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PERFORMANCE TRACKER | LOCAL

General practice across England

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About this report

This report looks at the variation in general practice performance across England, comparing GP practice characteristics to examine what might explain differences in performance around the country. It is part of the Institute for Government's *Performance Tracker Local* series, supported by Nuffield Foundation.

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Summary

General practice has changed radically in recent years. The complexion of the workforce is markedly different than before the pandemic, with far fewer GP partners but far more direct patient care staff such as pharmacists, care co-ordinators and physiotherapists. The level and type of activity of that workforce has also changed, with many more appointments being delivered in 2024 than in 2019 – far more of these are, however, now done remotely. The number of practices has also fallen, continuing a trend of more than a decade, resulting in larger patient list sizes.

General practice holds a particular place in the minds of the public. For many, their local GP will be their first point of contact with the health system, the place they go when they or their loved ones are unwell. So understanding how the changes that have been made to it have affected its performance – and how this is perceived by the public – is important.

On this point there is not much good news for a government that has promised to "bring back the family doctor" as part of its plans to reform the NHS. Patient satisfaction dropped precipitously during the pandemic and has barely improved since. Understanding what characteristics of practices are associated with higher satisfaction and better 'quality and outcomes framework' (QOF) scores will be essential to improving the picture in general practice.

This report is the latest in the Institute for Government's new Performance Tracker: Local series, supported by the Nuffield Foundation, that analyses the performance of England's key public services at the subnational level. In it we use multivariate regression analysis to look at the effects of factors such as numbers and types of staff, mode of appointment, and levels of funding on metrics of general practice performance such as patient satisfaction. We conclude by offering recommendations on how the government can interpret our findings to begin to improve general practice.

Box 1 **How to interpret multivariate regression analysis in this report**

Throughout this report, we use multivariate regression analysis to explore relationships between practice characteristics. This allows us to assess the relationship between two variables while 'controlling' for other factors. For example, assessing the relationship between the number of GP partners in a practice and the proportion of patients satisfied with that practice, assuming that the number of patients in that practice, the proportion of appointments that are conducted face-to-face and the number of other staff are all held constant. This does not let us say that one characteristic *causes* an outcome, but it does let us see if a high level in one variable tends to go along with a high or low level in the other.

We show the variables we control for and the results from all our regressions in Appendix 1. The 'coefficient' column in those tables shows the size of the effect on the 'dependent variable' – the characteristic that we're testing the effect on, mostly patient satisfaction in this report – from a one unit increase in the variable listed in the 'independent variable' column. For example, in regression 1, an additional GP partner in a practice is associated with 1.4 percentage points more patients reporting satisfaction with their GP practice, holding all other variables constant. When we discuss effects in this report, the reader should assume that we are holding all other variables equal.

The regression analysis also shows us the likelihood that there is a relationship between the independent variables and the dependent variables. This is shown in the 'p-value' column. The p-value shows the probability that we would observe an effect in the direction that we do, if there was no relationship between the variables in reality. In other words, the smaller the p-value, the more likely it is there is a real relationship between the variables. Throughout this report we refer to the significance of the relationship. We say there is a 'statistically significant relationship' when a p-value is under 0.05. But beneath that value we have three levels of significance that are as follows:

Weak significance: $0.01<p<0.05$

Moderate significance: $0.001<p<0.01$

Strong significance: $p<0.001$

We show the results of these regressions in charts throughout the report. The dot on the chart shows the coefficient from the regression and the bars around the dot show the 95% confidence intervals for our results. This means that there is a 95% chance that the true value lies within this range. We consider results statistically significant where this range does not cross zero. Where a result is not statistically significant, it may still be informative, but may just reflect random chance, so should be interpreted with caution.

Key findings

- **More GPs** are most closely associated with both higher patient satisfaction and QOF scores.

- The effect is **strongest for GP partners** (self-employed GPs that own and manage practices), then salaried GPs (who are employed as staff by a practice) and GP trainees (doctors that have finished their medical degree and are undertaking a three-year training course after which they are eligible to become either a salaried GP or GP partner): one additional GP partner in a practice is associated with a **1.4 percentage point increase** in the proportion of patients reporting that their GP practice provides a good service. An additional salaried GP and GP trainee are associated with a 0.9 and 0.3 percentage point increase respectively.

