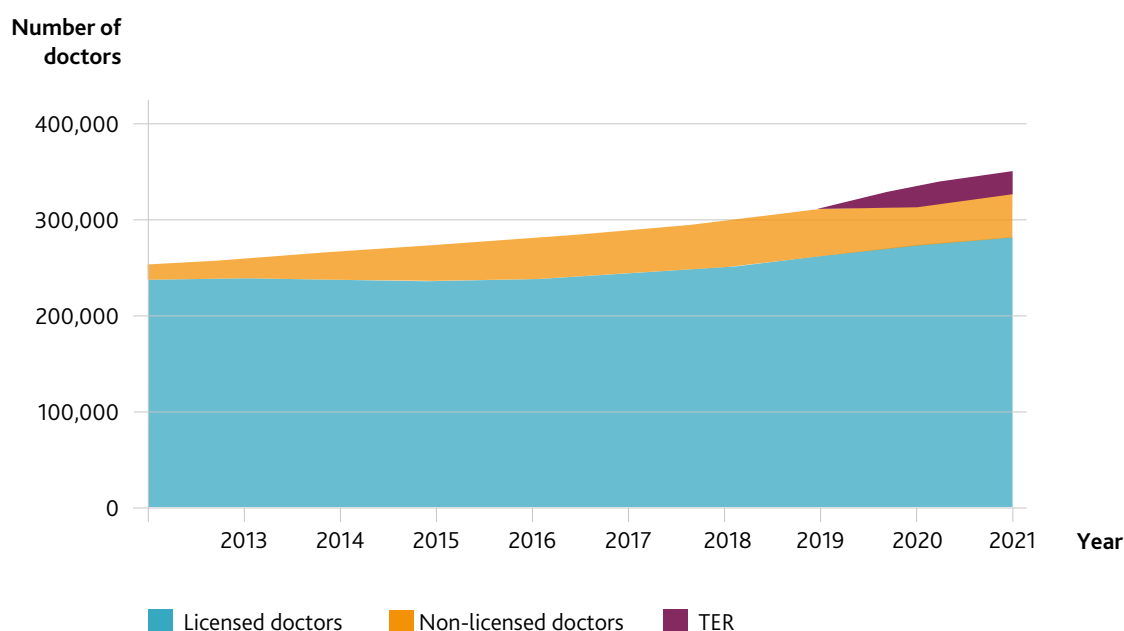
Figure 1 shows the medical workforce growth in terms of headcount. Between 2017 and 2021 the number of licensed doctors grew by 17% from 242,642 to 283,663. Although Figure 1 also shows doctors that are registered without holding a licence (non-licensed), we focus on the number of doctors holding a licence. Licensed doctors have the right to practise medicine in the UK and so represent the doctors that are potentially available to contribute to the UK's clinical workforce. Our data do not represent the workforce in full-time equivalent terms.

The growth of licensed doctors is driven by a large increase in international medical graduates (IMGs) joining the workforce from outside the

UK and European Economic Area (EEA). Doctors from this group now outnumber UK graduate joiners. Although IMGs joining the workforce is not new, there has been a strong increase since 2017 (Figure 2).

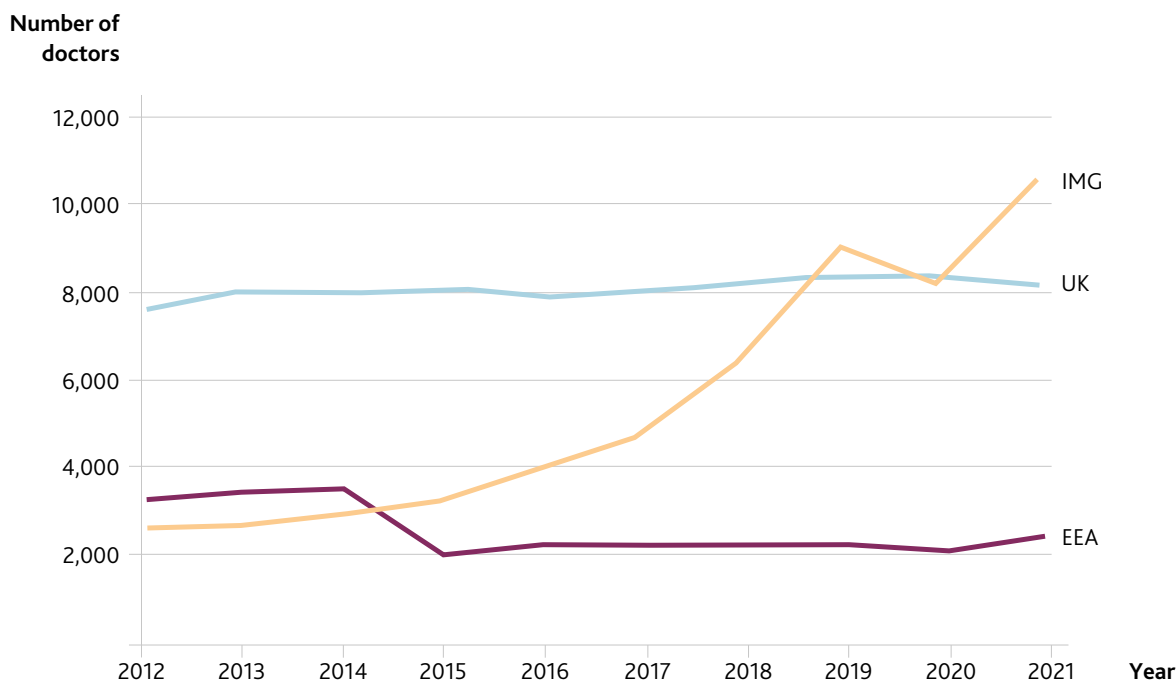
IMGs join the workforce through a variety of routes under different circumstances – for example there are a high proportion of IMGs who will be in the UK for only a few years while having fixed-term visas. Research shows many factors drive the flow of doctors into the UK.<sup>3</sup> The flow from individual countries can vary from year to year due to changes in their domestic situations. Because of these changes in the numbers coming from any single country, future supply from specific countries cannot be relied on.

**Figure 1: Licensed, non-licensed, and temporary emergency registration (TER)\* doctors, 2012 to 2021**



\* Temporary emergency registration (TER) relates to doctors granted registration under our emergency powers during the pandemic. This group is described further in Box 1 of the report.

Figure 2: Doctors joining the workforce by PMQ region per year



### The number of SAS and LE doctors has grown dramatically in the last five years

Although overall the medical workforce is growing, it is important to recognise the variation across the register groups – trainees, GPs, specialists, SAS and LE doctors. Our data reveal striking differences such as:

- growth in GPs over the last five years is at 7%, significantly lower than the overall growth in licensed doctors of 17%
- specialists have grown at 11%, but with wide variation across the different specialties
- the SAS and LE doctors group has grown by 40%.

As the demand to deliver more care has increased, and with numbers in training tightly controlled, employers have created more opportunities for SAS and LE doctors’ recruitment to which IMGs have made a welcome and valued contribution. We can expect this trend to continue.

### Workforce growth differs by UK country

England and Wales had the largest increases in licensed doctors between 2017 and 2021, while Northern Ireland and Scotland had slower growth (Figure 4). This is a result of the unique joining and leaving rates in each UK country. One difference has been that IMG joiners tend to work in England or Wales rather than Scotland or Northern Ireland.

## The diversity of the workforce is increasing

### There is an increasing number of doctors from minority ethnic groups

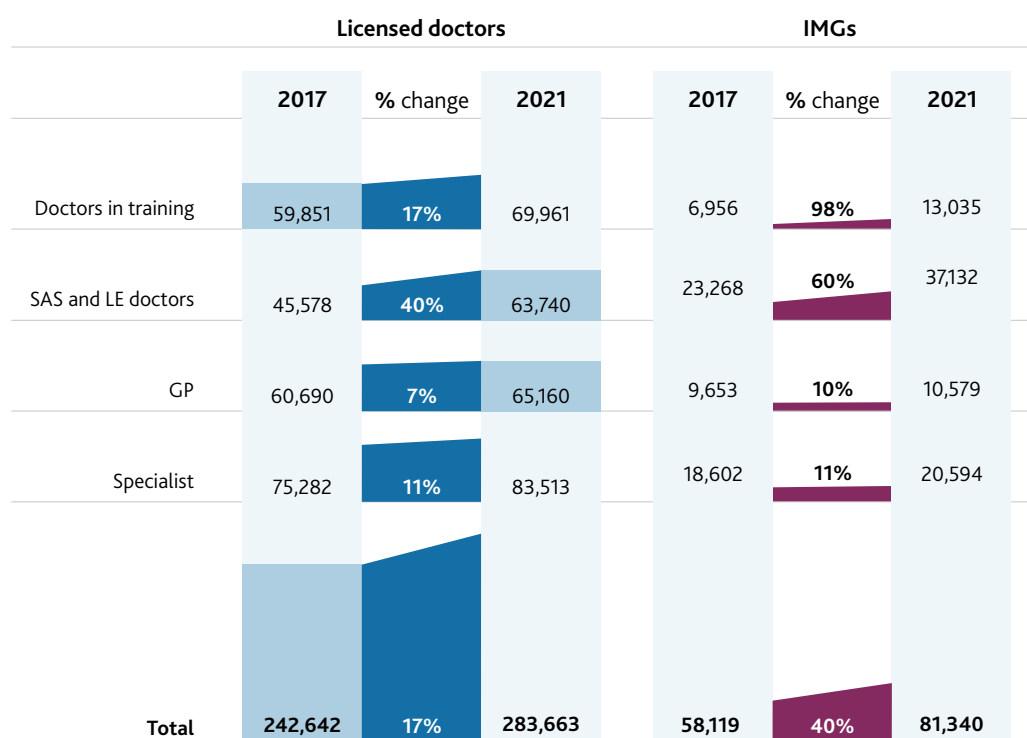
The increase in IMG doctors and the growing diversity of UK medical school graduates is leading to a higher proportion of doctors who are from minority ethnic groups. They already make up over two fifths (42%) of all licensed doctors and account for almost two thirds (64%) of new joiners.

A large increase in those joining the workforce from outside Europe, primarily from south Asia, the Middle East and Africa, is driving the increasing proportion of IMG and ethnic minority doctors. These three regions provided 84% (8,904) of all IMG joiners in 2021.

However, the ethnic diversity of the medical profession as a whole is not matched by diversity at senior leadership levels.<sup>4</sup> In addition, there are well-documented inequalities faced by ethnic minority doctors in the UK that need to be tackled.<sup>5</sup> We know that many ethnic minority doctors working as SAS and LE doctors do not feel their workplace is as supportive as it could be. We are also aware that about one in five SAS (22%) and LE (20%) doctors feel they are not provided with personal and professional development opportunities to advance their careers.<sup>6</sup>

It is self-evident that addressing these inequalities and ensuring that all doctors have equal access to opportunities are an essential part of securing the workforce the UK needs.

Figure 3: Workforce size in 2017 and 2021 by register type and for IMGs



**Figure 4: Number of licensed doctors located in each UK country, 2017 to 2021**

	2017	2018	2019	2020	2021	2017–2021
England	199,480	206,101	213,835	222,762	231,745	+16%
Northern Ireland	6,350	6,408	6,501	6,832	6,965	+10%
Scotland	20,635	20,890	21,317	21,993	22,491	+9%
Wales	10,105	10,315	10,632	11,046	11,615	+15%
Other*	6,072	6,497	8,035	9,624	10,847	+79%
<b>All licensed doctors</b>	<b>242,642</b>	<b>250,211</b>	<b>260,320</b>	<b>272,257</b>	<b>283,663</b>	<b>+17%</b>

\* includes doctors located overseas and those who could not be located, which are described in Chapter 1, Box 1 (see page 20).

## Progress continues toward equal proportions of males and females in the workforce, but there are differences between UK countries and certain areas of practice

The workforce is becoming increasingly female, driven mainly by UK-qualified doctors. Women account for almost two thirds (64%) of the 2021/2022 medical student intake and half (50%) of joiners to the workforce in 2021, while a higher percentage of those leaving are male, especially among older generations.

Geographic areas in the UK where more IMG doctors (most of whom are male) work, tend to have lower proportions of female doctors. England and Wales have more IMG doctors and a lower proportion of female doctors than Scotland and Northern Ireland. The balance also varies between specialties, notably in surgery where just 15% are female.

## Doctors leaving UK practice

Whatever steps are taken to increase the amount of new doctors, retention of the workforce is critical to maintaining numbers. With increasingly high levels of burnout, and growing numbers of doctors stating an intention to leave, it is important to track leaving rates.

The numbers of doctors leaving the UK workforce<sup>†</sup> have been relatively constant since 2015 – this number reduced in 2020, as doctors who would otherwise have retired stayed on to support the pandemic effort. Since mid-2021, we have seen a marked increase in those leaving UK practice – at the time of writing this report, this increase broadly balances out the pandemic-related dip, so it is not yet possible to say whether these increases are related or are a new trend of higher leaving rates.

Ideally, the proportion of those leaving to retire would be substantially greater than those looking to practise abroad, with doctors leaving after long and fulfilling careers in the UK workforce. In the *Completing the picture* report<sup>7</sup>

<sup>†</sup> From our data about doctors that choose voluntary erasure or to relinquish their licence (VE/RL).

we showed that doctors' reasons for leaving UK practice are varied and complex. Following that report, we adapted how we collect information on doctors' reasons for leaving when they opt to voluntarily erase themselves from the register or relinquish their licence. Our data show that practising abroad is a far more common reason than retirement among IMGs, with many citing new career opportunities and this could tie to the need for more inclusive and supportive working environments for doctors of all backgrounds.

## Looking ahead to 2030

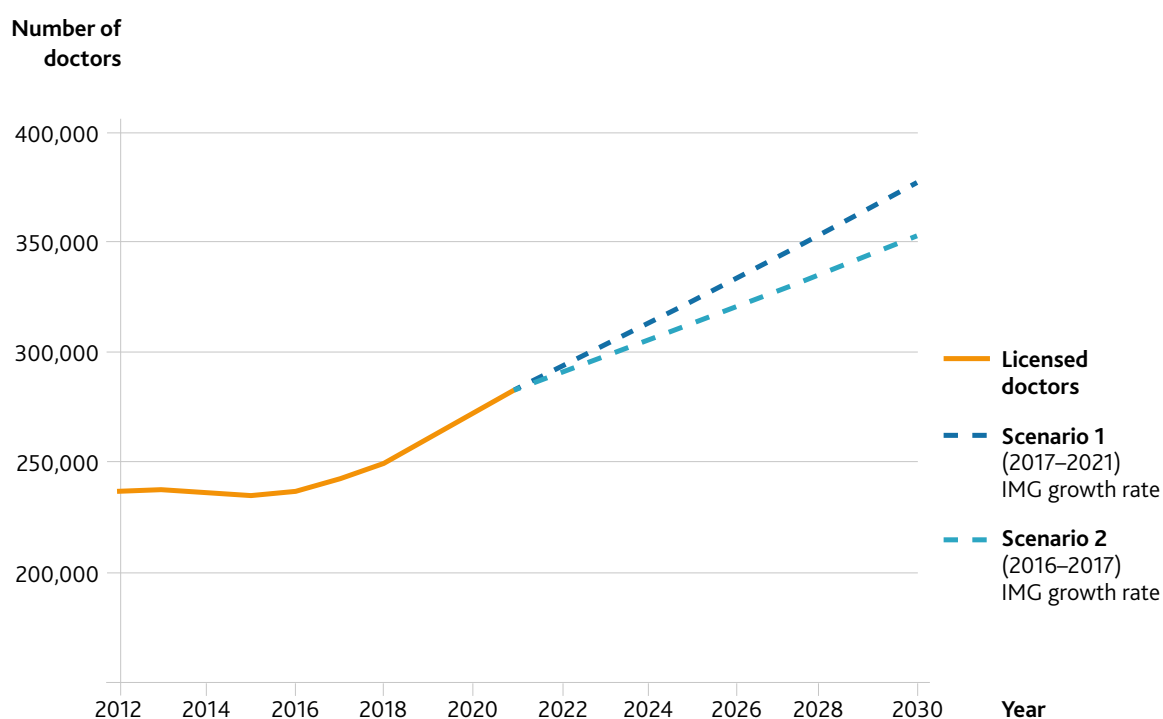
We do not undertake projections or forecasts of future workforce needs or supply. We can, however, draw out some forward-looking scenarios to illustrate the potential impacts of the trends described in this report.

## The workforce is set to grow but the rate of growth will increasingly rely on new IMGs joining

Under a scenario where trends from the last five years continue, the workforce would expand by a third (33%) by 2030 compared to 2021 – at around 3% per year (scenario 1 in Figure 5).

While the rate of UK graduates joining the workforce increased by 2% from 2017 to 2021, IMGs joining the workforce increased by 121%. In 2017, UK graduates made up just over half (53%) of doctors joining the workforce, with IMGs accounting for almost a third (32%). In 2030, if the current rates of joining remained the same, UK graduates would make up just over a quarter (26%) and IMGs over two thirds (67%) of those joining the workforce. Please note, this does not account for the increased numbers of doctors in the UK pipeline, which we cover in the next section.

Figure 5: Licensed doctors 2012 to 2021 with scenarios of different IMG growth



Should trends from the last five years continue, the overall IMG workforce would expand by 64% by 2030 compared to 2021 levels, which is an increase of 51,842 IMG doctors (scenario 1 in Figure 5). However, if IMG joiner rates reduced back to 2016 and 2017 levels, and all else remained equal, there would be a smaller addition of 28,996 IMGs by 2030 (scenario 2 in Figure 5).

How the workforce grows over the coming decade will depend predominantly on how many IMG doctors join the UK workforce. The recent expansion in medical school places and numbers in UK postgraduate training will also play a part, but this growth has been smaller in comparison and is likely to remain so.

The UK is well placed within the world market for doctors, having many 'pull' factors that give us a competitive advantage, such as the English language and the reputation of our medical training and general standards of professionalism.<sup>8</sup> Despite this, the high rates of IMG doctors leaving UK practice compared to UK graduates may also impact on the growth and sustainability of the workforce in the future. While many join on fixed-term arrangements, returning to another country after a short period as planned, there is a risk of the UK depending on the continuation of high rates of IMGs joining. There are also IMGs leaving earlier than they had envisioned when joining and it is very important to understand the reasons for this. There must be equal opportunities for development and progression of the predominantly minority ethnic IMG doctors within the UK.

## The expansion in UK medical school places will lead to more UK graduates entering the workforce

While the number of UK graduates joining the workforce has been fairly steady over the last five years (Figure 2), there has been a recent increase in the number of students taking up places at UK medical schools, from below 8,000 in the 2017/2018 cohort to around 10,500 in the 2020/2021 (10,461) and 2021/2022 (10,543) cohorts.<sup>9</sup> This is partly explained by the introduction of a graduate entry medicine course in Scotland<sup>10</sup> and an adjustment to the cap on medical school places in England in 2021<sup>11</sup> – as well as over-recruitment during the pandemic. It means there should, therefore, be future growth in UK graduates entering the workforce in the years to come.