- **More nurses** are also associated with higher patient satisfaction, though the effect is not as strong as for GPs, with a 0.2 percentage point satisfaction increase.

- **More direct patient care (DPC) staff have no significant effect** on satisfaction or QOF scores.

- Patient satisfaction tends to increase with **more GP appointments**, but not significantly so with non-GP appointments.

- Patient satisfaction is higher in practices that provide **more appointments face-to-face**, especially where a larger proportion of patients are aged over 65.

- Patients report higher satisfaction in practices with **smaller list sizes**.

- Other than appointments, all of these trends have gone in the **opposite direction to patients' preferences** since 2019.

We also assess the factors that are associated with practices delivering more appointments:

- An additional **GP partner is associated with the largest increase** in appointments in a practice: a rise of 4,256 GP appointments per year in a practice and a rise of 5,439 for all appointments in a practice.

- Additional GP trainees are associated with **less than a quarter** as many additional appointments as a salaried GP or GP partner (1,477 total appointments in a practice).

- An additional nurse is associated with **more than twice as many** appointments as an additional DPC staff member: 4,976 appointments compared to 2,279 appointments (though DPC staff carry out other, unmeasured activity).

- Remote appointments allow staff to deliver **more appointments overall**, but the added patient satisfaction from additional appointments **does not offset the decline in satisfaction** from fewer face-to-face appointments.

Recommendations in brief

To address waning satisfaction in general practice the government should:

- Urgently address some of the factors that make **being a GP partner less attractive**, including: the high cost of entering partnership, the unlimited financial liability that comes with most partnerships (particularly related to the ownership of premises), fears of being the 'last partner standing', and increasing workloads.

- **Assess whether other models could be more appropriate** and plan accordingly, if it thinks that the partnership model is no longer a feasible way of delivering general practice.

- **Better understand why more GP trainees don't join the fully qualified workforce** and take action to address these problems through an updated NHS *Long Term Workforce Plan*.

- **Make better use of the massively expanded direct patient care workforce.** As a start, it should improve the quality of data collected about their activity.

- **Better communicate** the reasons for the expansion of the direct patient care workforce to the public.

- **Be clear about the role that it wants general practice to play in a reformed NHS.** There is likely a trade-off between increasing access to general practice through expanded use of remote appointments and a decline in some indicators of service performance such as patient satisfaction and continuity of care. If the government does choose to prioritise access, it must communicate its reasons for doing so and attempt to mitigate some of the negative consequences.

Introduction

General practice occupies a unique position in the consciousness of the British public and GPs are often the first medical professional someone will see when they or their loved one become ill. The Labour Party sought to connect to this in its 2024 manifesto, promising to "bring back the family doctor".[1]

That might be easier said than done. General practice is vastly different now than it was even at the end of the last decade. The workforce has changed dramatically, with the expansion of non-GP roles and the continued decline of the GP partner workforce. When patients contact a practice, they are much more likely to do so through a digital platform and be triaged using pro-forma questionnaires. When they access the service, they are much more likely to have a remote appointment, either on the phone or through a digital consultation. Respondents to the GP patient survey report that they now find it more difficult to see their preferred GP when they would like to do so.

General practice has also dealt with several external shocks in recent years. The Covid pandemic forced staff to rapidly adopt new ways of working. The global inflation shock from 2022 eroded the real terms value of the GP contract that was agreed in cash terms in 2019 – spending on the service fell in real terms between 2021/22 and 2022/23 by 2.8%. And while spending grew in real terms between 2019/20 and 2022/23 (by 7.0%), general practice funding has not kept pace with other parts of the NHS. For example, spending on hospitals grew much faster, by 12.1% between 2019/20 and 2022/23.

These changes raise questions of how performance in general practice has changed in recent years, how much variation there is across practices, and which characteristics of general practice are associated with better or worse performance.*

It is notoriously difficult to judge quality in general practice. Much of the publicly available data relates to GP activity, but less is available on the outcomes of that activity. There has been a large increase in the number of appointments in general practice (22.5% more in 2024 than in 2019, a result that is in line with the government's ambitions to increase access to general practice) but the *type* of these appointments has changed, with most of that increase in appointments being delivered by non-GP staff. Of the 67.4 million additional appointments delivered between 2019 and 2024, 56.2 million were provided by nurses and direct patient care staff.