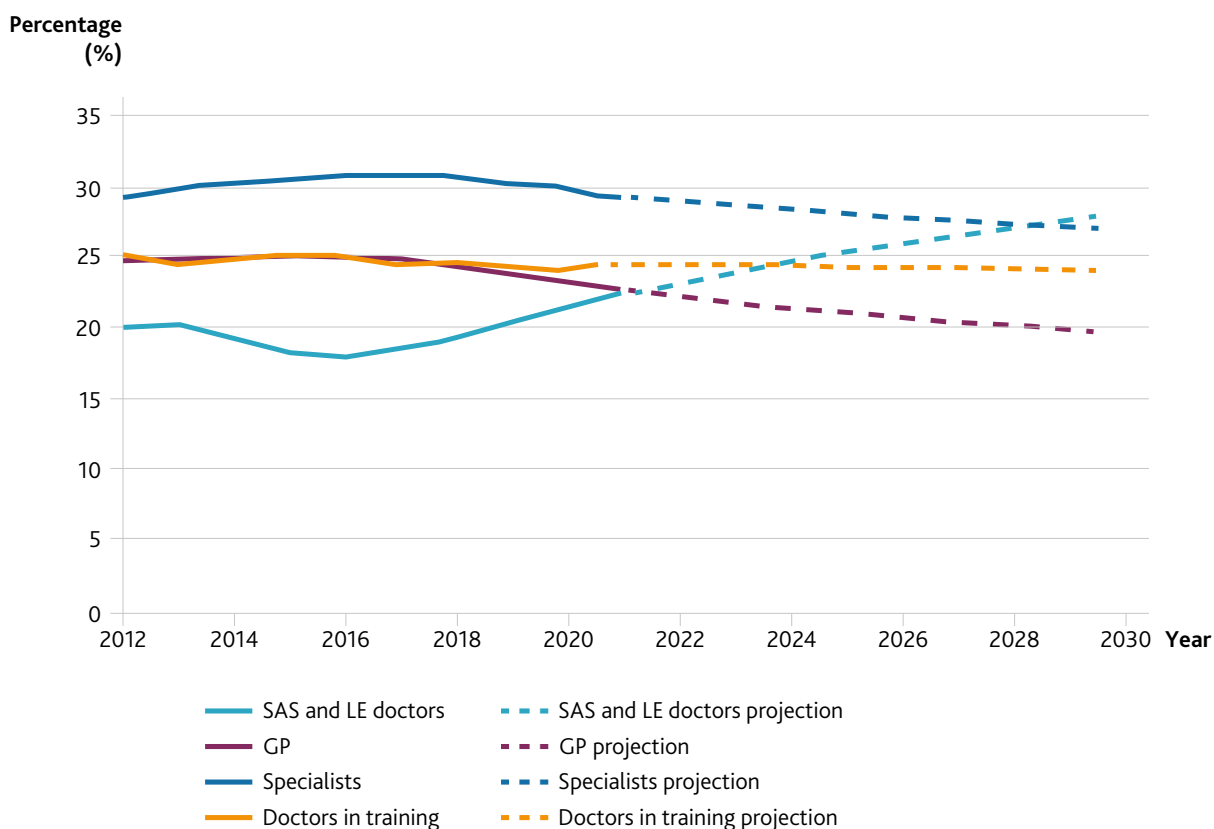
It is worth noting that the expected increases in the annual number of UK graduates joining the workforce will most likely still be less than the future numbers of IMG joiners. The global demand for doctors exceeds supply and the UK is competing with many other nations for IMGs. There could be less resilience in the UK workforce if the high numbers of IMGs joining cannot be maintained.

## The rapid growth of SAS and LE doctors further emphasises the importance of supporting their personal and professional development

If the last five years' increases in SAS and LE doctors continued until 2030, the SAS and LE doctor workforce would expand by two thirds (66%). This would mean 41,775 more SAS and LE doctors in 2030 than in 2021. Should the trends in other register groups also continue, SAS and LE doctors would then account for 28% of the overall workforce compared to 22% in 2021, becoming the largest register group (Figure 6).

While many SAS and LE doctors are satisfied in their role, a significant proportion told us in a recent survey that they face challenges in their working lives that could impact the length of time they work here or restrict their development – limiting the contribution they're able to make.<sup>12</sup> The issues raised included difficulties in continuous professional development (CPD) as well as unsupportive work environments with bullying and undermining cited. Because of the large growth of the SAS and LE doctors group, it will become even more important that these challenges are addressed and there should be opportunities to better support entry to formal education and training programmes or to other non-clinical roles like education, research, management and leadership.

**Figure 6: Workforce proportions by register group, 2012 to 2021, and a 2030 scenario where the trends from the last five years continue**



More broadly, ensuring all workplaces are supportive and inclusive is essential not only because it is the right thing to do ethically but also because it will encourage SAS and LE doctors to continue to work in the UK, developing skills and experience and making a greater contribution to the UK's workforces.

It may be beneficial to re-think the way that doctors contribute to patient care. For example, we could rebalance how clinical care is provided to maximise the potential of multidisciplinary teams, including medical associate professions and others. As the regulator of medical education, we are actively involved in conversations about how training pathways can be made more accessible and how progression routes could evolve beyond the traditional path to consultant or general practice. Legislative change is coming that will provide us with more flexibility and autonomy in designing less intensive ways of recognising SAS doctors' skills, enabling them to join the GP or specialist registers.

### **The slow growth of the GP workforce means the roles and responsibilities of primary care teams must evolve**

The GP workforce has been the slowest growing register group over the last ten years with a small decline in the proportion working full time since 2016.<sup>1</sup> General practice has had the lowest proportion of doctors report feeling satisfied in their work and the greatest proportion at high risk of burnout, with high workloads a persistent issue.<sup>2</sup>

Greater efforts must be made to address these issues and there could be solutions to workload issues in re-thinking the roles and

responsibilities of primary care teams. For example, reviewing the Performers List and considering the contribution of the SAS grade in primary care could enhance the GP workforce. There is also scope for considering how primary care career options for physician associates could be developed.

### **The recent high rates of doctors leaving the workforce could be problematic if they continue and there may be specific groups where retention could be improved**

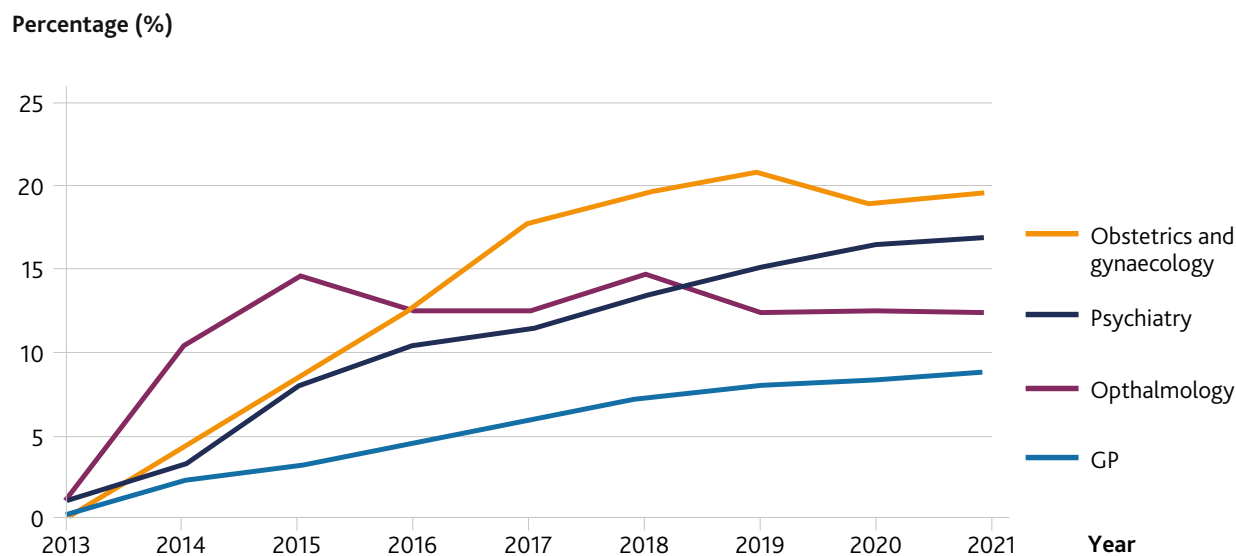
Workforce planners should consider recent rates of leaving and to what extent these are likely to continue. The data are striking. In a scenario where the leaving rate continues to run 20% higher than the monthly averages for 2017 to 2019 – as it has in the six-month period from November 2021 to April 2022 – there would be 16,138 fewer doctors by 2030. It should be noted that this six-month period is very short. The picture presented here is purely a scenario to consider.

Of the SAS and LE doctors who took up a licence to practise in 2013, over half (53%) had left the workforce by 2021. The high rate for SAS and LE doctors is partly linked to the relatively high proportion of IMGs in these areas of practice who may have come to the UK for a fixed period of time, so their exit does not necessarily reflect poorly on the quality of the work environment or career prospects. However, we know that some leave the UK workforce earlier than hoped due to such issues.<sup>3, 8</sup>

It is less likely that specialists and GPs work under fixed-term arrangements, hence the proportion of these leaving by 2021 who had attained their CCT in 2013 is lower than the



**Figure 7: Proportion of doctors who attained a CCT in 2013 and no longer held a licence in each subsequent year**



SAS and LE doctors who joined in 2013. Of specialists, a fifth (20%) of obstetrics and gynaecology doctors had left in 2021 after gaining their CCT in 2013. Psychiatry was second highest at 17% and ophthalmology third at 13%. GP was lower, with 9% who gained their CCT in 2013 having left by 2021.

### The changing workforce further emphasises the importance of inclusive, compassionate and supportive environments

There has been steady growth in the number of licensed doctors since 2016, with some variation among UK countries and areas of practice. Of the pathways to the UK workforce, the number of IMGs has grown the fastest and they now account for half (50%) of new joiners. Even

when the recently increased intakes to UK medical schools graduate, the supply of IMGs will remain the largest contributor.

The increase in IMG joiners, in combination with changes among UK graduates, is leading to a more diverse workforce not only in terms of demographics but also in the grades new joiners fill – with the proportion in SAS and LE grades growing very quickly. There is an opportunity for re-evaluating how multidisciplinary teams with more SAS and LE doctors can work together most effectively and essential to this are the workplace agendas to create more inclusive, compassionate and supportive environments. Working toward this will encourage SAS and LE doctors to develop skills and experience, and stay in the profession for longer – to the benefit of the UK's healthcare systems.

# An information resource

Alongside this report, we publish a range of data and information resources which underpin many of the analyses and findings that follow. This includes a set of reference tables, and GMC Data Explorer.

## Reference tables

The five areas these data cover are:

- 1 Who is on the medical register? Who is on the temporary emergency register (TER)?
- 2 How does the make-up of the register differ by country and region?

- 3 Who are doctors in training and what are their training programmes?
- 4 Who are trainers?
- 5 Fitness to practise data.

You can find the reference tables on our website: [www.gmc-uk.org/somep](http://www.gmc-uk.org/somep)

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## GMC Data Explorer

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## Accessing our data through GMC Data Explorer

GMC Data Explorer is an interactive data sharing tool which allows external users to access our registration, revalidation, fitness to practise and education data directly.

It provides access to data on:

- the number of UK graduate doctors, which can be broken down by the body that awarded their primary medical qualification (PMQ), or by the doctor's register type, eg specialist register or GP register

- the current location of registered doctors, where they graduated from and their deanery or local education providers
- education
- the number of doctors with open cases and active sanctions at each designated body
- what allegations are made about doctors over time.

You can find GMC Data Explorer here:

<https://data.gmc-uk.org/gmcdata/home/#/>



# An overview of the workforce

## Chapter 1 overview

- The UK medical workforce is growing, with England and Wales growing more quickly than Scotland and Northern Ireland. This mainly relates to the rapidly increasing number of international medical graduates (IMGs) joining the workforce who have historically made up a greater proportion of the England and Wales workforces.
- Each group on the medical register increased in size since 2017 but specialty and associate specialist (SAS) and locally employed (LE) doctors had the strongest growth by far. The GP register group had the lowest growth at a time when full-time equivalent (FTE) ratios are reducing and workload pressures are especially severe.
- The increase in IMGs joining is also a factor in the workforce becoming more ethnically diverse.
- The workforce has almost equal proportions of males and females, though there are differences between the UK countries and in different areas of practice.
- The broadly stable number of doctors leaving the workforce each year has returned to the pre-pandemic level.
- Most UK medical graduates remain in the country where they graduated with the exception of Wales where almost half relocate to England due to greater availability of foundation posts.
- The proportion of doctors who remain in the workforce after completion of second year of foundation training (F2) is high at a UK level, though Northern Ireland and Scotland have lower rates.
- Most doctors remain in the UK workforce after gaining a Certificate of Completion of Training (CCT) and joining the GP or specialist registers.

## Introduction

In *The state of medical education and practice in the UK 2021* report, we reported on the widely recognised ongoing pressures on the medical profession.<sup>2</sup> The UK's healthcare systems have experienced acute staffing crises due to both the COVID-19 pandemic and longstanding demands on the workforce. Since the protection of patient safety is fundamentally linked to the provision of a sustainable medical workforce, there has been a renewed focus since the start of the pandemic to deliver comprehensive and transparent workforce planning. Each of the four UK nations are developing their workforce strategies,<sup>13, 14, 15, 16</sup> all of which aim to develop inclusive, sustainable and responsive workforces that are accessible to the public.

In this report, we provide analysed data to inform workforce planning across the UK. We present an overview of the medical registers at end-of-year snapshots between 2012 and 2021 and show the changes by broad register groups and by UK country. We cover the changing demographic profile of doctors who work in the UK and the various ways they join the profession. We analysed the flow of doctors into the workforce from UK undergraduate training as well as those undertaking postgraduate specialty training. Finally, we share an in-depth analysis of doctors leaving the profession to complete the view of the UK's medical workforce.

The UK medical register provides robust data on topics such as the numbers of doctors joining and leaving the workforce, their working location, and their protected characteristics. While the data we collect do not include the hours doctors work, since 2012 the health

systems across the UK have consistently reported headcount to full-time equivalent ratios in secondary care of over 0.9<sup>17, 18, 19, 20</sup> and around 0.8 for primary care.<sup>21, 22, 23</sup> In primary care in England there's been slight downward trend from 0.83 in 2015 to 0.79 in 2021, which is a 5% decrease. The decrease in Scotland, from 2013 to 2019, was smaller – falling by 2% from 0.83 to 0.82. The trends we report here on the overall size and make-up of licensed doctors on our register will apply in broad terms to the full-time equivalent of doctors working in the UK.

In this chapter we present the overall numbers of registered and licensed doctors and changes between 2012 and 2021, drawing on the UK<sup>24</sup> and country<sup>25</sup> reference tables. This includes information about the number of doctors with temporary emergency registration (TER) status, which was introduced as part of our response to the pandemic.\*

\* In 2021, we started contacting TER-status doctors to provide them with information about their options for holding registration or a licence to practise in the future. Currently, these options include keeping their TER, asking us to remove it, or applying to restore their full registration and licence to practise through the normal application process.

In April 2022 we started to remove TER from those who weren't using it, having first notified them. On 1 June 2022, there were 10,436 doctors still holding TER.

We analyse how different areas of practice are growing at different rates and then show the changing demographic profile of licensed doctors.

## The total number of doctors in the UK

### Doctors joining the workforce consistently outnumber those leaving

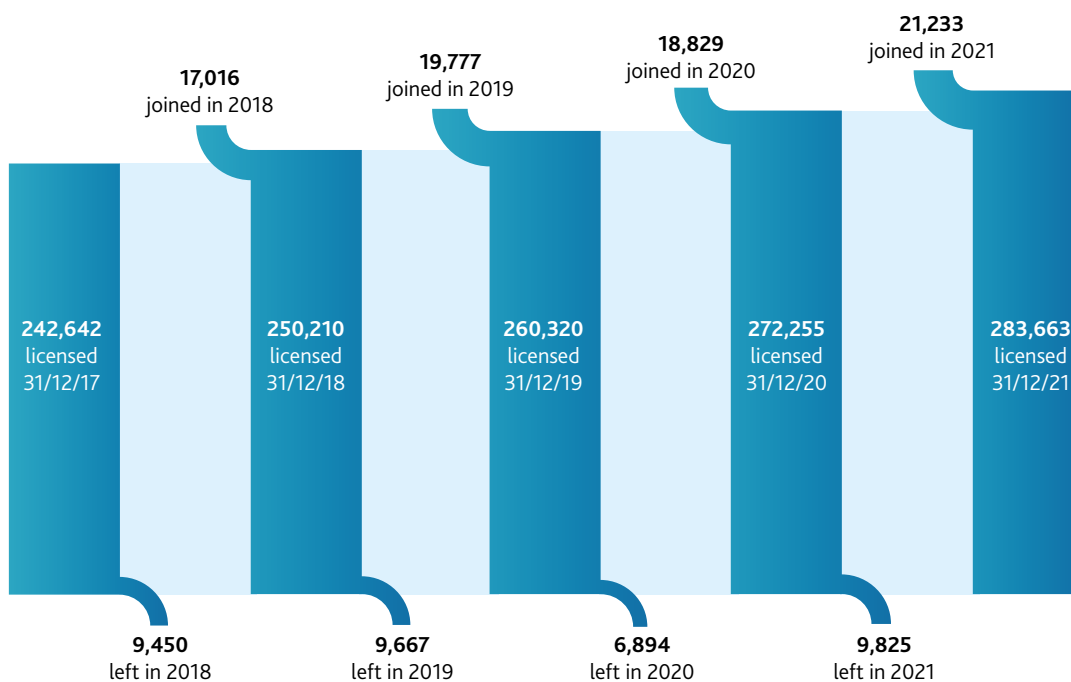
From 2020 to 2021 the number of licensed doctors in the UK grew by over 11,000 from 272,255 to 283,663. Figure 1 (see page 7) shows how this was the continuation of a steady increase since 2015. Figure 1 also includes the number of doctors who were granted TER status.

Figure 8 shows that the increase in the number of doctors over time is the net effect of both increased numbers joining and a broadly stable number leaving. In 2021, just over 7% of all licensed doctors gained their licence to practise within the previous 12 months. Although the overall trend from 2016 onward is relatively stable, the pandemic reduced the numbers joining and leaving in 2020.

### The England and Wales workforces are growing more quickly than Northern Ireland and Scotland

In 2021, 283,663 doctors on the medical register had a licence to practise in the UK. Of these, 82% were in England, 8% in Scotland, 4% in Wales and 2% were in Northern Ireland. 4% of doctors could not be located to one of the four UK countries. In Figure 9, the doctors who could not be located are listed as 'Other', and described further in Box 1.

Figure 8: Numbers of licensed doctors, joiners and leavers, since 2017



**Figure 9: Number of licensed doctors in each UK country**

	2017	2018	2019	2020	2021	2017–2021
England	199,480	206,101	213,835	222,762	231,745	+16%
Northern Ireland	6,350	6,408	6,501	6,832	6,965	+10%
Scotland	20,635	20,890	21,317	21,993	22,491	+9%
Wales	10,105	10,315	10,632	11,046	11,615	+15%
Other*	6,072	6,497	8,035	9,624	10,847	+79%
<b>Total</b>	<b>242,642</b>	<b>250,211</b>	<b>260,320</b>	<b>272,257</b>	<b>283,663</b>	<b>+17%</b>

\* Includes doctors located overseas and those that could not be located, which are described in Box 1.

### Box 1: Doctors who could not be located

We identify a doctor's main work location using a variety of sources, including NHS contract data, National Training Surveys (NTS) responses and designated bodies. However, there are a number of doctors with a licence to practise who we are unable to locate to an area of the UK. This group is primarily made up of IMGs.

When applying for a licence to practise in the UK, many IMGs do so from the country where they completed their primary medical

qualification (PMQ) and have yet to arrive in the UK when their licence is granted. Therefore, location data are sometimes not immediately available for this group.

The increase in the number of doctors who could not be located in 2021 is due to the increased number of IMGs joining the register. This group accounted for 50% of joiners in the past year, almost half (42%) of whom could not be located.

## The number of doctors joining the workforce differs by UK country

A total of 21,233 doctors joined the UK workforce in 2021. All four countries saw an increase in doctors joining each year between 2017 and 2021 though Northern Ireland and Scotland's workforces grew at slower rates than England and Wales (Figure 10).

Between 2017 and 2021 the UK saw a 41% increase in doctors joining the workforce. Over a quarter (26%) of doctors joining the workforce in 2021 couldn't be located to one of the four UK countries in the same year in which they joined.<sup>†</sup>

<sup>†</sup> Some doctors' employment start date or connection to a designated body begin after they gain a licence, so data on their contract, designated body, training, or registered address are not initially available.

Figure 10: Number of doctors joining in each UK country

	2017	2018	2019	2020	2021	2017–2021
England	11,253	12,470	13,530	12,265	13,433	+19%
Northern Ireland	312	350	362	315	334	+7%
Scotland	1,085	1,104	1,225	1,153	1,261	+16%
Wales	594	615	669	612	707	+19%
Other*	1,860	2,479	3,991	4,484	5,498	+196%
<b>Total</b>	<b>15,104</b>	<b>17,018</b>	<b>19,777</b>	<b>18,829</b>	<b>21,233</b>	<b>+41%</b>

\* Includes doctors located overseas and those that could not be located, which are described in Box 1.

## The number of doctors leaving each year has returned to the consistent pre-pandemic level

The total number of doctors leaving the UK workforce increased between 2020 and 2021, following a dip in leavers in 2020 due to the COVID-19 pandemic (Figure 11). The number of doctors leaving the workforce in 2021 (9,825) was broadly the same as the numbers leaving before the pandemic between 2017 to 2019 (9,450 to 9,701).

Of the doctors leaving the UK workforce in 2021, 65% previously held a licence to practise in England, 7% in Scotland, 3% in Wales and 2% in Northern Ireland. Between 2017 and 2021, the only country that had an overall increase in the number of doctors leaving the workforce was Wales (3%), though the year-on-year numbers show considerable fluctuation in this timeframe.

Figure 11: Number of doctors leaving in each UK country

	2017	2018	2019	2020	2021	2017–2021
England	6,705	6,525	6,784	4,741	6,341	-5%
Northern Ireland	222	211	186	120	194	-13%
Scotland	720	731	722	475	651	-10%
Wales	300	347	335	224	309	+3%
Other*	1,754	1,636	1,640	1,334	2,330	+33%
<b>Total</b>	<b>9,701</b>	<b>9,450</b>	<b>9,667</b>	<b>6,894</b>	<b>9,825</b>	<b>+1%</b>

\* Includes doctors located overseas and those that could not be located, which are described in Box 1.