More appointments also doesn't necessarily mean improved quality of care. It could be that GPs spent less time with patients, or that patients did not see their preferred GP. There is also no way of determining whether the number of appointments, though clearly higher, was enough to match demand.

* We conduct most of the analysis in this report at a practice level. When we do it excludes activity and staff in primary care networks. We do this because it allows us to conduct analysis at a more granular level which therefore creates more variation. We do, however, conduct analysis at a primary care network level to check the robustness of our practice-level analysis.

Changes in the way that general practice is organised could also reduce the quality of the service. There is evidence that patients find it difficult to navigate recently expanded[2] digital systems.[3] Some patients, hearing of the problems in general practice or experiencing frustration trying to access it, may simply 'give up' or at least raise their thresholds for seeking care.[4]

There are, in short, few ways that we can observe quality comprehensively through publicly available data.

One metric of quality that can be usefully applied to the performance of general practice, however, is patient satisfaction. By digging into the annual GP patient survey,[5] this metric shows how patients experience general practice and how closely general practice meets their expectations. There are a few characteristics of this dataset that suit our purposes for this analysis. First, it is available at a practice level, allowing us to look at variation across practices and compared to other characteristics of that practice. Second, it is available since 2012, allowing us to assess variation over time.

Patient satisfaction is not necessarily related to clinical outcomes, and is also a function of patients' expectations, meaning it is possible that patient health could improve while satisfaction with general practice declines, or vice versa.[6,*] But despite these limitations, there are valuable lessons to draw from variation in patient satisfaction, the primary metric of performance we use in this report.

Another metric we will use to assess performance is a practice's achievement on 'quality and outcomes framework' (QOF) metrics. The QOF is a voluntary scheme that rewards GP practices with additional funding for meeting targets set by the government. In 2023/24, the QOF allocated practices points based on their achievement against 76 quality indicators across five domains (clinical, public health, additional public health services, vaccination and immunisation, and quality improvement).[7]

The NHS publishes data showing the proportion of QOF metrics that a practice achieves each year, offering us another metric against which we can assess practice performance. We will cross-reference findings from the satisfaction analysis to see if there is also a relationship with QOF outcomes.

This report draws on publicly available data, as well as qualitative interviews with GPs and health policy experts.

* We also note that questions in the GP patient survey change over time, although we think that the metric of overall patient satisfaction is broadly comparable between 2012 and 2023. It is only in 2024 that the time series is no longer comparable, due to a change in methodology.

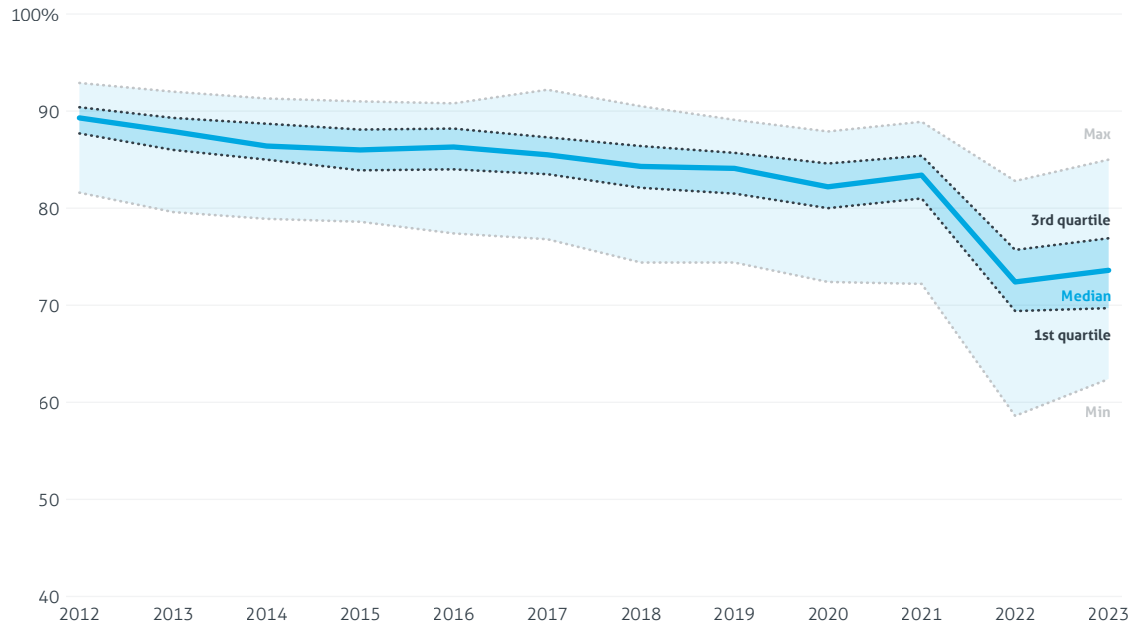
Satisfaction has worsened nationally since 2012