## Differences in the number of doctors by register type

The size of every register group (excluding those on both the general practice (GP) and specialist registers) increased in 2021. The greatest growth was among specialty and associate specialist (SAS) and locally employed (LE) doctors with

an increase of 40% between 2017 and 2021. This is linked to an increase in the number of international medical graduates (IMGs) joining the workforce, as they tend to be employed as SAS and LE doctors when they first arrive in the UK (described in the Doctors joining the workforce section in chapter 2).

**Figure 12: Number of licensed doctors by register type**

	2017	2018	2019	2020	2021	2017–2021
GP	60,690	61,313	62,256	63,741	65,160	+7%
GP and specialist	1,241	1,241	1,249	1,295	1,289	+4%
Specialist	75,282	77,257	79,041	81,838	83,513	+11%
SAS and LE doctors	45,578	48,199	53,432	58,760	63,740	+40%
Doctors in training	59,851	62,200	64,342	66,621	69,961	+17%
<b>Total</b>	<b>242,642</b>	<b>250,211</b>	<b>260,320</b>	<b>272,257</b>	<b>283,663</b>	<b>+17%</b>

## Doctors joining and leaving each register group

The number of doctors joining the GP register has increased by 12% over the last five years, which is largely due to the higher number of IMG doctors becoming GPs. In contrast there has been a fall in the number of IMG doctors joining the specialist register. This

has outweighed the increase of UK doctors becoming specialists, resulting in an overall reduction of -2% in the specialist workforce.

The total number of doctors leaving the UK workforce from 2017 (9,701) to 2021 (9,825) grew by only 1% – this is far smaller than the 17% growth in licensed doctors over the same period.



Figure 13: Number of doctors leaving by register type

		2017	2018	2019	2020	2021	2017–2021
Joining the GP register	UK	2,415	2,288	2,372	2,267	2,270	-6%
	EEA	180	164	174	195	187	+4%
	IMG	345	321	448	519	828	+140%
	<b>Sub total</b>	<b>2,940</b>	<b>2,773</b>	<b>2,994</b>	<b>2,981</b>	<b>3,285</b>	<b>+12%</b>
Joining the specialist register	UK	2,462	2,605	2,669	2,799	2,910	+18%
	EEA	1,062	947	1,022	851	638	-40%
	IMG	1,048	1,011	1,004	976	929	-11%
	<b>Sub total</b>	<b>4,572</b>	<b>4,563</b>	<b>4,695</b>	<b>4,626</b>	<b>4,477</b>	<b>-2%</b>
<b>Specialist and GP total</b>		<b>7,512</b>	<b>7,336</b>	<b>7,689</b>	<b>7,607</b>	<b>7,762</b>	<b>+3%</b>

Figure 14: Number of doctors leaving by register type

	2017	2018	2019	2020	2021	2017–2021
GP	2,209	2,207	2,097	1,550	1,938	-12%
GP and specialist	63	66	62	40	78	+24%
Specialist	2,857	2,778	2,985	1,987	2,919	+2%
Doctors in training	695	618	590	291	448	-36%
SAS and LE doctors	3,877	3,781	3,933	3,026	4,442	+15%
<b>Total</b>	<b>9,701</b>	<b>9,450</b>	<b>9,667</b>	<b>6,894</b>	<b>9,825</b>	<b>+1%</b>

The number of doctors who left the UK workforce between 2017 and 2021 varied by register type (Figure 14). Of the larger register groups, SAS and LE doctors had the highest increase in the number leaving (+15%). This is likely to be linked to the growth of the total number of SAS and LE doctors during that time (+40% – see Figure 12) and the fact that many will have joined under fixed-term arrangements.

The number of GPs and postgraduate trainees who left fell by 12% and 36% respectively.

Following the dip in doctors leaving the UK workforce in 2020 due to the COVID-19 pandemic, the total number of doctors leaving increased between 2020 and 2021 to roughly the same level as 2019 with the exception of SAS and LE doctors. SAS and LE doctors was the

only group with more leavers after the pandemic than in the three years preceding it (2017 to 2019) – this again is likely to be connected to the overall growth of this group. It may also relate to doctors on fixed-term arrangements (which is more common among SAS and LE doctors than other groups) being unable to leave on the date originally planned due to travel restrictions during the pandemic.

### Differences by specialty group

There were 84,802 licensed doctors on the specialist register in 2021 (Figure 15). The largest specialty, medicine, accounted for more than a quarter (27%) of all specialists followed by surgery which had just under a fifth (18%).

Between 2017 and 2021, the fastest growing specialty was emergency medicine, which Figure 15 shows grew by 26%, followed by paediatrics (16%), medicine (14%), and radiology (14%). Several smaller specialty groups reduced in size, such as occupational medicine (-9%) and public health (-5%). The other specialty or multiple specialty group also reduced in size (-3%).

Medicine, the largest specialty group, saw a 1% increase in the number of doctors joining between 2017 and 2021 (Figure 16). The number of doctors joining surgery fell substantially (23%) in the same period. Emergency medicine had the highest growth in joiners between 2017 and 2021, with a 40% increase in doctors joining this specialty.

**Figure 15: Number of licensed doctors on the specialist register**

	2017	2018	2019	2020	2021	2017–2021
Medicine	19,807	20,483	21,157	22,015	22,625	+14%
Emergency medicine	2,175	2,300	2,413	2,581	2,737	+26%
Anaesthetics and intensive care medicine	10,236	10,420	10,586	10,897	11,125	+9%
Obstetrics and gynaecology	3,904	4,005	4,131	4,323	4,429	+13%
Occupational medicine	583	569	565	547	528	-9%
Ophthalmology	2,270	2,359	2,378	2,451	2,446	+8%
Paediatrics	5,699	5,925	6,146	6,422	6,586	+16%
Pathology	2,976	3,014	3,041	3,073	3,104	+4%
Psychiatry	8,123	8,203	8,269	8,432	8,516	+5%
Public health	1,063	1,053	1,016	1,033	1,014	-5%
Radiology	5,795	5,976	6,153	6,406	6,584	+14%
Surgery	13,731	14,030	14,273	14,791	14,952	+9%
Other specialty or multiple specialty groups	161	161	162	162	156	-3%
<b>Total</b>	<b>76,523</b>	<b>78,498</b>	<b>80,290</b>	<b>83,133</b>	<b>84,802</b>	<b>+11%</b>

**Figure 16: Number of doctors joining specialist register by specialty group**

	2017	2018	2019	2020	2021	2017–2021
Medicine	1,214	1,263	1,339	1,274	1,226	+1%
Emergency medicine	163	153	182	209	229	+40%
Anaesthetics and intensive care medicine	548	517	539	545	581	+6%
Obstetrics and gynaecology	255	266	269	294	254	0%
Occupational medicine	18	16	22	10	15	-17%
Ophthalmology	161	173	156	156	135	-16%
Paediatrics	402	433	446	388	380	-5%
Pathology	131	134	125	112	115	-12%
Psychiatry	322	381	375	353	361	+12%
Public health	43	44	26	34	38	-12%
Radiology	353	351	367	398	400	+13%
Surgery	950	827	836	846	734	-23%
Other specialty or multiple specialty groups	7	6	8	3	5	-29%
<b>Total</b>	<b>4,567</b>	<b>4,564</b>	<b>4,690</b>	<b>4,622</b>	<b>4,473</b>	<b>-2%</b>

Overall, 3% more specialists left the workforce in 2021 compared to 2017. As shown in Figure 17, emergency medicine had the highest increase in doctors leaving (22%) but this is linked to its relatively fast growth compared to other specialties (described in Figure 15 and Figure 16). The proportion of emergency medicine doctors leaving each year was between 2% and 3% from 2017 to 2021, which was below the 3% to 5% observed across all doctors.

The greatest reductions in leavers between 2017 and 2021 were in public health (-21%), obstetrics and gynaecology (-20%), and pathology (-15%). For comparison, GPs saw a 12% reduction in leavers between 2017 and 2021 (see Figure 14 for all register groups).

Figure 17: Number of doctors leaving by specialty group

	2017	2018	2019	2020	2021	2017–2021
Medicine	642	639	671	475	662	+3%
Emergency medicine	64	40	72	48	78	+22%
Anaesthetics and intensive care medicine	348	363	388	277	385	+11%
Obstetrics and gynaecology	209	184	154	111	168	-20%
Occupational medicine	30	33	28	31	36	+20%
Ophthalmology	112	102	137	88	134	+20%
Paediatrics	217	220	253	141	226	+4%
Pathology	123	111	123	83	105	-15%
Psychiatry	327	325	341	228	324	-1%
Public health	81	66	65	26	64	-21%
Radiology	191	199	213	150	217	+14%
Surgery	563	555	595	363	586	+4%
Other specialty or multiple specialty groups	13	7	7	6	12	-8%
<b>Total</b>	<b>2,920</b>	<b>2,844</b>	<b>3,047</b>	<b>2,027</b>	<b>2,997</b>	<b>+3%</b>

## The changing demographics of the workforce

The number of licensed IMG doctors in the workforce has grown rapidly, from 58,222 in 2017 to 81,457 in 2021, representing a 40% increase (Figure 18). Because of the pandemic, the number of IMG joiners reduced in 2021. However, this was balanced out by fewer IMG doctors leaving, therefore the number of licensed IMGs continued to rise.

Partly driven by the increase in IMG doctors, the overall make-up of the workforce is increasingly

ethnically diverse. For example, the number of Black or Black British doctors increased by 67% between 2017 and 2021.

The gender balance of the workforce continued its long-term trend toward gender parity. In 2021, there were very similar proportions of both male joiners (49.6%) and female joiners (50.4%). However, this high-level trend varies by specialty type and masks differences in the gender balance depending on where the doctors qualified, which is explored further in Box 2.

Figure 18: Number of licensed doctors by age group, gender, PMQ region, and ethnicity

		2017	2018	2019	2020	2021	2017–2021
<b>Age</b>	20–29	37,388	38,251	40,093	41,218	42,647	+14%
	30–39	76,505	79,356	83,536	88,383	93,863	+23%
	40–49	63,742	65,941	68,033	70,675	72,820	+14%
	50–59	45,620	46,287	47,241	48,731	50,087	+10%
	60–69	16,329	16,997	17,835	19,369	20,244	+24%
	70 or more	3,058	3,379	3,582	3,881	4,002	+31%
<b>Gender</b>	Female	114,575	119,007	124,521	130,933	137,501	+20%
	Male	128,067	131,204	135,799	141,324	146,162	+14%
<b>PMQ region</b>	UK	162,634	165,946	169,541	174,612	178,173	+10%
	EEA	21,786	22,228	22,565	23,462	24,033	+10%
	IMG	58,222	62,037	68,214	74,183	81,457	+40%
<b>Ethnicity</b>	Asian or Asian British	63,533	66,985	71,387	76,447	82,319	+30%
	Black or Black British	9,739	10,976	12,767	14,275	16,222	+67%
	Mixed	5,722	6,076	6,512	7,038	7,501	+31%
	White	135,916	137,716	139,544	142,669	143,701	+6%
	Other	8,590	9,550	11,111	12,532	14,332	+67%
	Not recorded	19,142	18,908	18,999	19,296	19,588	+2%
<b>Total</b>		<b>242,642</b>	<b>250,211</b>	<b>260,320</b>	<b>272,257</b>	<b>283,663</b>	<b>+17%</b>

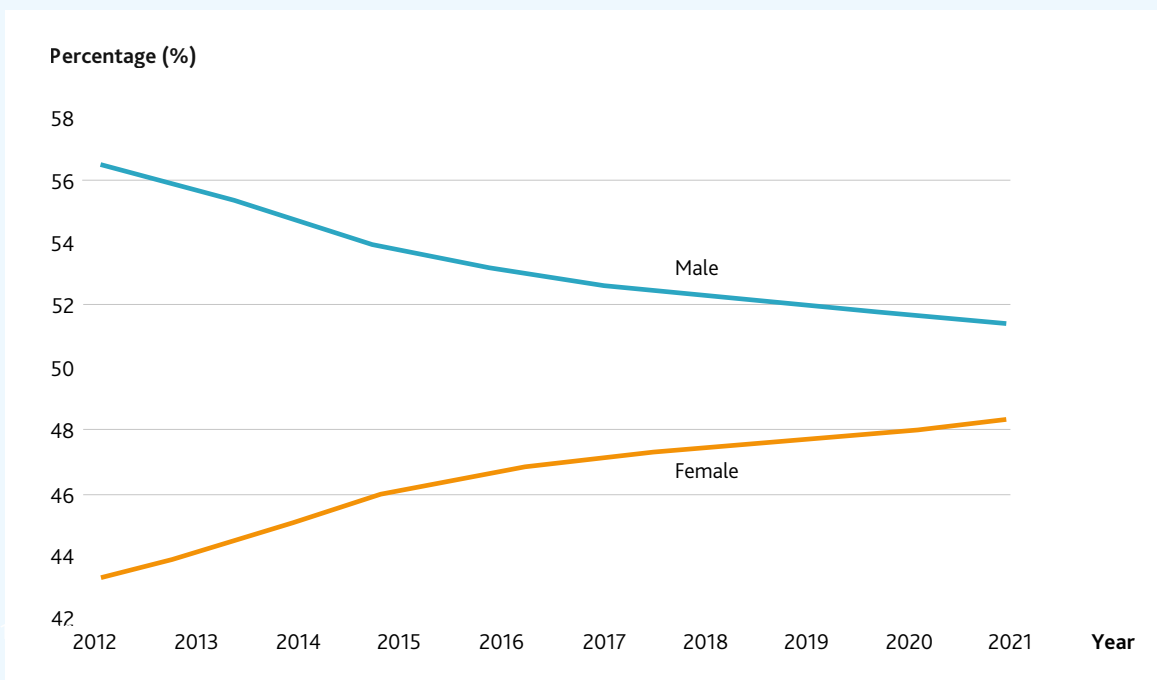
### Box 2: An increasingly female workforce

The gradual increase in the proportion of licensed doctors that are female has continued towards parity with male doctors but has slowed in recent years (Figure 19).

Between 2017 and 2021, there was a 20% increase in the number of female doctors holding a licence, and a 14% increase in male doctors (Figure 18). The proportion of female licensed doctors grew by 1.3 percentage points.

There’s currently an almost equal balance of females and males joining the workforce each year. In 2021, 50.4% of doctors joining the workforce were female. In the same period, a higher percentage of IMG doctors joining the workforce was male (55%) while the percentage of male UK graduate joiners was 43%.

Figure 19: Proportion of licensed doctors by gender, by year



The higher rate of female UK graduate joiners is set to continue. In the 2021/2022 academic year, 64% of the medical student intake was female.<sup>22</sup> The highest proportion of female medical student intake was seen in Northern Ireland (74%), followed by Scotland and Wales (65%), then England (63%).

The changing gender balance is also affected by the composition of those leaving the profession. Older generations of doctors,

more of whom are male, are more likely to be retiring. In 2021, 57.9% of doctors who left the workforce were male and 65.5% of leavers aged 50 or over were male.

The composition of areas of practice by gender varies, but all specialties had an increasingly female composition between 2012 and 2021. The highest proportion of female doctors was seen in obstetrics and gynaecology (60%), followed by paediatrics

Figure 20: Proportion of licensed doctors by gender, specialty and year



(58%), general practice (57%), and public health (55%). The lowest proportion of female doctors was seen in surgery which was 15% female in 2021, up from 9% in 2012.

The female proportion of each UK country's workforce differed slightly, with Scotland the highest at 53%, followed by Northern Ireland (52%), England (48%), and Wales

(46%). The number of IMGs (who are mostly male) joining the workforce grew significantly and IMGs make up a larger proportion of the England and Wales workforces. This is one reason why both Scotland and Northern Ireland had a greater proportion of female doctors than England and Wales.

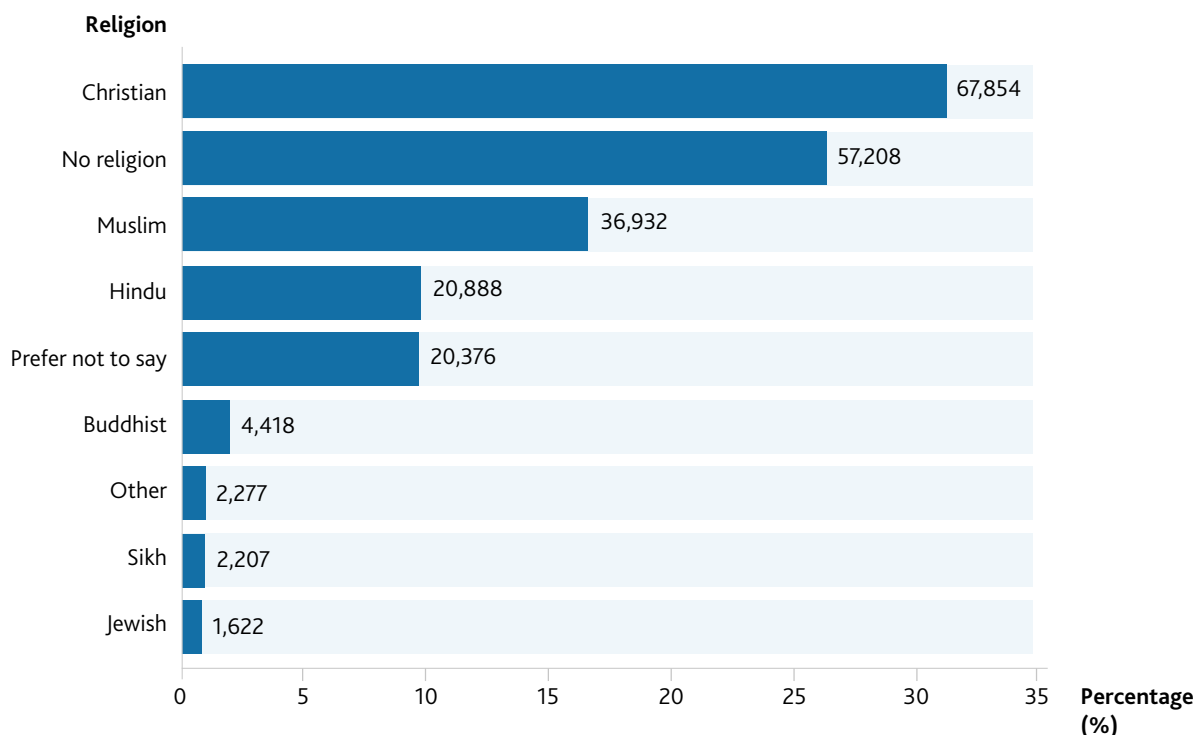
## Religion, sexual orientation and disability

Three quarters (75%) of licensed doctors in 2021 shared information about their religion and sexual orientation, though this rate differs between age and register groups. Almost all licensed doctors (99%) aged 20 to 29 provided information on their religious beliefs and sexual orientation while under half (49%) of doctors aged 70 and over did so. High proportions of SAS and LE doctors and doctors in training joined the register after we started collecting these data, so we hold information on 92% of doctors in training and 87% of SAS and LE doctors.

12,439 licensed doctors (4%) have declared one or more disabilities to us. Considering that the Department for Work and Pensions' Family Resources Survey<sup>26</sup> states that 22% of the general population and 21% of adults report being disabled, our number could be an underestimate.

We share these data here to help others understand the diversity of the medical profession. We intend that the wider system uses the data for equality impact assessments and to help identify issues that affect particular cohorts of doctors. As more data are collected in coming years, we will continue to show changes over time and share our emerging insights.

Figure 21: Number of licensed doctors in 2021 by religion





### Box 3: Our improved collection and use of disability, sexual orientation, and religion data

We are committed to improving fairness, equality, diversity, and inclusion across the profession. By understanding where doctors might face inequality or discrimination, we can work with others to take action to support and safeguard doctors. We are working to develop a more accurate picture of the whole profession to support this aim.

Since 2016, all doctors who register with us for the first time are asked to provide information about their sexual orientation, their religion or belief, and whether they are disabled. From March 2019 we extended this request to all doctors on the medical register. However, sharing this additional information is voluntary.