There has been a steep recent decline in patient satisfaction with general practice. Patients report far worse experiences of general practice now than at the start of last decade: in 2012, 88.4% of patients said they had a 'fairly good' or 'very good' experience of general practice. By 2023, this had fallen by 17.1ppt to 71.3%.*

Much of that fall happened in the last few years. The decline in satisfaction between 2021 and 2022 was the largest on record: between 2012 and 2019 the average change (either way) had never been more than 1ppt; in 2022 it was 10.6ppt. It is difficult to say exactly why this happened, but there are a few likely reasons. One reason could be changes in how patients accessed, and so perceived, the service in the late stages and immediate aftermath of the pandemic. A far smaller proportion of appointments are delivered face-to-face (just over a third; 66.2% in 2024 against 80.7% in 2019), and many patients' interactions with general practice is now mediated through an online platform.

Another might be from patients' frustration as general practice struggled to meet higher demand built up over 2020 and 2021, when many people did not present to GPs as the government encouraged people to "protect the NHS". This view is supported by the Royal College of General Practitioners (RCGP).[8] The continued decline in 2023 may indicate that higher demand has not dissipated in the wake of the pandemic.

Figure 1 **Patients satisfied with their GP practice, by sub-ICB area, 2012–23**



Source: Institute for Government analysis of NHS, 'GP Patient Survey' (Q32), 2012–23. Notes: Figures relate to England and show the proportion of patients rating satisfaction with their GP practice as 'Very good' or 'Fairly good'. A methodology change means 2024 results are not comparable to previous years so we have excluded it from this chart.

* We compare 2023 to 2012 because there was a change in the GP patient survey methodology in 2024, which means it is no longer comparable with the longer time series. Due to this, we will use 2024 satisfaction when we are looking at a cross-section of satisfaction throughout this report, but we will use 2023 results when comparing satisfaction with previous years. These numbers also differ to Figure 1 because that shows the result in the median sub-ICB rather than the England total.

Our analysis shows that patients tend to report higher satisfaction with practices that have more GPs (particularly GP partners), provide more appointments (particularly GP appointments), deliver more face-to-face appointments, and have smaller patient list sizes. Except for the headline number of appointments, all these metrics have trended in the opposite direction to that which would improve patient satisfaction in recent years.

How has patient satisfaction changed around the country?

High-level national trends also obscure some of the variation at a more local level. These are explored here.

Variation in patient satisfaction across areas has increased since 2012

Using the GP patient survey, we can aggregate practices' results into sub-ICB areas.* There are no sub-ICBs that performed better in 2019 than 2012 – or in 2023 than 2019. And while there has been a decline in patient satisfaction** at every level, there is also substantial variation in the extent of that decline.

In 2012, 92.9% of patients in the highest scoring sub-ICB reported a good experience of general practice, compared to 81.6% in the lowest scoring. The inter-quartile range (IQR, the difference between 25th and 75th percentiles***) also grew in that time. In 2012, the IQR was 2.6ppt. In 2023, that had almost tripled to 7.2ppt.

But there are no sub-ICBs that have bucked the national trend by improving patient satisfaction. Areas that were doing well before the pandemic are still performing better. In better-performing sub-ICBs we found a strong relationship**** (an R-squared of 0.44) between patient satisfaction in 2012 and in 2019, and again between 2019 and 2023 (Figure 2).

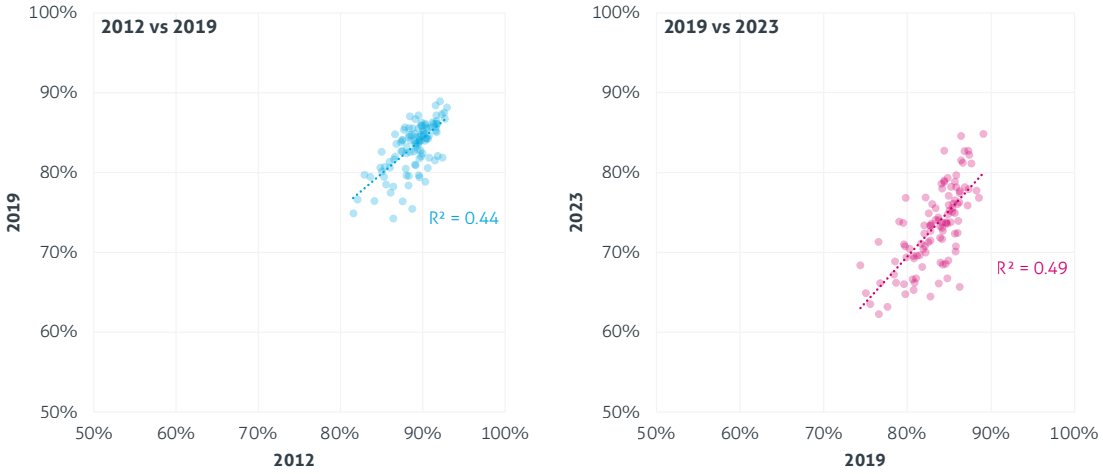
* Sub-ICBs are NHS geographies that sit beneath the 42 integrated care boards (ICBs) in England. There are 106 sub-ICBs in England, with an average of approximately 600,000 patients in 2024 (the smallest had 117,657 patients and the largest 2,884,883).

** Throughout this report we will use 'patient satisfaction' interchangeably with patients' 'overall experience of general practice'.

*** The 25th percentile value is the sub-ICB that is one quarter of the way between the bottom and the top of the distribution of patient satisfaction. The 75th percentile is the sub-ICB that is 75% of the way through the distribution.

**** Across this report, we will interpret R-squared relationships in the following way: 0 = no relationship; 0–0.1 = weak; 0.1–0.35 = moderate; 0.35+ = strong.

Figure 2 **Patients satisfied with their GP practice, by sub-ICB area, 2012 vs 2019 and 2019 vs 2023**