Figure 22: Number of licensed doctors in 2021 by sexual orientation

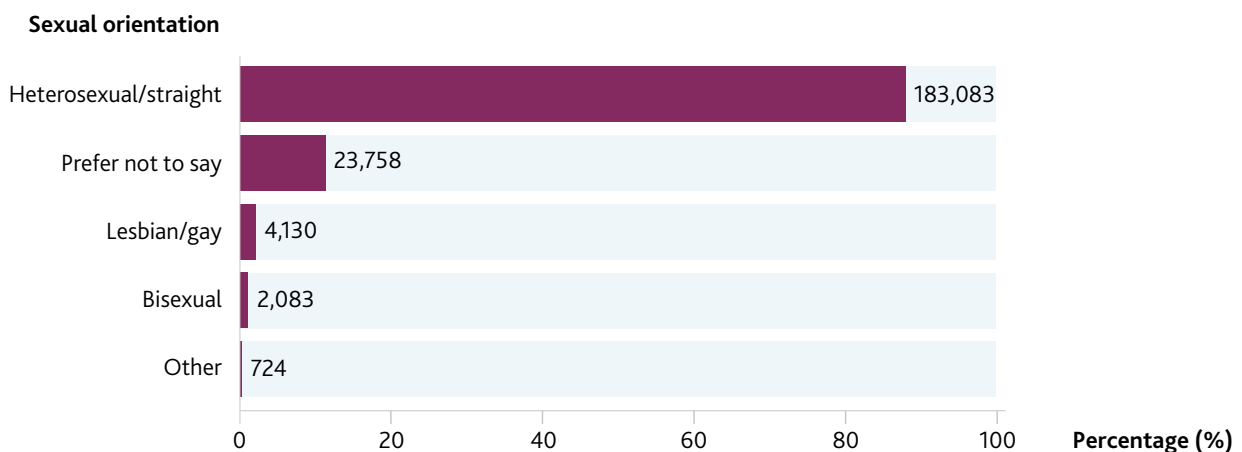
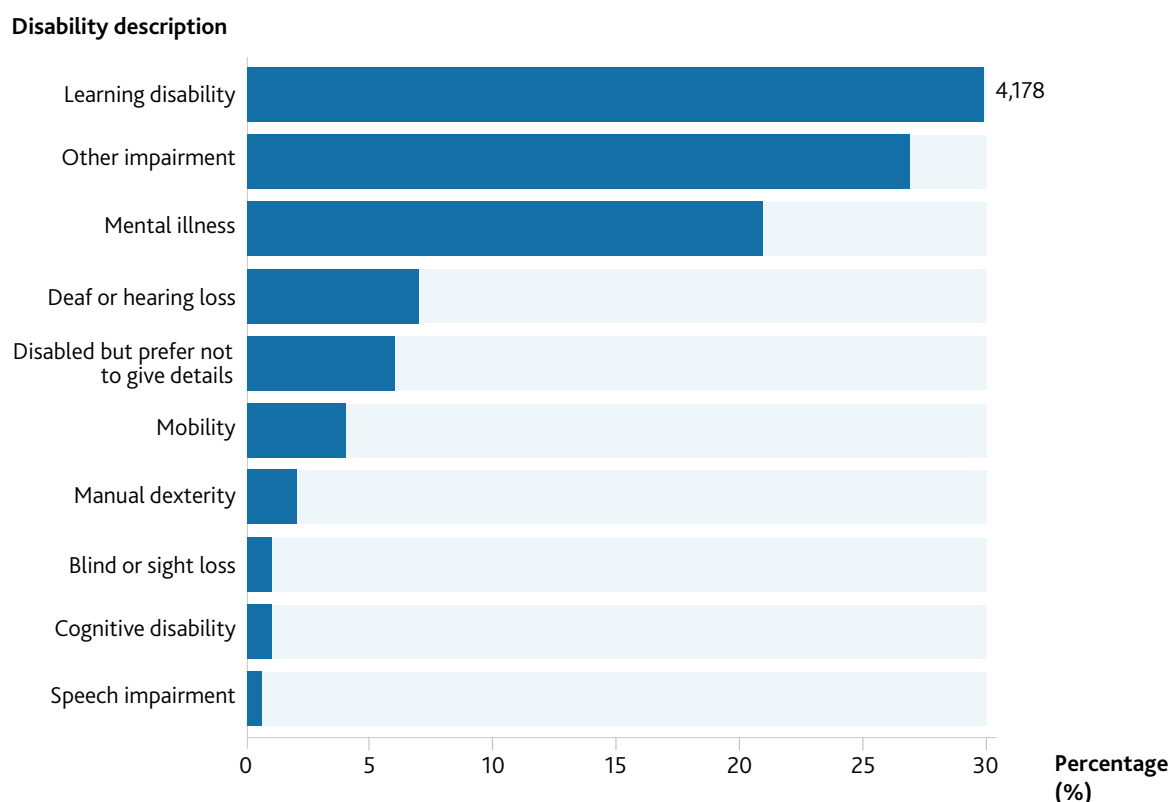


Figure 23: Number of doctors who reported on disabilities in 2021

	All doctors		Licensed doctors	
	Number	Change %	Number	Change %
Did not declare a disability	313,995		271,170	
Declared one disability	12,564	92%	11,449	92%
Declared two or more disabilities	1,164	8%	1,044	8%
<b>Total</b>	<b>327,723</b>		<b>283,663</b>	

**Figure 24: Disabilities reported by licensed doctors in 2021**



### Differences in the make-up of the profession by UK country

Our data cover the medical workforce in each UK country, showing the migration of doctors around the UK throughout their careers. In the following section we highlight some of the key differences in the demographic make-up of each country’s workforce.

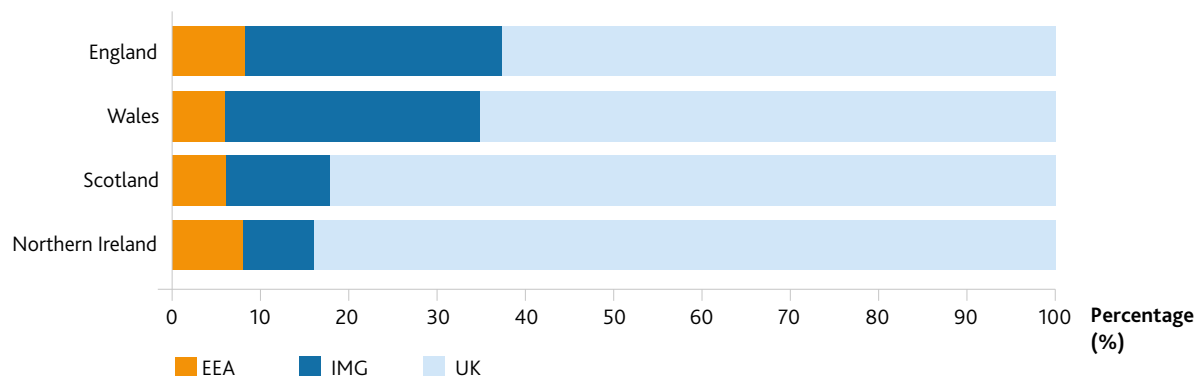
#### England and Wales have a greater proportion of non-UK qualified doctors in their workforce than Scotland and Northern Ireland

In 2021, the proportion of licensed doctors located in England and Wales who gained their primary medical qualification (PMQ) outside of the UK was greater than in Northern Ireland

and Scotland (Figure 25). These doctors made up over a third of licensed doctors in England (37%) and Wales (35%), but represented only 18% of licensed doctors in Scotland and 16% in Northern Ireland.

The rapid growth in the number of doctors in England and Wales who graduated outside the UK is discussed in further detail later in this report (Box 4), including details on the countries from which IMG and EEA doctors are moving to the UK.

Figure 25: Licensed doctors in the four UK countries, by PMQ in 2021



## The movement of doctors through their careers

In this section we present data on the movement of doctors at key career stages and how these vary by UK country. We look at movement after graduation from medical school, on completion of the second foundation training year (F2), and after attaining a Certificate of Completion of Training (CCT).

### The movement of graduates from UK medical schools varies by UK country

A large proportion of doctors who graduated in Wales in 2019 moved to England for training (Figure 26). The relative proximity of Welsh medical schools to the English border no doubt plays a role in this, and it's likely that many

medical students were originally from England and crossed to Wales for their university degree.

There are also more foundation training posts than medical students in England, which attracts graduates from across the UK. In contrast, medical schools in Scotland for example accounted for 13% of the 2021/2022 medical student intake<sup>3</sup> but only 7% of the graduates at the F1 stage in 2021 were in Scotland. This suggests that medical schools in Scotland will produce graduates who will have to move out of Scotland for their F1 position. This was also the case – to a lesser degree – in Wales and Northern Ireland.

Some medical students undertook studies in the UK without the intention to work in the UK. Our data do not extend to these doctors. Figure 26 shows data specifically on those who joined the UK workforce.

The locations of medical school places are defined at a UK level, so the data should not be interpreted as reflecting any competitive process between UK countries. Nonetheless, there are some patterns in the movement of graduates on completion of their medical degrees.

### Just under one in twelve doctors leave the UK workforce after their foundation training

The following paragraphs describe the locations of doctors who completed their second year of foundation training (F2) in 2016 for five subsequent years. By 2021, just under one in twelve (8%) of these doctors had relinquished their licence. That proportion remained consistent when looking at the retention of doctors within two to five years of finishing F2. Some doctors leave and return later, as seen for example in Wales in Figure 27.

**Figure 26: Locations at F1 of 2019 graduates from the four UK countries, by the country from which they graduated**

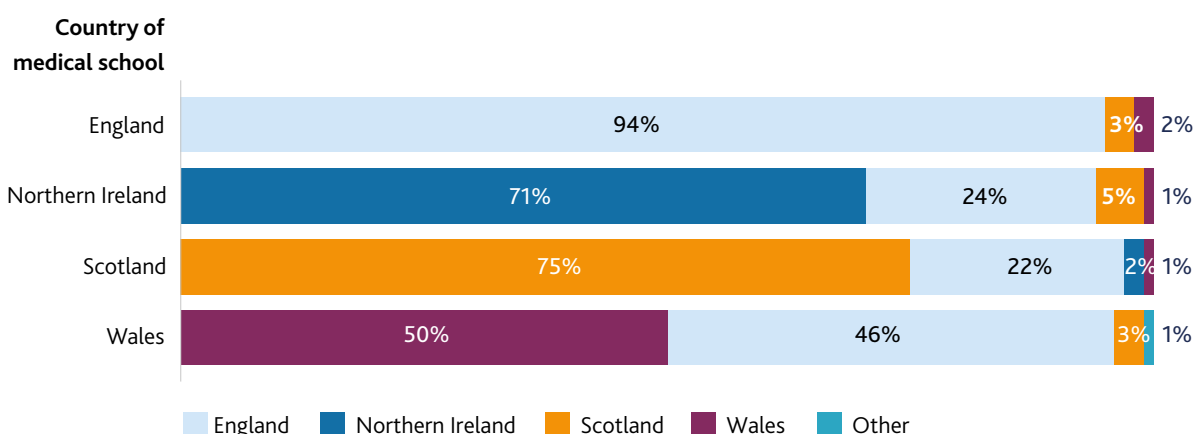


Figure 27: Location of 2016 F2 cohort by UK country after one to five years

Last training location when F2	Status/location	Number of licensed doctors and proportion in each location									
		One year after F2 2017		Two years after F2 2018		Three years after F2 2019		Four years after F2 2020		Five years after F2 2021	
England 6,207	Licensed (% change from 2016)	5,820	(-6%)	5,744	(-7%)	5,813	(-6%)	5,816	(-6%)	5,793	(-7%)
	England	91%		88%		89%		89%		88%	
	Northern Ireland	0%		0%		0%		0%		0%	
	Scotland	1%		2%		2%		2%		2%	
	Wales	1%		1%		2%		2%		2%	
	Other/not practising	7%		8%		7%		7%		7%	
Northern Ireland 259	Licensed (% change from 2016)	227	(-12%)	229	(-12%)	232	(-10%)	232	(-10%)	208	(-20%)
	Northern Ireland	71%		72%		72%		70%		61%	
	England	4%		5%		7%		8%		8%	
	Scotland	1%		2%		3%		3%		3%	
	Wales	0%		0%		0%		0%		0%	
	Other/not practising	24%		20%		19%		19%		28%	
Scotland 809	Licensed (% change from 2016)	683	(-16%)	649	(-20%)	665	(-18%)	680	(-16%)	654	(-19%)
	Scotland	75%		67%		66%		67%		64%	
	England	14%		18%		21%		21%		22%	
	Northern Ireland	2%		2%		2%		2%		3%	
	Wales	0%		1%		1%		1%		1%	
	Other/not practising	9%		12%		9%		8%		10%	
Wales 321	Licensed (% change from 2016)	279	(-13%)	273	(-15%)	297	(-7%)	316	(-2%)	300	(-7%)
	Wales	66%		58%		56%		56%		54%	
	England	24%		33%		34%		36%		36%	
	Northern Ireland	0%		0%		0%		0%		0%	
	Scotland	1%		0%		1%		1%		1%	
	Other/not practising	10%		9%		9%		7%		8%	
UK 7,596	Licensed (% change from 2016)	7,009	(-8%)	6,895	(-9%)	7,007	(-8%)	7,044	(-7%)	6,955	(-8%)
	Other	2%		1%		1%		1%		1%	
	Not on the register	1%		1%		1%		1%		1%	
	Not licensed	5%		7%		6%		3%		4%	
	TER	0%		0%		0%		3%		2%	

TER doctors have been included separately, as doctors were provided this status without having actively sought it and may or may not have been an active part of the workforce.

## Movement to another UK country after F2 is less pronounced in England than other UK countries

While there is good retention of doctors after F2 at the UK level, with 92% continuing to hold a licence to practise (Figure 27), there is considerably more variation when looking into the movement of doctors between the four UK countries.

Of F2 doctors who trained in England in 2016, fewer than one in fourteen (7%) left to work in a different UK country or left the profession; this is consistent across the years following F2. A fifth of doctors (20%) in their F2 year in Scotland in 2016 left Scotland after two years, although a small number returned or moved to Scotland from another UK country in the years following. This relates to the higher numbers of job opportunities in England than other UK countries and, as with the movement of graduates after completing their degree, does not reflect poorly on any country. The data presented here are purely to show the scale of movement after F2.

At a broader timescale, one in five doctors (20%) who completed F2 in Northern Ireland in 2016 had either moved to work in another UK country or left the workforce after five years. However, the proportion was far lower in the first four years after the F2 year (between 10% and 12%). Most doctors who left Northern Ireland left the UK workforce altogether (28%) but some of this loss was compensated by doctors arriving from other UK countries.

A similar proportion of the 2016 cohort of F2 doctors in Wales left the profession as in England (8%). However, the same number of doctors who left Wales for England after F2 (36%, 117 doctors) were replaced with doctors who had completed F2 in England.

Overall, the retention of doctors who completed their F2 year of training in 2016 was high at the UK level. Northern Ireland was an exception, where more than a quarter left the UK workforce but some of that loss was compensated by the arrival of doctors from other UK countries. Scotland also had a higher rate of doctors who left the UK workforce (10%) and more than one in five (22%) moved to England, with few migrating to Scotland from other UK countries.

## Most doctors stay practising in the UK after completing postgraduate training

Most doctors remain in the UK after gaining a Certificate of Completion of Training (CCT) and joining the GP or specialist registers. Of those who obtained a CCT in 2017, only 2% left UK practice that same year. However, in 2017 the proportion of those who left post-CCT grew to 6% four years after completion in 2021 (Figure 28).

Among those who completed their CCT in 2017 in Scotland, there were more pronounced leaving rates: 8% left Scotland within a year and 12% left Scotland after three years. Northern Ireland stands out for having a lower rate of doctors leaving post-CCT. While 5% left the Northern Ireland workforce in the same year as gaining their CCT, many later returned from abroad or moved back to Northern Ireland from another UK country (Figure 28).

Figure 28: Movement of doctors who completed postgraduate training in 2017 from each UK country

Last training location before CCT	Status/location	Number of licensed doctors and proportion in each location				
		CCT year 2017	One year after CCT 2018	Two years after CCT 2019	Three years after CCT 2020	Four years after CCT 2021
England 5,209	Licensed (% change from 2016)	5,167 (-1%)	5,080 (-2%)	5,020 (-4%)	4,992 (-4%)	4,908 (-6%)
	England	98%	96%	94%	94%	92%
	Northern Ireland	0%	0%	0%	0%	0%
	Scotland	0%	1%	1%	1%	1%
	Wales	1%	1%	1%	1%	1%
	Other/not practising	1%	3%	4%	5%	6%
Northern Ireland 131	Licensed (% change from 2016)	124 (-5%)	129 (-2%)	129 (-2%)	131 (0%)	130 (-1%)
	Northern Ireland	85%	88%	86%	86%	85%
	England	7%	6%	5%	5%	5%
	Scotland	2%	0%	0%	0%	0%
	Wales	0%	0%	1%	1%	1%
	Other/not practising	5%	6%	8%	8%	8%
Scotland 530	Licensed (% change from 2016)	487 (-8%)	485 (-8%)	474 (-11%)	465 (-12%)	476 (-10%)
	Scotland	88%	85%	83%	81%	82%
	England	9%	11%	12%	12%	11%
	Northern Ireland	1%	1%	1%	1%	1%
	Wales	0%	0%	0%	0%	0%
	Other/not practising	3%	4%	5%	5%	6%
Wales 215	Licensed (% change from 2016)	209 (-3%)	204 (-5%)	199 (-7%)	197 (-8%)	203 (-6%)
	Wales	84%	82%	78%	77%	77%
	England	14%	13%	16%	17%	16%
	Northern Ireland	0%	0%	0%	0%	0%
	Scotland	0%	0%	0%	0%	0%
	Other/not practising	2%	4%	6%	5%	6%
UK 6,085	Licensed (% change from 2016)	5,987 (-2%)	5,898 (-3%)	5,822 (-4%)	5,785 (-5%)	5,717 (-6%)
	Other	1%	1%	1%	1%	1%
	Not licensed	1%	2%	3%	2%	3%
	Not on the register	0%	0%	1%	1%	1%
	TER				1%	1%

## Doctors leaving the UK workforce after specialty qualification differ by UK country

At the UK level, 6% of the doctors who gained their specialty qualification in 2017 have now left UK practice.

Although a higher proportion of doctors (8%) left Northern Ireland after completing specialist or GP training, those who left Northern Ireland were replaced by doctors who completed their training in other UK countries and then chose to work in Northern Ireland. Overall, doctors from the cohort moving into Northern Ireland almost made up for doctors who left in 2017. These doctors left Northern Ireland to practice somewhere else in the UK or to leave UK practice entirely.

While England retained more than 92% of newly qualified GPs and specialists after four years, 77% of those who qualified in Wales stayed in Wales.

## Movement within the UK following specialty qualification

Over eight in ten (82%) new GPs and specialists training in Scotland stayed four years after gaining their CCT in 2017. 11% left to practise in England and 1% moved to Northern Ireland.

Most of those leaving Wales moved to practise in England with 16% of trainees who completed postgraduate training in Wales doing so.

Most (85%) new GPs and specialists from Northern Ireland chose to stay in Northern Ireland while one in 20 (5%) moved to England. Almost as many (4%) stopped practising in the UK but kept their licence.

92% of GPs and specialists who trained in England stayed in England through to 2021, while 2% moved to another country, and 6% left the profession.

Since 2016, more IMGs who gained a CCT in England have left the profession (9%) than have moved to another UK country (1%). This is the opposite of what has happened in other UK countries. In Scotland, 28% of IMGs who finished training in Scotland moved to another UK country while 18% left the profession. In Wales, 28% of IMGs moved to another UK country while 8% left.





# Doctors joining the workforce

## Chapter 2 overview

- International medical graduates (IMGs) who joined the workforce outnumbered UK and European Economic Area (EEA) graduates in 2021, with doctors from South Asia, the Middle East and Africa driving this increase.
- Although IMGs join through different routes, the biggest single route to registration across all doctors remains the UK medical graduate route. Of the two application types for IMG doctors, the Professional and Linguistic Assessments Board (PLAB) and postgraduate qualification (PGQ) routes grew the most between 2012 and 2021.
- The number of UK joiners was highly consistent between 2012 and 2021 but their proportion among all joiners fell because of the large increases in IMG doctors who joined.
- There was an increase in the number of non-EEA nationality doctors who joined the UK workforce with EEA primary medical qualifications (PMQs). The number of joiners with a PMQ from northwest Europe decreased, while PMQs from central and eastern Europe (Romania, Czech Republic, Poland and Hungary), the Baltic countries, and from Bulgaria in south Europe, increased.

## Introduction

We define a ‘joiner’ as a doctor with a licence to practise on 31 December of a given year who did not hold a licence on the same date in the previous year. This definition therefore also includes those who relinquished their licence for more than one year and later had it reinstated.

In this section we present our data on joiners from the national reference tables.<sup>24</sup> We present data on the demographics of both UK and non-UK trained doctors joining the workforce, with a particular focus on the impact of the pandemic.

### Box 4: Doctors joining the UK workforce

#### IMG joiners outnumber UK and EEA graduate joiners

There has been an increase in the number of IMG doctors joining each year since 2012 (Figure 29). This increase has been rapid

in recent years (except for a small dip in 2020 due to the pandemic) with 3,957 IMG doctors joining in 2016 and 10,589 in 2021 – when UK PMQ joiners numbered 8,208 and EEA PMQ 2,436.

Figure 29: Doctors joining the workforce each year, by PMQ region

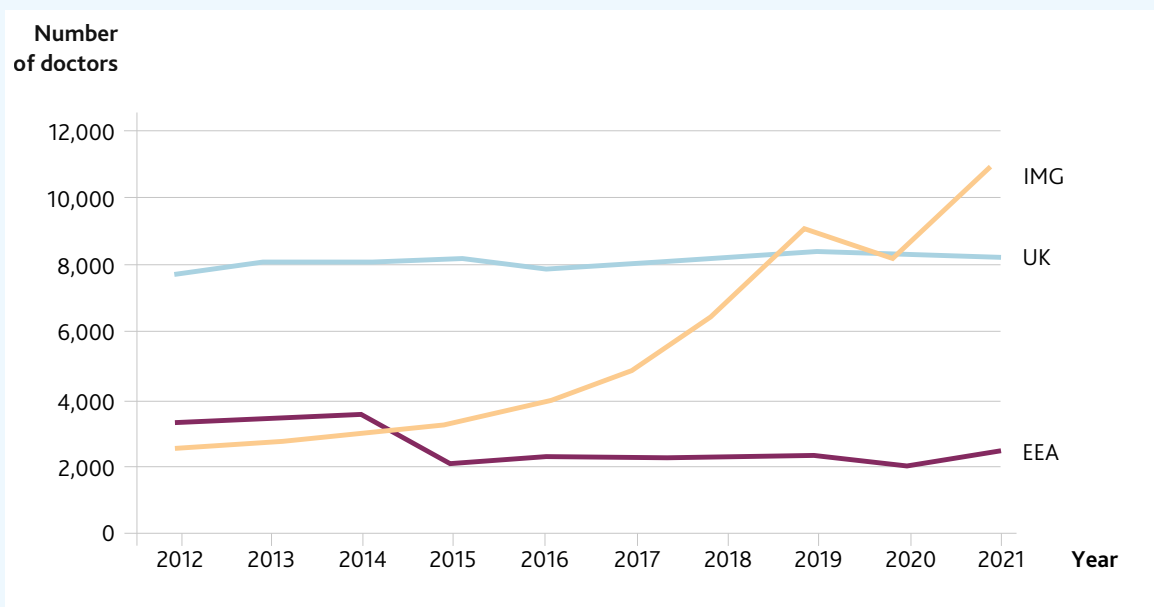
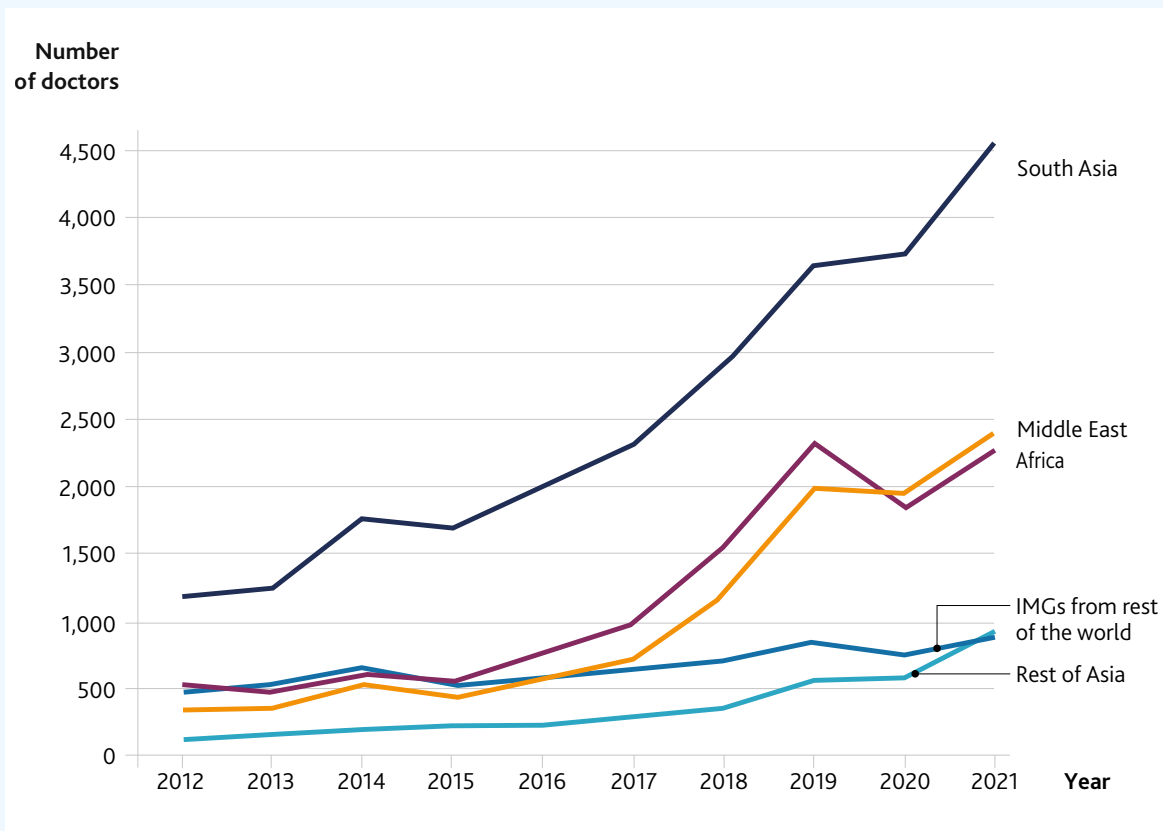


Figure 30: IMGs joining the workforce each year by world region of PMQ



The increase in IMG joiners was driven by more doctors joining from South Asia, the Middle East and Africa (Figure 30). These three areas contributed 84% of all IMG joiners in 2021 (8,904) which surpassed the number of UK graduates who joined the workforce (8,208).

The top five individual PMQ countries for joiners in 2021 were India, Pakistan, Egypt, Nigeria and Sudan. Some countries, such as India and Pakistan, have long been a continuous source of doctors joining the UK workforce.

Yet, the number of joiners from other countries, like China, Sudan and Egypt, tripled (221%, 208% and 202% respectively) between 2017 and 2021, and there was a near five-fold increase in those who joined from Jordan (471%). Joiners from India – historically our largest source of doctors – almost doubled over that time (80%) but that was the lowest increase among the top ten PMQ countries (Figure 31).

Figure 31: Number of joiners with PMQs from ten countries with the most doctors joining by year

	2017	2018	2019	2020	2021	2017–2021
India	1,012	1,333	1,685	1,544	1,820	+80%
Pakistan	875	1,105	1,289	1,313	1,741	+99%
Egypt	435	756	1,301	1,220	1,312	+202%
Nigeria	523	875	1,374	850	1,248	+139%
Sudan	176	331	511	527	542	+208%
Sri Lanka	183	196	250	238	392	+114%
Bangladesh	116	151	232	263	325	+180%
China	92	77	144	213	295	+221%
Myanmar	79	121	180	135	219	+177%
Jordan	38	53	109	113	217	+471%

## The UK continues to attract doctors from around the world

The UK is an attractive destination for doctors from across the globe, with large numbers of first-time applications made to join the register through different routes each year. Overseas doctors can take several routes to join the medical register in the UK. These include sponsorship from a recognised body, the Professional and Linguistic Assessments Board (PLAB) test, and applying with an acceptable postgraduate qualification (PGQ). These routes help us ensure that doctors who qualified abroad have the right knowledge and skills and experience to practise medicine in the UK. There are trends linked to certain routes that overseas doctors take to join the register, with doctors joining the register via the PLAB route staying in UK practice longer

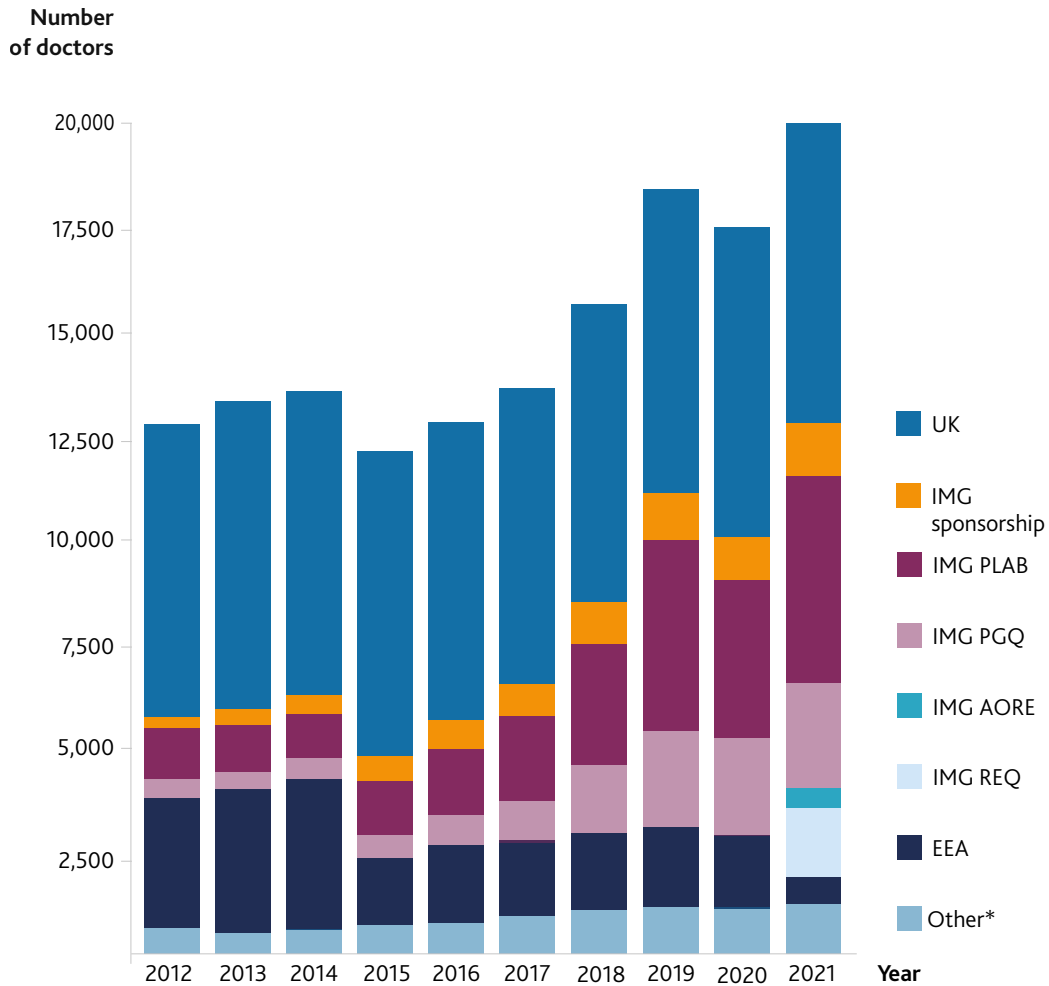
than those who join through fixed-term sponsorship routes.<sup>2</sup>

While the biggest single route to registration is via UK medical schools, Figure 32 shows two application types for IMG doctors have grown dramatically. The first of these is the PLAB route, which grew from 10% of joiners in 2012 to 25% in 2021. The second is the PGQ route, which rose from 3% to 12% in the same period.

There have been recent changes to the routes by which doctors apply to join the UK register, with two new routes introduced in 2021: the Acceptable Overseas Registration Exam (AORE) and the Recognised European Qualification (REQ). The AORE route means that doctors who have passed the Australian, Canadian or US medical licensing exams can apply for registration without completing PLAB.\* The REQ replaces the previous route for EEA graduates following the UK's exit from the EU,

\* Full details on the eligibility criteria for the AORE route are available here: <https://www.gmc-uk.org/registration-and-licensing/join-the-register/registration-applications/application-guides/full-registration-for-imgs-who-have-passed-an-acceptable-overseas-registration-exam>

Figure 32: Joiners to the UK workforce, by their application route



\* Other combines doctors that have re-joined the register after leaving and routes with fewer than 25 doctors per year.

and allows doctors with the relevant European qualifications to apply for registration without completing PLAB.

The proportion of UK joiners fell from 55% in 2012 to 37% in 2021, however, their number remained fairly consistent at around 7,250 per

year. The shift was driven by the large increases in the numbers of doctors joining via the PLAB and PGQ routes rather than by a reduction in UK graduate joiners.

## There has been a sharp increase in UK nationals joining the workforce with EEA PMQs

Although the total number of doctors who first qualified in the EEA that join the UK workforce has been consistent at around 2,000 a year since 2015 (Figure 29), the mix of countries those doctors qualified in has changed substantially. There's been a decrease in joiners with PMQs from northwest Europe and an increase in joiners with PMQs from central and eastern Europe (especially Romania, Czech Republic, Poland and Hungary), the Baltic countries, and from Bulgaria in south Europe.

Universities from Bulgaria, Romania, Czech Republic, Poland and Hungary all have English language medicine programmes, which reduce the language barriers for international students. This may explain in part a recent increase in British nationals joining the UK workforce with a PMQ from these parts of Europe. For example, Figure 33 shows that 98% of the doctors who joined the UK workforce in 2014 with a Bulgarian PMQ (97 doctors) had Europe EEA nationality, which includes Bulgaria itself. By 2021, this had fallen to just 21% (70 doctors).

At the same time, the share of British nationals joining the UK workforce with a Bulgarian PMQ increased dramatically, from zero in 2014 to two thirds (66%, 215 doctors) in 2021.

The percentage of doctors joining the UK workforce with a PMQ from Romania, Czech Republic, Poland and Hungary that were EEA nationals also fell – from 76% in 2016 to 41% in 2021. Yet, the proportion of British nationals joining with a PMQ from these four countries grew from 14% in 2012 to 20% in 2021, particularly from 2014 when 55 British nationals joined compared to 159 in 2021.

Between 2020 and 2021 there was a large increase in the number of non-British and non-EEA joiners who gained their PMQ from Romania, Czech Republic, Poland and Hungary. The number of doctors in this group rose from 25 doctors joining in 2020 (6% of all joiners from those countries) to 293 in 2021 (39% of all joiners from those countries). Both British and non-British nationals joining with a PMQ from these countries require good inductions, with neither type having worked in the UK health systems before.

**Figure 33: Number and proportion of doctors joining the workforce with PMQs from selected EEA countries,\* by nationality region**

	Nationality	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Czech Republic		132	129	117	90	111	124	106	115	123	170
	Europe EEA	55%	73%	70%	60%	56%	46%	53%	50%	44%	24%
	International	1%	2%	4%	6%	5%	4%	7%	1%	2%	39%
	UK	45%	25%	25%	34%	37%	49%	39%	47%	52%	33%
Hungary		195	142	104	91	89	86	95	91	76	191
	Europe EEA	93%	90%	92%	90%	78%	69%	56%	57%	61%	26%
	International	3%	1%	3%	5%	13%	8%	13%	10%	11%	61%
	UK	3%	6%	3%	4%	8%	22%	23%	29%	25%	12%
Poland		161	198	200	137	136	162	166	164	141	183
	Europe EEA	82%	93%	93%	88%	79%	78%	72%	67%	67%	48%
	International	3%	1%	2%	4%	4%	6%	5%	6%	6%	24%
	UK	12%	5%	5%	9%	15%	14%	20%	24%	27%	26%
Romania		301	302	287	167	229	221	315	256	206	247
	Europe EEA	88%	87%	93%	83%	84%	78%	73%	69%	65%	59%
	International	3%	4%	2%	4%	4%	3%	5%	5%	3%	27%
	UK	8%	8%	5%	12%	12%	19%	22%	25%	33%	13%
Bulgaria		137	103	97	48	64	57	78	128	201	327
	Europe EEA	95%	95%	98%	92%	92%	82%	81%	48%	30%	21%
	International	3%	1%	2%	2%	0%	2%	0%	2%	1%	12%
	UK	2%	4%	0%	6%	8%	16%	19%	49%	69%	66%

\* Selected EEA PMQ countries are those with the highest percentage of UK nationals joining the UK workforce in 2021.



# The UK training pipeline

## Chapter 3 overview

- The size of the UK medical schools intake has held its highest number over the past two academic years of 2020/2021 and 2021/2022. Historically, there has been a high conversion rate of students starting medical school to joining the workforce, so the number of new UK medical graduates should increase in the coming years.
- Almost two thirds (64%) of the UK's 2021/22 medical student intake were female and that proportion was larger in Northern Ireland, at just under three quarters (74%).
- In postgraduate training programmes, surgery and emergency medicine have the lowest proportions of female trainees despite some recent change – obstetrics and gynaecology continues to have the highest female proportion.
- International medical graduates (IMGs) make up an increasing proportion of doctors in postgraduate training, especially in general practice (GP) training. Related to this, and the increasing ethnic diversity of UK graduates, there have been significant increases in the number of Asian or Asian British and Black or Black British trainees. So, in 2021, just under half (46%) of all trainees were from an ethnic minority.
  - In all training programmes except ophthalmology, the largest ethnic group was White. In ophthalmology, the largest group was Asian or Asian British.



## Introduction

In this section we present data on the supply of doctors from UK medical schools and on the supply of specialists through the UK postgraduate training pipeline. In addition to Office for Students (OfS) and Higher Education Statistics Authority (HESA) data, this section draws on data from our doctors in training reference tables.<sup>27</sup>

### Number of medical students at a record high for the past two academic years

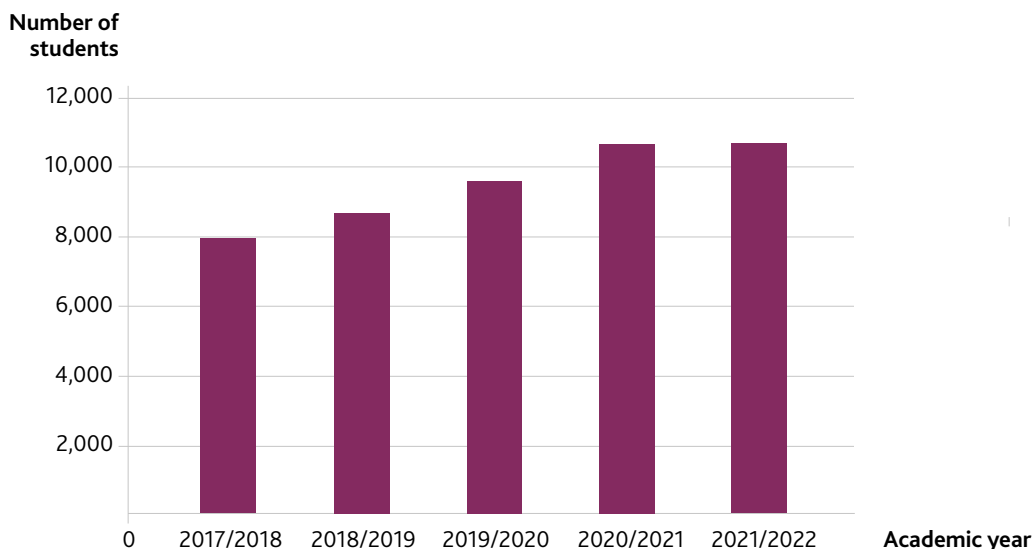
The annual intake of UK medical schools increased gradually over the past five years from 7,767 in 2017/2018 to around 10,461 in 2020/2021 and 10,543 in 2021/2022 (Figure 34).<sup>9</sup>

In the UK, governments regulate and limit the number of students a medical school can

recruit each year. This is to make sure all medical students have safe and appropriate placements and training throughout their studies.

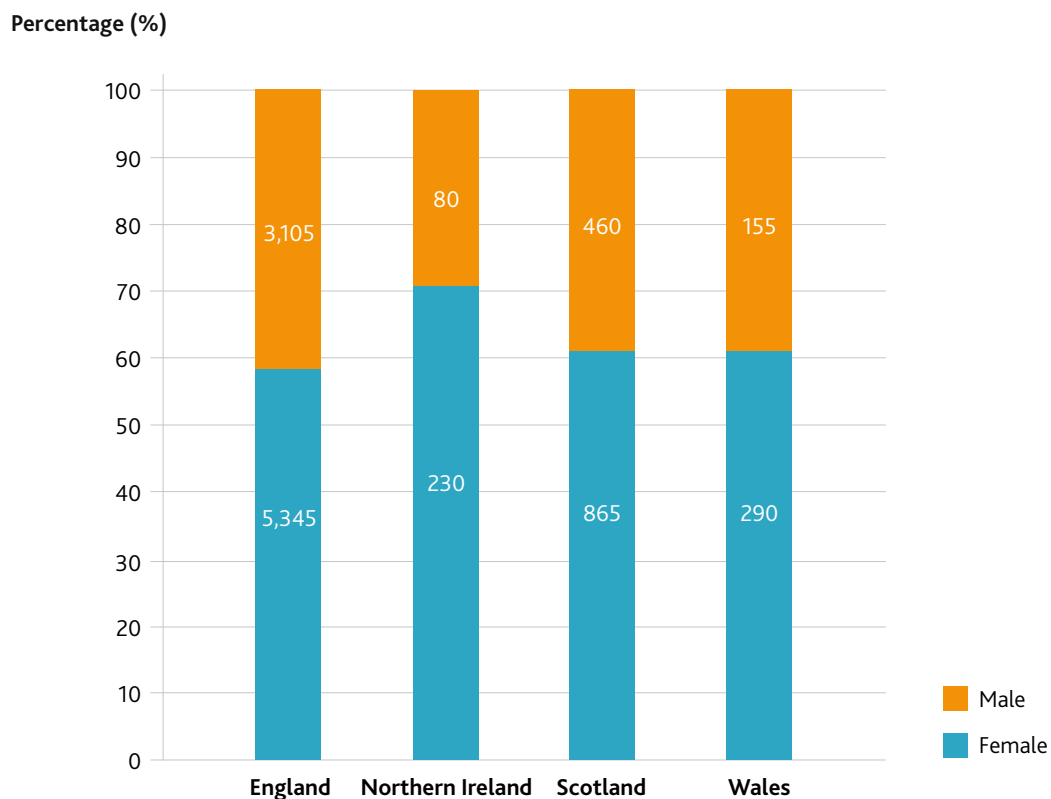
At the start of the pandemic in 2020, the UK government cancelled higher education exams required for medical school entry and replaced them with teacher assessments. Because of this, more students received higher grades than in a normal year. In response, the UK government allowed a temporary increase in the provision of medical school places.

Figure 34: Medical school intakes, by academic year\*



\* Source: Office for Students.<sup>9</sup>

**Figure 35: UK Medical students in the 2021/2022 academic year, by sex**



Office for Students collects data on the basis of sex and not gender as we currently report. There were five medical students in England who defined their sex as neither male nor female. Source: Office for Students.<sup>9</sup>

### The UK’s 2021/2022 medical student intake was mostly female, especially in Northern Ireland

Across all four UK countries, just under two thirds (64%) of the 2021/2022 intake of medical students were female.<sup>9</sup> As shown in Figure 35, each of the four UK countries had a higher female medical student intake than male. Northern Ireland had the highest female proportion at 74%.

### Postgraduate specialty training routes

#### Growth across postgraduate training programmes varied

Training places in the UK are determined by forecasts of the number of required specialists. The total number of trainees in the UK increased by just over 10,000 (17%) between 2017 and 2021 (Figure 36). The largest increases were in intensive care medicine (122%) and medicine (73%).

General practice training grew by 34% due to government initiatives to open more training

Figure 36: Number of trainees by programme in 2017 and 2021

	2017	2017–2021	2021
Anaesthetics	2,698	9%	2,952
Core training	7,828	-28%	5,633
Emergency medicine	1,527	19%	1,812
Foundation	14,793	6%	15,647
General practice	11,295	34%	15,090
Intensive care medicine	233	122%	516
Medicine	6,756	73%	11,710
Obstetrics and gynaecology	2,176	15%	2,501
Occupational medicine	32	-9%	29
Ophthalmology	663	6%	700
Paediatrics and child health	3,749	9%	4,088
Pathology	699	16%	807
Psychiatry	1,225	19%	1,453
Public health	190	60%	303
Radiology	1,787	27%	2,269
Sexual and reproductive health	29	59%	46
Surgery	4,171	6%	4,405
<b>Total</b>	<b>59,851</b>	<b>16.9%</b>	<b>69,961</b>

posts. Most of these additional places were filled by IMGs – the proportion of general practice trainees that were IMGs increased from 19% in 2017 to 39% in 2021 and we describe this in more detail later in this chapter.

Other training programmes grew but at a slower rate, such as 6% in surgery and ophthalmology. At the same time, we saw a decrease in the number of trainees in core training (28%) and occupational medicine (9%).

## The impact of the pandemic on progression through training

We set the standards for postgraduate learners and education providers and we approve the curricula and assessment developed by royal colleges and faculties. At the start of the pandemic, there were rapid and essential changes made to avoid disruption to medical education and training in the UK. These changes included opportunities to evaluate flexible approaches to assessments, redeployment of

trainees, and the development of the Foundation interim Year 1 (FiY1) pathway in 2020. There were other initiatives in the UK's healthcare systems at the time to minimise disruption to postgraduate education that had positive and lasting benefits in a time of crisis.<sup>28, 29, 30</sup>

The annual review of competency progression (ARCP) recognised the disruption to teaching by the pandemic. The hours of mandatory teaching attendance reduced from 60 hours to 45 hours for foundation training stages. The number of case-based discussions and direct observations of doctor-patient interactions were also reduced to reflect the limited opportunities available.<sup>31</sup> Many exams were either postponed or cancelled, while others changed to allow delivery online.

The adaptations to postgraduate training that were implemented during the pandemic could present long-term benefits to postgraduate medical education. It is vital that any permanent changes made are proportionate, maintain patient safety, meet our standards, and are proportionate to ensure fairness for all trainees.

The pandemic led to uncertainty about career progression for trainees. Some were worried about competence due to missed or changed learning opportunities, while others were concerned about fellowship planning and future career goals.<sup>32</sup>

### **Certain training programmes have considerable imbalances in gender**

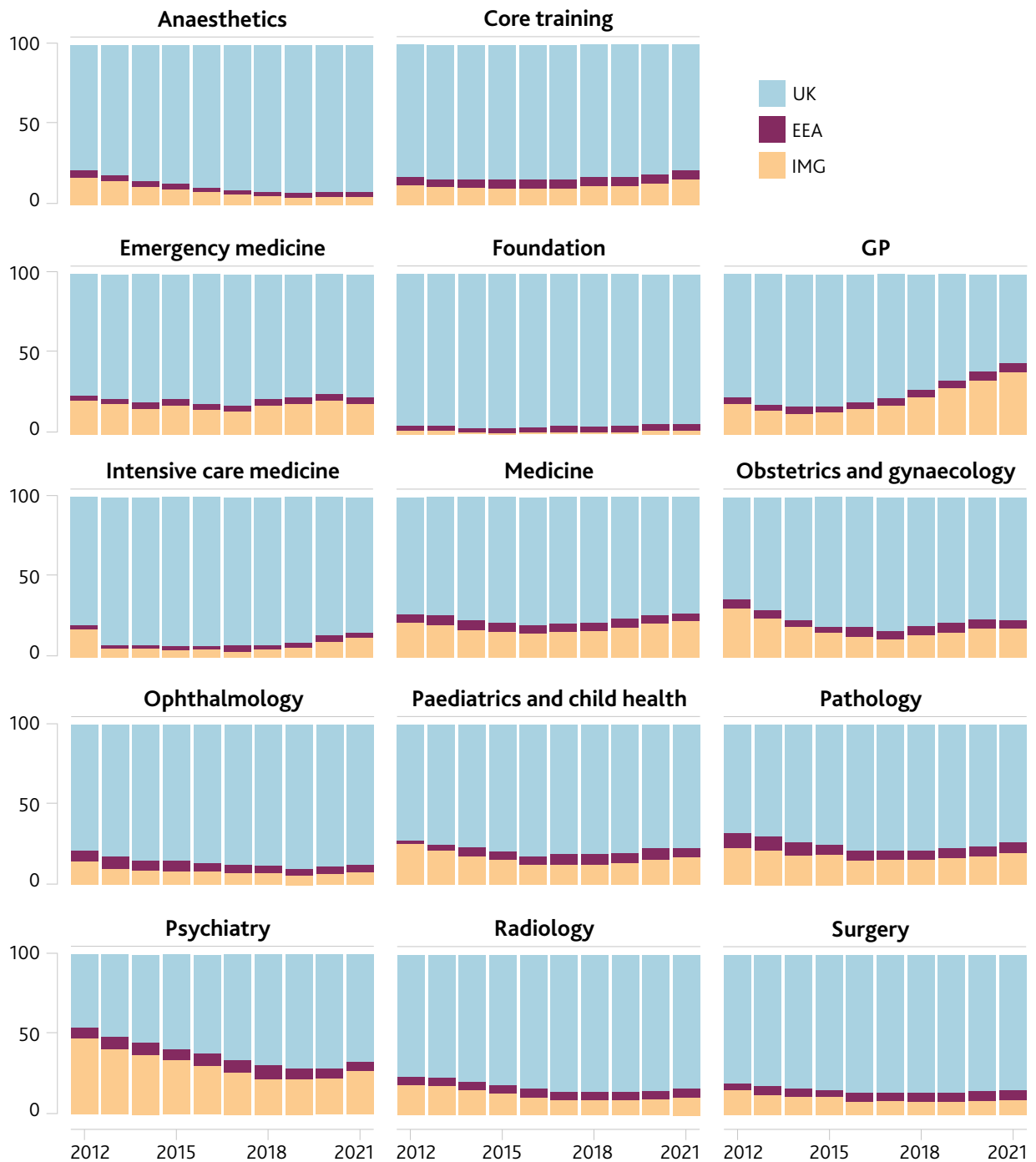
The proportion of trainees that are female (57%) has remained, on average, 14 percentage points higher than the proportion that are male (43%) since 2012. However, gender proportions vary across the different training programmes, with surgery and emergency medicine having the lowest proportions of female trainees and obstetrics and gynaecology the highest.

There was little change in the gender proportion of doctors on most training programmes between 2016 and 2021. It is notable, though, that the proportion of female trainees in surgery increased from a quarter (25%) in 2012 to a little over a third (36%) in 2021.

Figure 37: Gender proportion by postgraduate training programme, by year



Figure 38: PMQ proportion by postgraduate training programme, by year



## Proportion of IMG trainees in GP and obstetrics and gynaecology increased but dropped in other specialty training programmes

The UK continues to attract IMG and EEA graduates who join UK postgraduate specialty training. In 2021, the proportion of IMG and EEA trainees reached 19% and 4% respectively – this was the highest observed proportion since 2012. Most IMGs in the 2021 training cohort were in the general practice (45%) and medicine (21%) training programmes.

There have been changes in specialty training programmes with respect to primary medical qualification (PMQ). The increase in the proportion of IMG general practice trainees was caused by the combined effect of a sustained decrease in the number of UK general practice trainees (4%) and a dramatic increase in the number of IMG trainees since 2016 (239%). By contrast, the increased proportion of IMG trainees in obstetrics and gynaecology was mainly driven by a growth in the number of IMG trainees (86%) while the number of UK trainees has only slightly increased since 2017 (5%).

The proportion of IMG trainees has decreased in other specialties including anaesthetics, radiology and psychiatry. In anaesthetics and psychiatry, this change included both an increased number of UK trainees (20% and 54% respectively) and fewer IMG trainees (66% and 38% respectively) since 2012. In radiology, the number of IMG trainees remained almost constant while the number of UK trainees increased by 64% since 2012.

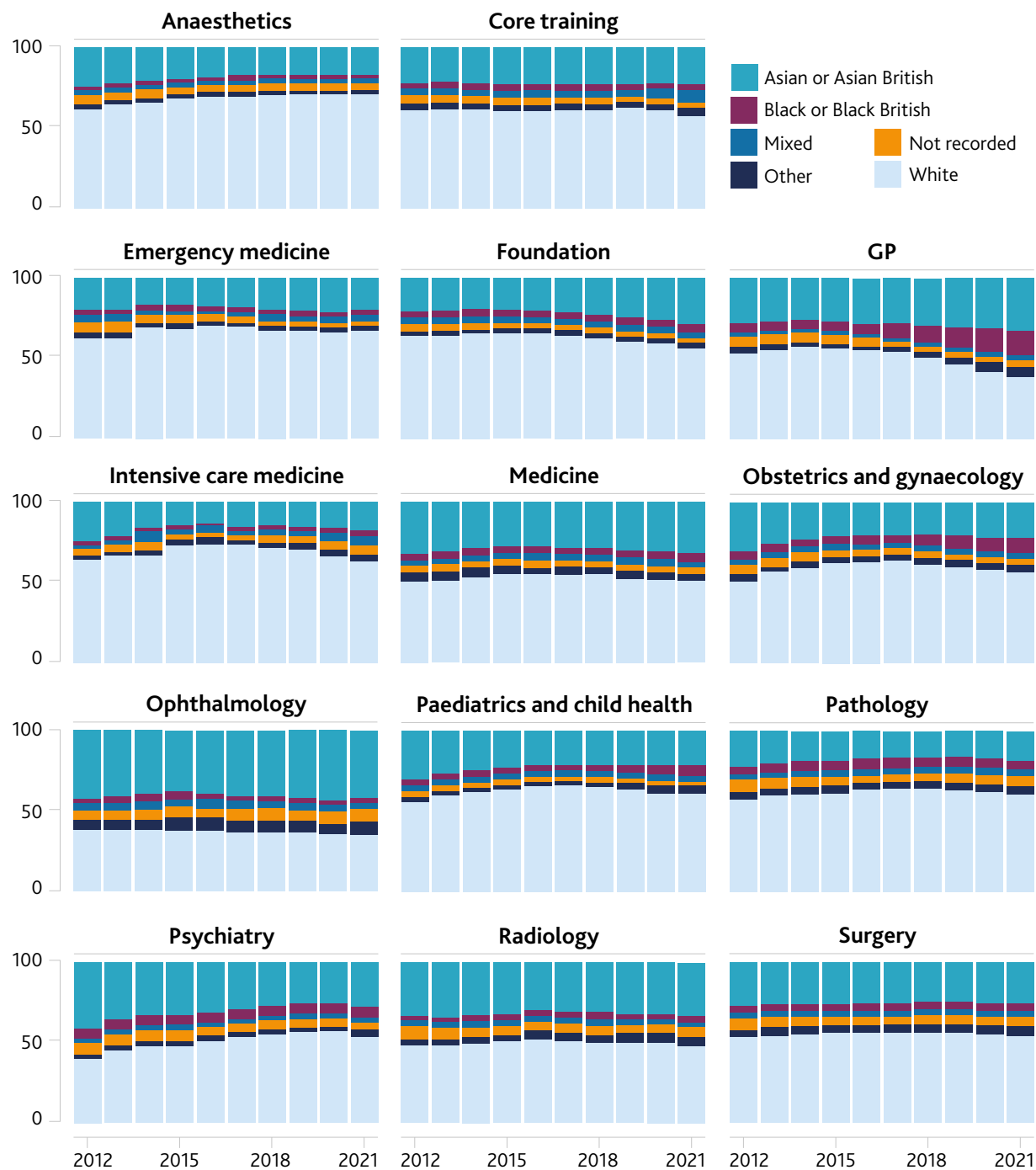
## There are substantial differences in ethnicity across specialty programmes

Trainees of White ethnicity were the most abundant ethnic group in UK postgraduate training programmes, but the proportion of ethnicity groups varied between different programmes in 2021. In recent years, there have been significant increases in the number of Asian or Asian British and Black or Black British trainees, and in 2021, just under half (46%) of all trainees were from an ethnic minority.

Overall, White trainees made up the highest proportion in all training programmes except for ophthalmology, which had the highest proportion of Asian or Asian British trainees. In 2021, the proportion of White trainees in anaesthetics and emergency medicine was greater than 65%. In contrast, less than half of the trainees in general practice, ophthalmology and radiology training were White (Figure 39).

Although the ethnicity proportions for most training programmes have not changed significantly since 2012, the proportion of Black or Black British trainees in general practice tripled (5% to 15%). There have also been changes in psychiatry, where the proportion of Asian or Asian British trainees consistently dropped each year.

Figure 39: Ethnicity proportion by postgraduate training programme, by year







# Leavers and retention

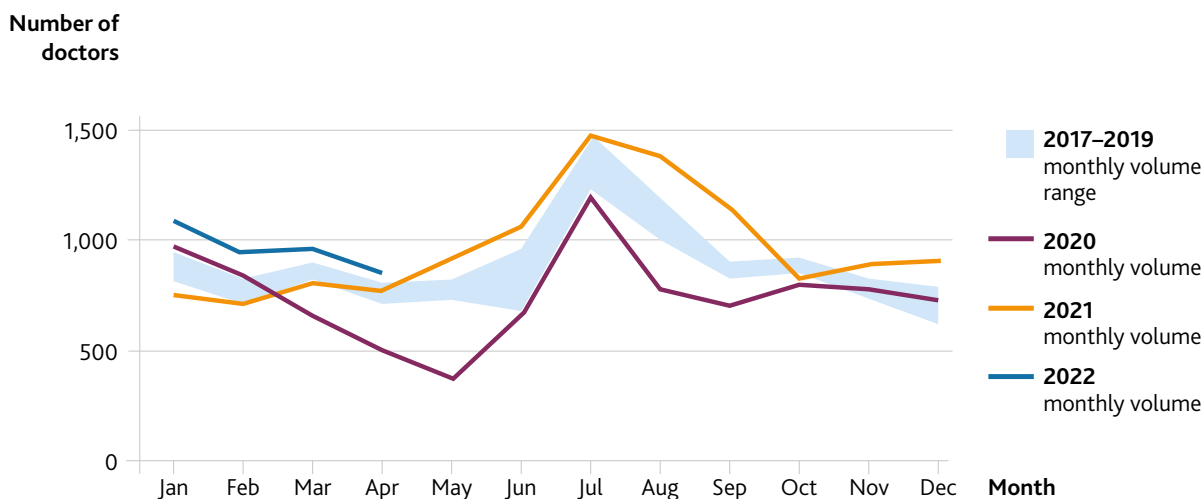
## Chapter 4 overview

- The increased number of doctors leaving the workforce between 2021 and 2022 almost balanced out the reduction in leavers during the pandemic.
  - If the most recent leaving rate were to continue, there would be about 16,138 fewer doctors by 2030 than there would have been had the rate of leaving remained at the long-term levels seen before the pandemic (2017 to 2019).
- Non-UK graduates are more likely to leave within six years of joining than those who qualified in the UK. There may be opportunities to improve the retention of non-UK graduates, such as removing systems barriers to develop their careers within the UK.
- Specialty and associate specialist (SAS) and locally employed (LE) doctors and ophthalmology specialists had consistently higher proportions leave than the average across all specialty groups.
  - The loss of SAS and LE doctors who joined in 2013 was especially high during the first three years (45%). While some would have been on fixed-term contracts and had intended to leave after a short period, there may be opportunities to improve the retention of SAS and LE doctors in the UK's healthcare systems.
- In this section of the report, we show that the majority of doctors with a UK primary medical qualification (PMQ ) cited retirement as their main reason for leaving while non-UK PMQ doctors cited leaving to practise abroad.
  - Most non-UK PMQ doctors who wanted to practise abroad returned to their respective countries of nationality while British doctors practicing abroad stated their plans to move to an English-speaking country, such as Australia, New Zealand or Canada.

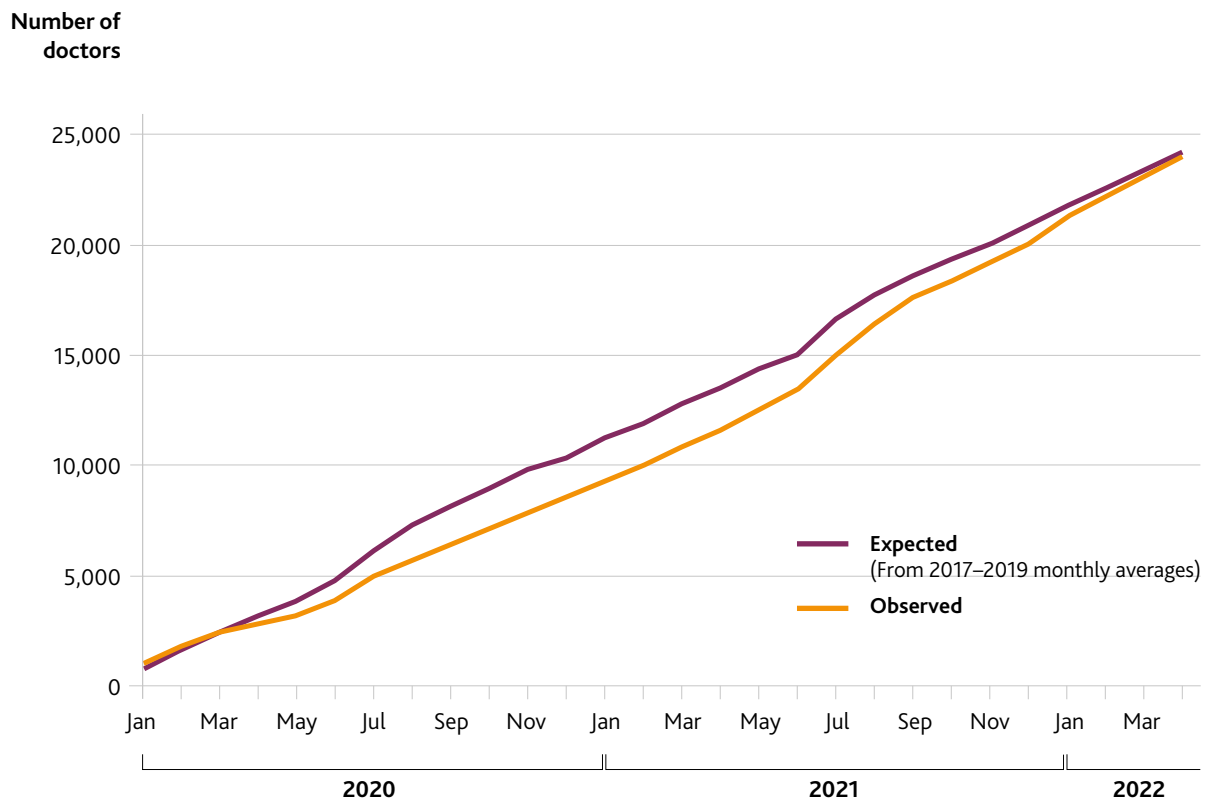
## Introduction

The number of doctors who leave the profession is an essential component of workforce planning. Understanding which doctors are leaving is crucial so that appropriate retention strategies can be developed in response. In this section we analyse the broad trends among doctors who leave the profession, the impact of the pandemic on leaving rates, the reasons doctors give for leaving, and the areas of practice with the highest rates of leavers each year. Detailed data can be found in the UK reference tables (Tables 220 to 227).<sup>24</sup> We acknowledge that doctors who do not hold a licence may still be making valuable contributions to the healthcare system in roles that do not involve clinical practice, such as medicolegal positions. However, our focus in this report is on those who are potentially available for clinical practice.

**Figure 40: Monthly volumes of doctors voluntarily leaving the medical register or relinquishing their licence**



**Figure 41: Actual number of doctors who relinquished their licence between January 2020 and April 2022 compared to numbers expected from 2017 to 2019 monthly averages**



## Leavers

### The impact of the pandemic on leaving rates

During the peak of the first wave of the pandemic from March 2020, there was a drop in the number of doctors who left the workforce across all demographics, including by age group, during this time.<sup>2</sup>

Travel restrictions related to the pandemic also meant that there were practical barriers for those who wished to leave the workforce to travel overseas. The combined effect of this and

other factors on the number of leavers in 2020 is shown in the voluntary erasure/relinquishing licence (VE/RL)\* data in Figure 40.

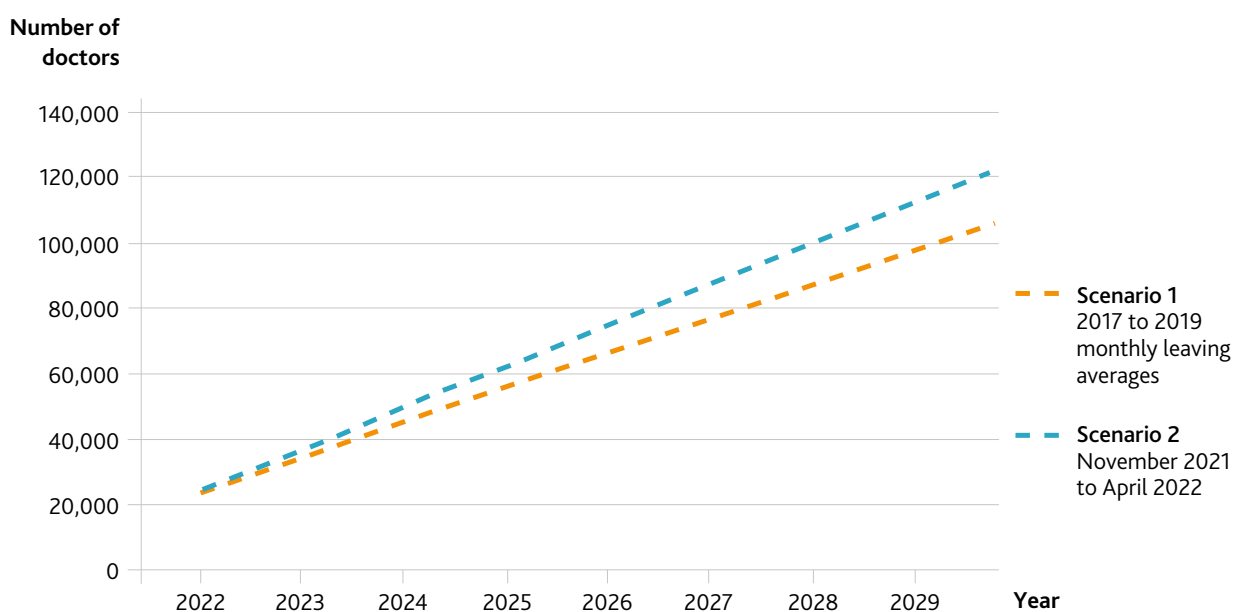
From November 2021 to April 2022, there were increased rates of doctors leaving, which meant that the total volume of leavers has now almost returned to the expected level if there had not been a pandemic. Figure 41 compares the number of doctors who relinquished their licence between January 2020 and April 2022 with the expected numbers had pre-pandemic (2017 to 2019) monthly averages been maintained.

\* When a doctor chooses voluntary erasure (VE) from the register or to relinquish their licence (RL).

In a scenario where leaving rates run 20% higher than the monthly averages for 2017 to 2019 – as they have in the six-month period from November 2021 to April 2022 – there would be 16,138 fewer doctors by 2030 compared to a scenario where the rate reduces back to the 2017 to 2019 monthly

averages (Figure 42). It should be noted that this six-month period is very short. The picture presented in Figure 42 is only a scenario to consider. We will continue to report our data on this trend to see whether this slightly higher rate of doctors leaving is sustained.

**Figure 42: Future scenarios by number of doctors who voluntarily leave the register or relinquish their licence**

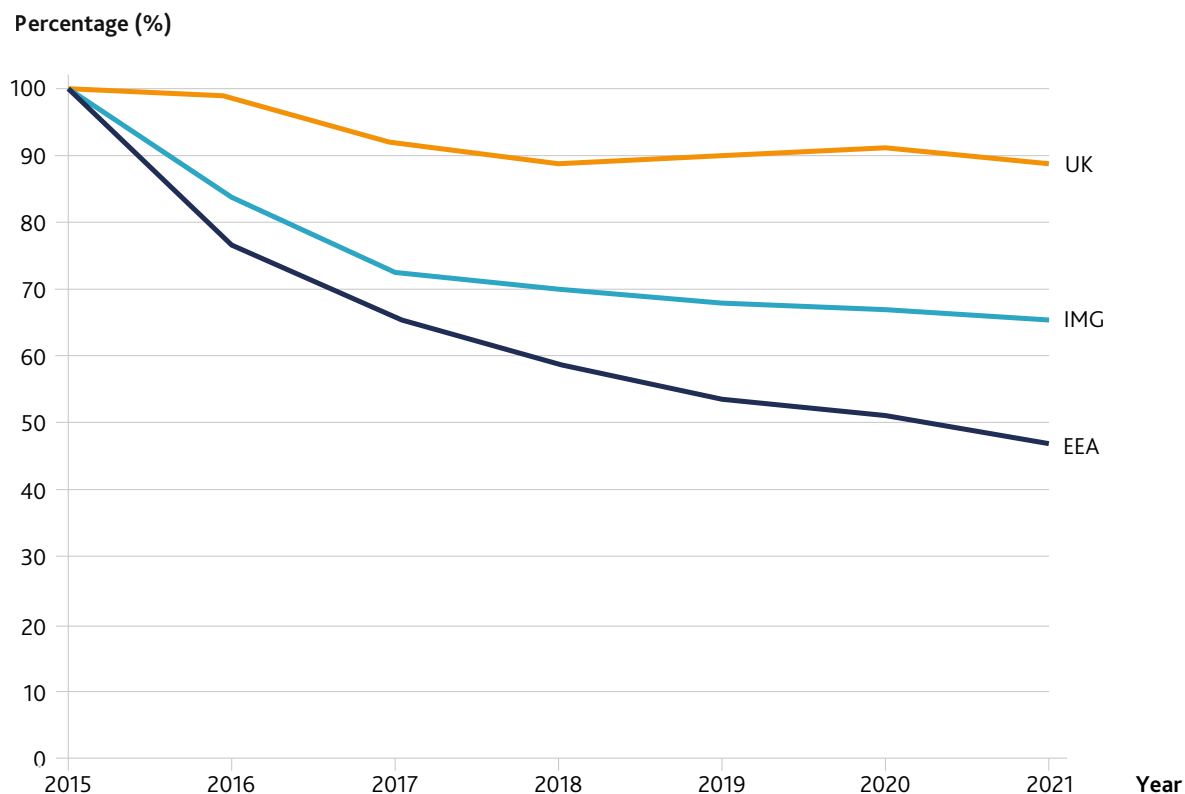


### Non-UK graduate doctors are more likely to leave within six years of joining than those who qualified at UK medical schools

Almost nine in ten (89%) of the UK graduates who first took up a licence to practise in 2015 were still licensed in 2021 (Figure 43) but this was only the case for two thirds (66%) of international medical graduates (IMGs) and under half (47%) of the European Economic Area (EEA) graduates who joined that year.

Some IMGs join the UK health service on a fixed-term contract with the understanding that they will return to their previous country of employment having picked up skills and experience. These contracts are typically held by doctors joining via the IMG sponsorship route. Of the 4,754 doctors who joined the UK health service in 2015 with a non-UK PMQ, only 12% joined via an IMG sponsorship route. Therefore, it is unlikely that the difference in Figure 43 between the IMG and UK lines can be fully explained by these formal agreements.

**Figure 43: Proportion of doctors who joined in 2015 that were licensed on 31 December of each subsequent year**

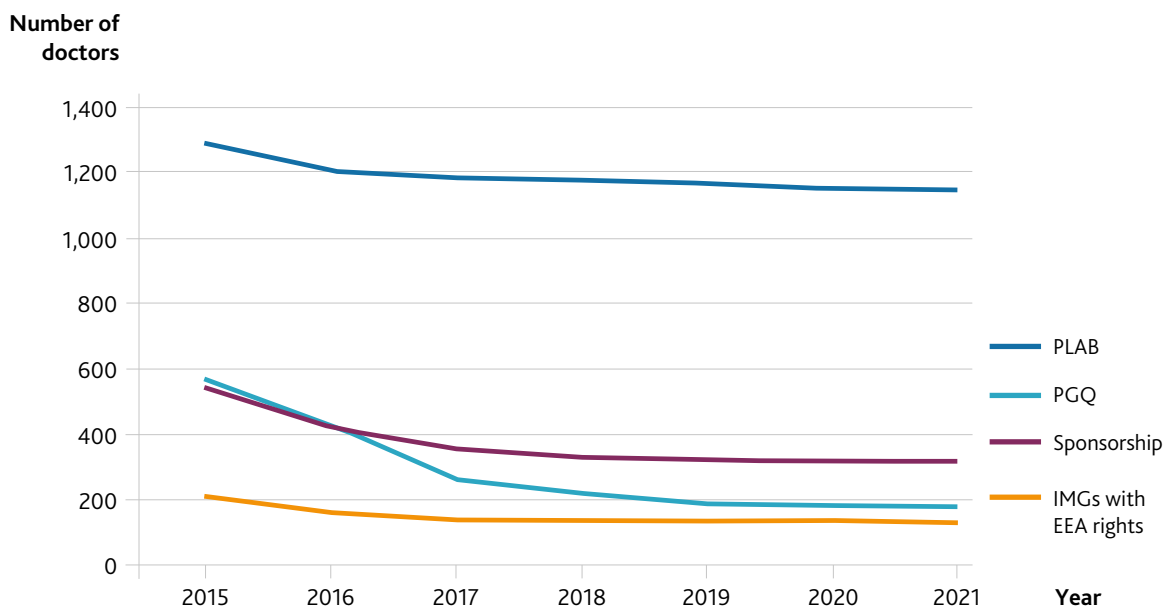


89% of the IMGs who joined in 2015 via the PLAB route were still licensed in 2021, which equals the retention rate of UK graduates from that cohort of joiners (Figure 43). IMGs with EEA rights and those joining with postgraduate qualification (PGQ) recognition remained in the workforce to 2021 at similar rates (61% and 59% respectively). More system-wide research is needed to understand why the retention rates for doctors joining by these routes are not higher.

It should be noted that doctors have individual motivations to join the UK workforce, and some may have always planned to leave after a short

period without formally planning or agreeing in advance. That said, there may be opportunities to improve the retention of non-UK graduates in the UK health service. Given that IMGs make up an increasingly large proportion of doctors joining the UK workforce, it is important that the typical length of service that can be expected is included in workforce planning discussions. The UK health service is currently evaluating how sustainable this high flux of non-UK graduate doctors is, and this discussion is mirrored in nursing and midwifery workforce planning.<sup>33</sup>

**Figure 44: IMGs who joined in 2015 that were licensed on 31 December of each subsequent year by their route to registration**



Routes with fewer than 10 doctors removed. Prior to the end of the Brexit transition period on 31 December 2020, doctors with an IMG PMQ but an EEA nationality or acquired rights could apply for registration via the EEA route, hence their inclusion here. Doctors with a Swiss nationality may still apply via this route.

Our recent research into the career progression of non-UK graduate doctors found that international doctors faced barriers to developing their careers within the UK.<sup>3</sup> IMG doctors, particularly SAS doctors, struggled to find positions compatible with their qualifications due to them having trained outside the UK. This led to limiting career prospects and a feeling of being 'stuck' with no option to progress into a specialist role.

### Larger proportions of SAS and LE doctors and ophthalmologists leave each year than average

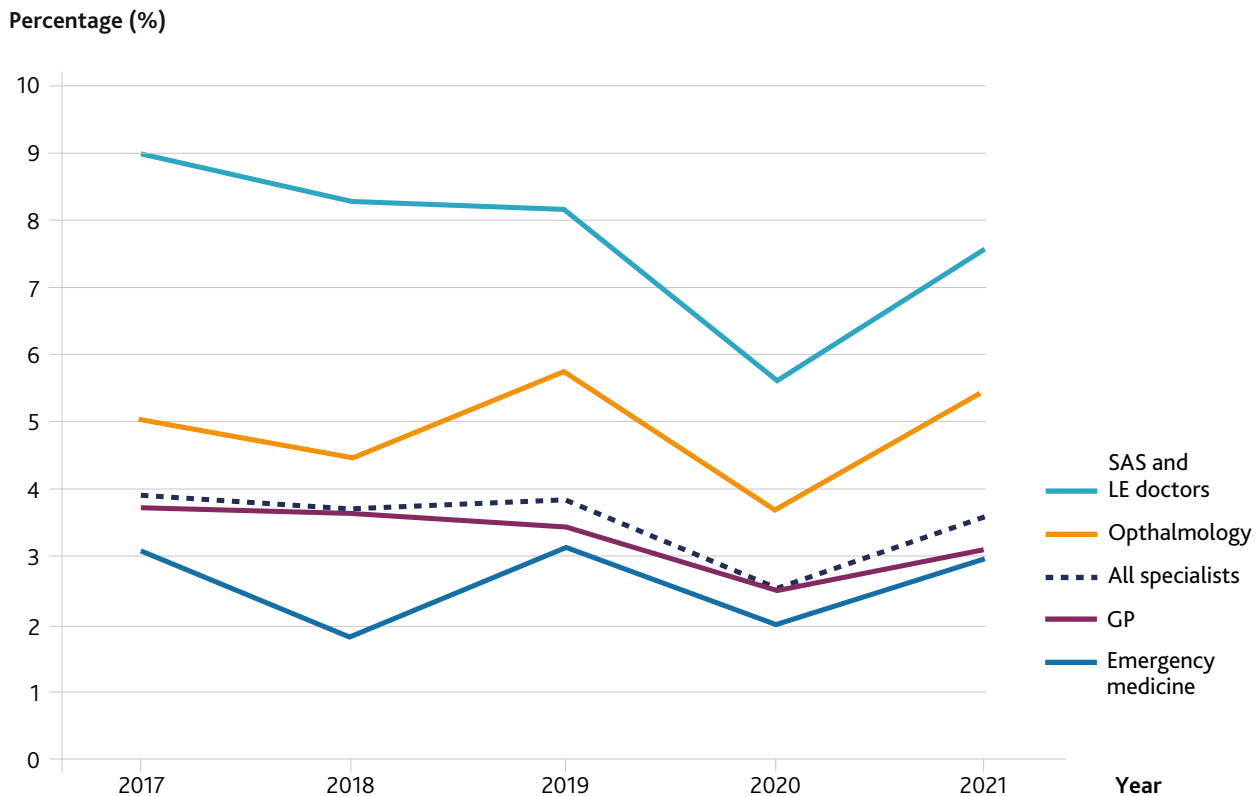
Certain areas of practice have slightly higher leaving rates than others. Figure 45 shows that SAS and locally employed (LE) doctors and ophthalmology specialists had consistently

higher proportions leave each year compared to the average across all specialty groups. In contrast, each year the leaving rate in emergency medicine has been at least one percentage point lower than the average since 2013.

The proportion of emergency medicine specialists who left in 2020 and 2021 appears to be in line with pre-pandemic proportions and recent surveys have found this group – including specialists and trainees – to have a lower risk of burnout.<sup>2</sup>

The proportion of GPs who left the workforce each year (about 4%) was slightly lower than the proportion of specialists leaving across pre-pandemic years. In 2020, the proportion of GPs who left reduced to 3% before returning to pre-pandemic levels in 2021.

**Figure 45: Proportion of licensed doctors of selected register types and specialties who left the profession from 2017 to 2021**



The proportion of SAS and LE doctors who left each year was at least 3% higher than the average across all specialist groups between 2012 and 2021.

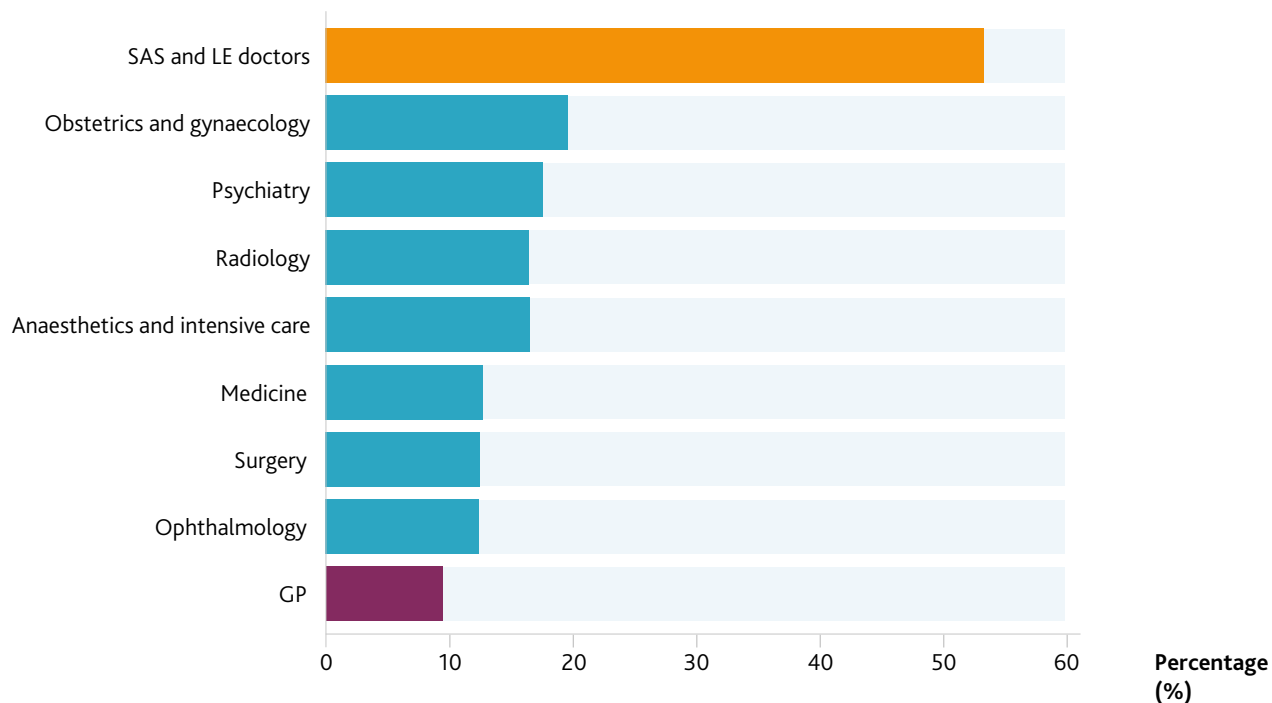
### More than half of the SAS and LE doctors who joined in 2013 have now left the UK workforce

More than half (53%) of the SAS and LE doctors who joined the UK workforce in 2013 had left the profession by 31 December 2021 (Figure 46). This shows the high mobility of the SAS

and LE doctor group – with many having joined on fixed-term arrangements – but also suggests there could be an opportunity to retain more of these doctors for longer.

Out of all doctors who gained their Certificate of Completion of Training (CCT) in 2013, obstetrics and gynaecology specialists had the highest rate of leaving the UK profession by 31 December 2021 at one in five (20%) compared to less than one in ten (9%) of the GPs who qualified in 2013 (Figure 46).

**Figure 46: Proportions of doctors gaining CCT in 2013 and no longer licensed on 31 December 2021 by specialty compared to SAS and LE doctors who joined in 2013**



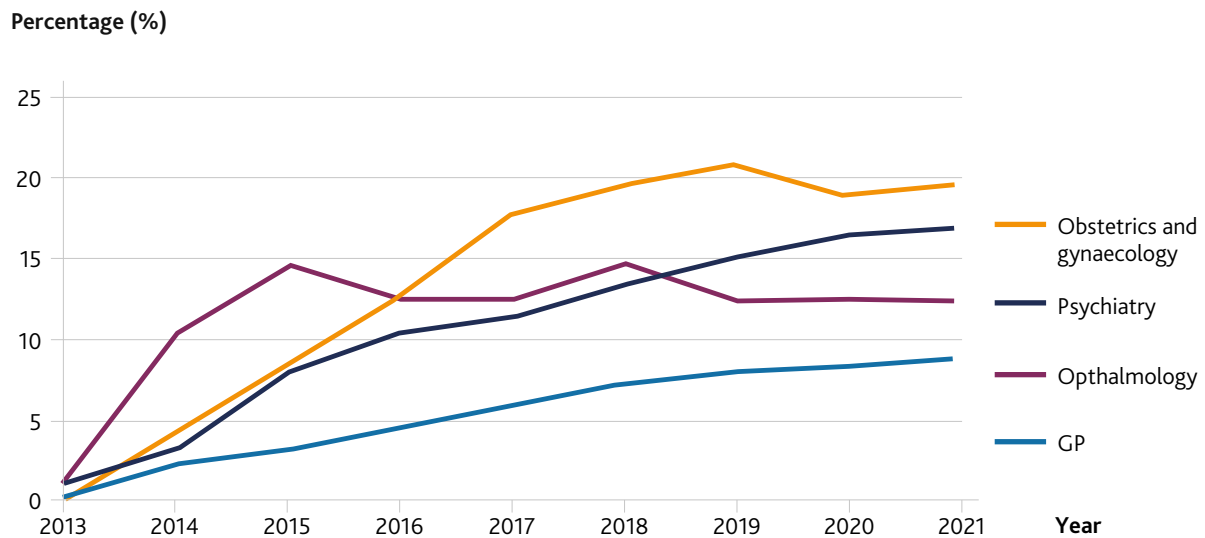
### High proportions of SAS and LE doctors leave soon after joining

There is a high rate of attrition in the 2013 SAS and LE doctor cohort – 15% of the SAS and LE doctors who joined in 2013 had left in 2014 (Figure 47). That proportion had more than doubled to 33% by 2015 and rose to 45% in 2016. From this point, the leaver proportion of SAS and LE doctors who joined in 2013 increased by only one or two percentage points in each subsequent year. This is likely to relate to the typical lengths of fixed-term arrangements that many of the SAS and LE doctors would have joined under.

Although ophthalmology does not have the highest leaving rate in 2021, more ophthalmologists were leaving two and three years after gaining a CCT than any other specialty. Interestingly, about 2% of these doctors returned to the UK workforce three or more years after attaining their CCT, resulting in 13% having left by 2021. Other specialties, such as psychiatry, obstetrics, gynaecology and general practice have a more consistent increase in their leaving rates – for at least the first five years following CCT.



**Figure 47: Proportion of doctors who attained CCT in 2013 and no longer held a licence on 31 December in each subsequent year**



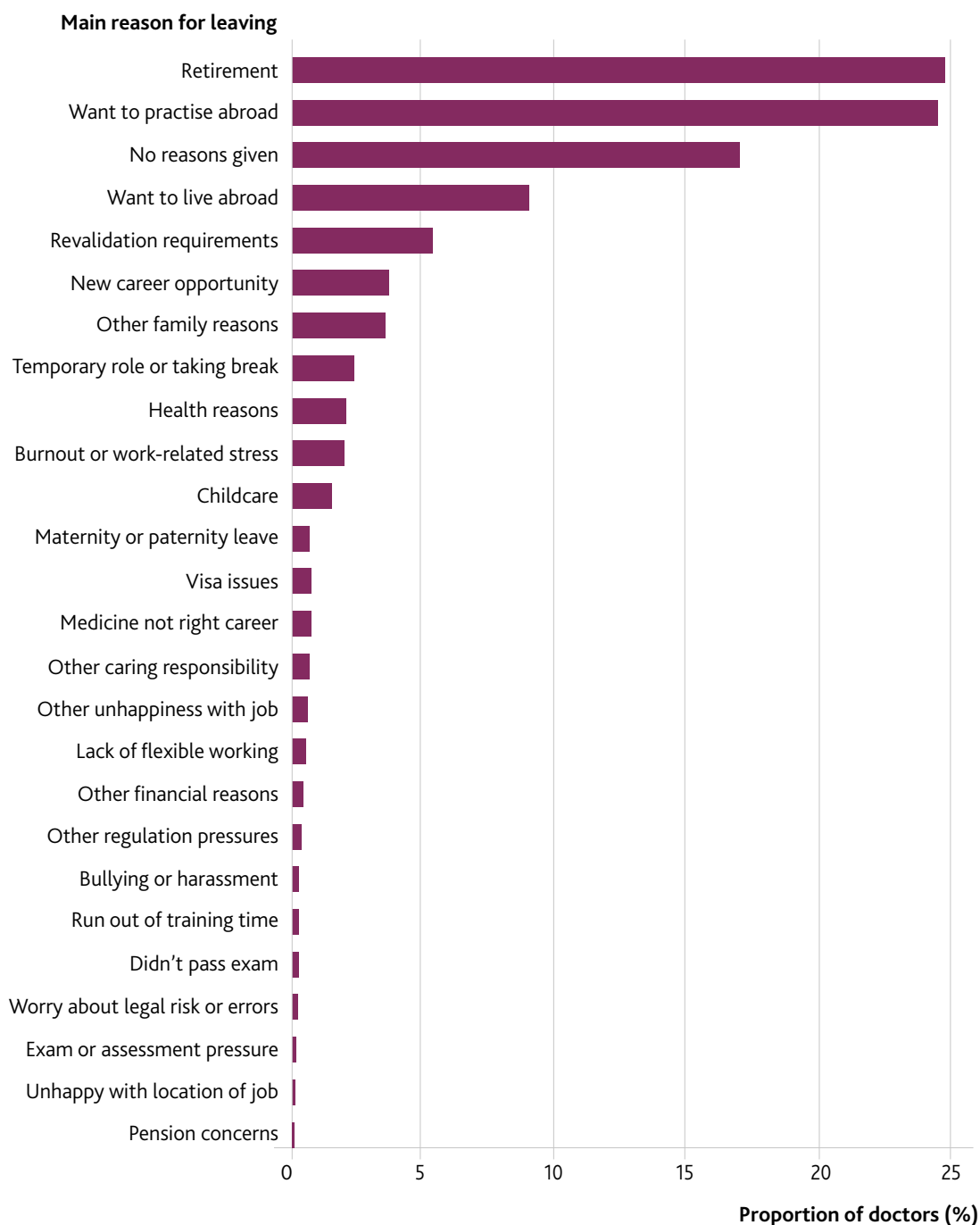
## Reasons for leaving

When a doctor chooses voluntary erasure from the medical register or to relinquish their licence to practise, we ask about their reasons for doing so. The *Completing the picture* report<sup>7</sup> showed that doctors' reasons for leaving UK practice are varied and complex, often with no single reason fully capturing why. However, dissatisfaction with role, place of work or NHS culture was the most commonly cited reason for leaving, with burnout and work-related stress also prominent. Therefore, since May 2021, doctors can choose up to three reasons for leaving from a list of options which were found to be the best

descriptors through the research. Almost two thirds (64%) of doctors chose only one reason for leaving while the proportion of doctors who chose two or three reasons was lower (15% and 21% respectively).

Figure 48 shows the proportion of doctors who chose their main reason for leaving between May 2021 and May 2022. A quarter of doctors (25%) said they were retiring, and a similar proportion (24%) said they wanted to practise abroad. 17% doctors did not specify their reasons for leaving while just under one in ten doctors (9%) stated they wanted to live abroad.

Figure 48: Reasons for voluntary erasure or relinquishing licence to practise from May 2021 to May 2022



40% of doctors with a primary medical qualification (PMQ) from the UK cited retirement as their main reason for leaving, followed by doctors leaving to practise abroad (19%). By contrast, most doctors with a PMQ

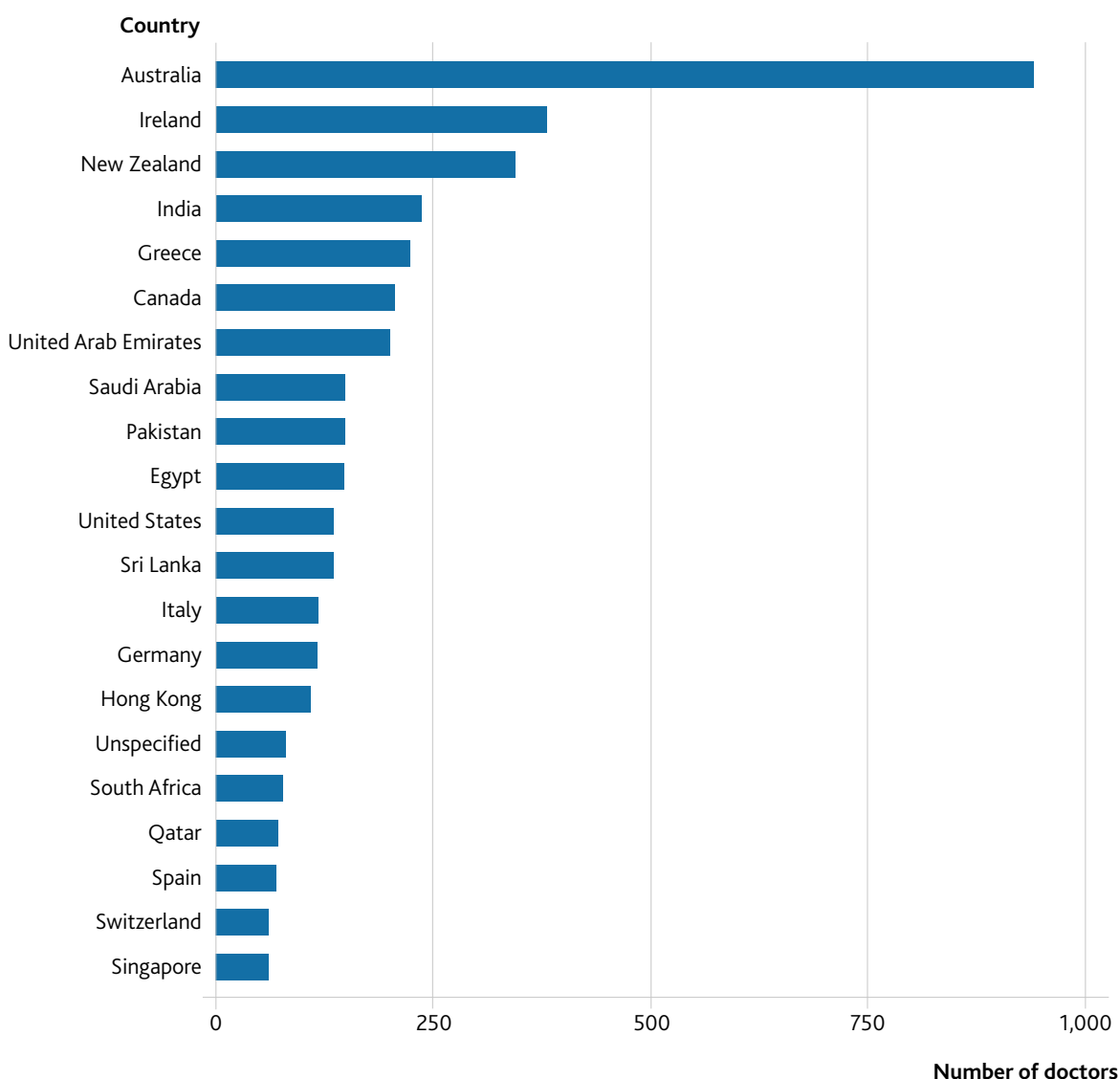
from the EEA cited leaving to practise (36%) or live (14%) abroad as their main reasons for leaving. Most IMGs mentioned practising abroad (27%), with retirement far less common (12%) so there may be evidence here that more

could be done to ensure working environments are supportive and inclusive for doctors of all backgrounds.

The proportion of doctors who did not specify any reason was similar across the three groups, ranging from 19% to 17%.

The average age of retirement, just under 64, has been largely consistent over the past 10 years so there is no evidence of doctors retiring earlier, but there could be a potentially large number of doctors that retention initiatives could focus on.

**Figure 49: Top 20 destination countries for doctors who left the workforce and wanted to practise and live abroad from May 2021 to May 2022**



## English-speaking countries are the preferred destination for doctors moving to practise abroad

The number of doctors who moved abroad to practise medicine varied across PMQ groups. EEA graduates showed the largest proportion (62%, 1,253) followed closely by IMGs (56%, 2,187) while UK graduates showed the lowest proportion (24%, 1,403).

Almost one in four (73%, 911) EEA graduates, about half (51%, 1,079) of IMGs, and one in ten (10%, 141) UK graduates were returning to their country of origin or nationality. The most popular destinations for doctors who moved to practise abroad were Australia (19%, 939), Ireland (8%, 379), New Zealand (7%, 345), and India (5%, 235) (Figure 49).

Our analysis shows that British nationals made up two thirds (67%, 630) of doctors who planned to live and work in Australia, and over three quarters (78%, 268) of those planning to live and work in New Zealand. By contrast, about four in ten (43%, 163) doctors who moved to Ireland were of Irish nationality while nine in ten (91%, 214) who moved to India were of Indian nationality. Most doctors of British nationality who were planning to live abroad chose English-speaking countries, such as Australia, New Zealand or Canada, as their preferred destination. Doctors moving abroad to non-English speaking countries were mostly returning to their country of origin.



# Conclusions and key insights for workforce planning

## Chapter 5 overview

Throughout this report our data have highlighted insights about the workforce that are important for workforce planning discussions in the UK governments, medical employers, health education bodies, royal colleges, and others. We have shown that:

- Growth in the UK medical workforce has been increasingly driven by international medical graduate (IMG) joiners, who outnumbered UK graduate joiners in 2021. It is encouraging to see that the UK is an attractive destination for IMG doctors, but our future medical workforce will become vulnerable if the high rates of IMGs joining does not continue.
- There is a significant shift in the overall make-up of the UK medical workforce, with the specialty and associate specialist (SAS) and locally employed (LE) doctor group expanding the most. If the current trends hold until 2030, the SAS and LE doctor group will be the largest register group in the workforce. However, our data show this group are more likely to leave practice after a shorter period than other doctors, so it is vital that issues they have raised, around career progression and how they are deployed and supported, are addressed.
- The GP workforce has had the slowest growth of all register types over the last five years. This has coincided with a reduction in the proportion that work full time and large proportions reporting feeling unable to cope with current workloads, showing the current state of fragility in this part of the workforce. Although the number of doctors in GP training is increasing (especially for IMGs), expanding those able to work in the service should be part of the solution. To do this, changes to the Performers List and the potential creation of a SAS grade in primary care should be considered, as well as the expansion of primary care career options for physician associates.
- It is encouraging to see the workforce becoming more international, and increasingly ethnically diverse and gender equal. As the demographics and backgrounds of the workforce change it will become even more important to ensure all doctors work in supportive environments where diversity is embraced and inequalities are addressed. Tackling the barriers to career progression and more general exclusion that doctors can face will aid retention but will also mean the UK's healthcare systems will get more from these doctors as they build skills and experience.

Overall, there has been a continued increase in the number of licensed doctors, at a time when pressures and workloads are also on the rise. At a granular level, we see differences in the rate at which the number of doctors is increasing, in terms of the UK country and the field of medicine they work in.

Growth in the UK medical workforce has been largely driven by an increase in doctors joining who hold primary medical qualifications (PMQs) from outside the UK and European Economic Area (EEA). While IMGs joining the workforce is not new, in 2021 they again outnumbered UK graduate joiners and have been increasing considerably since 2017. Workforce planners should consciously address the desired balance between domestic and foreign trained doctors. They should also consider how to best support these doctors in the workforce to ensure retention.

Graduates from outside the UK use a variety of routes to join the UK workforce. These graduates come from many different circumstances, which drive factors such as length of stay. For example, we have seen that a high proportion of IMG doctors will be in the UK for only a few years while having fixed-term visas but there could be an opportunity to improve the retention of those joining for a longer term. In addition, some doctors are using new routes to join the register, such as British nationals attaining their PMQ in an EEA country.

The increasingly international workforce, coupled with the greater diversity of the UK medical school graduates that join, mean there are more doctors from minority ethnic groups. The overall workforce is also increasingly female – and closer to gender parity. But some areas of practice are disproportionately male – such

as surgery – or female – such as obstetrics and gynaecology. The diverse workforce brings a responsibility to ensure practitioners feel valued across all areas of the workforce and have a sense of belonging. Leadership should ensure diversity is both embraced and supported while doing more to address inequalities. There must be support for all doctors to progress and develop through their careers. Tackling the exclusion that doctors can face will aid retention and mean the UK's healthcare systems will get more out of all doctors over longer careers.

Besides changes to the backgrounds and demographics of doctors, the mix of register groups is also undergoing considerable change, with the SAS and LE doctor group growing very quickly. We take no position on what the mix of doctors should be but our data show that the specialist – and especially the general practice – workforces are growing at a far slower rate. The slow growth of the GP register has coincided with a reduction in the proportion that work full time<sup>1</sup> and large proportions reporting feeling unable to cope with current workloads.<sup>2</sup> Although the number of doctors in GP training is increasing (especially of IMGs), there is a case for widening the types of medical roles that can work in primary care. For example, there could be changes to the Performers List, and a SAS grade for primary care could have large and immediate benefits. There is also the option of improving primary care career options for physician associates.

If the current trends hold until 2030, the SAS and LE doctor group will be the largest component of the workforce. This is a significant shift in the overall make-up of the UK medical workforce and will require thought and planning in how to deploy them most effectively and support their progression so that they can thrive and fulfil their potential.

It's important to consider which tasks can be shared and how the roles of doctors can evolve within multidisciplinary teams. However, there also needs to be careful consideration of how the workforce can progress their careers. As the regulator of medical education, we are actively involved in conversations with others about whether training pathways need to be adapted so that they do not only relate to those that want to become consultants or GPs.

Workforce planners should consider the data regarding leaving rates and what lies behind them so that methods for improving retention

can be found. In a scenario where the November 2021 to April 2022 leaving rates continued until 2030, there would be 16,138 more doctors leaving by 2030 than if leaving rates reverted to 2017–2019 monthly averages. Consideration must be given to whether these higher rates of leaving are likely to continue. The increasingly high levels of burnout we have previously reported suggest this could be a risk.<sup>2, 34</sup>

Despite recent steady growth in the number of licensed doctors across the UK, the profession remains under immense pressure. In addition to the UK producing more medical graduates and remaining competitive in the international market for doctors, it is critical that workplaces become more inclusive, compassionate and supportive. This will help to improve retention and foster more efficient multidisciplinary working, which will ultimately lead to improved patient care.

# Glossary

EEA	European Economic Area
F1/2	Doctors in their first or second year of Foundation Programme postgraduate training
GMC	General Medical Council
GP	General practitioner
IMG	International medical graduate
LE	Locally employed
NHS	National Health Service
NTS	National training survey
PGQ	Postgraduate qualification
PMQ	Primary medical qualification
SAS	Specialty and associate specialist
SoMEP	State of medical education and practice
TER	Temporary emergency register
VE/RL	Voluntary erasure/relinquish licence



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# Acknowledgements

Mary Costello

Tanita Cross

David Darton

Steve Doohan

Emma Foster

James Gooding

Chris Kaye

Aitor Hernandez Ortega

Zara Johnson

Koraljka Kralj Borojevic

Siobhán Murphy

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