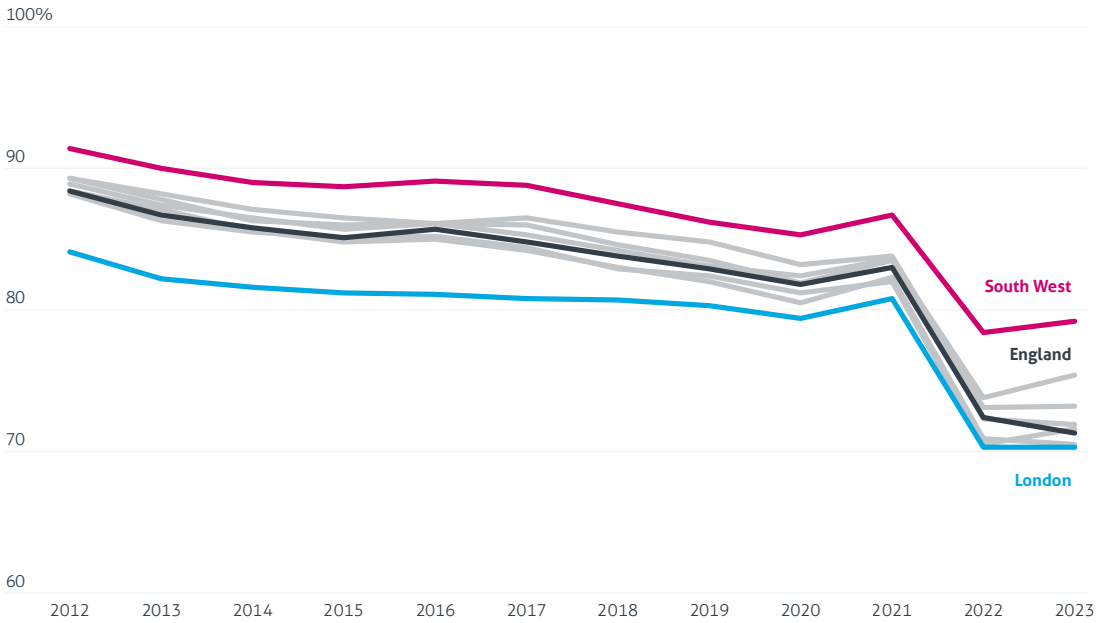


Source: Institute for Government analysis of NHS, 'GP Patient Survey' (Q32), 2012, 2019, and 2023. Notes: Figures relate to England only and show the proportion of patients rating satisfaction with their GP practice as 'Very good' or 'Fairly good'. A methodology change in 2024 means that results are not comparable with previous years so we used 2023 as the end point of the comparison. Sub-ICBs are NHS geographies that cover 600,000 patients on average.

Patient satisfaction is highest in the South West and lowest in London

The gap between different regions has also grown. The South West is the stand-out region, showing the smallest fall in satisfaction (12.2ppt) and outperforming others both at the start and the end of the time period. The largest fall was in the South East (17.4ppt), while London was consistently the worst performing region. Between 2012 and 2023, the gap between these regions grew from 7.2 to 9.0ppt.

Figure 3 **Patients satisfied with their GP practice, by region, 2012–23**



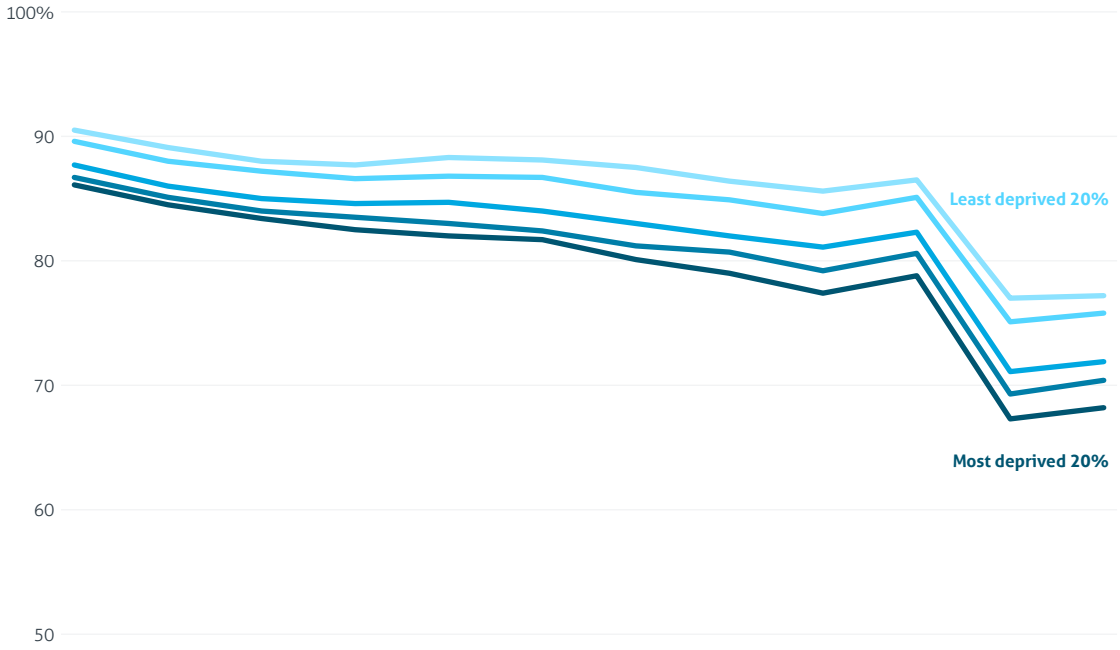
Source: Institute for Government analysis of NHS, 'GP Patient Survey' (Q32), 2012–2023. Notes: Figures relate to England and show the proportion of patients rating satisfaction with their GP practice as 'Very good' or 'Fairly good'. A methodology change means 2024 results are not comparable to previous years so we have excluded it from this chart.

Satisfaction is lowest in the most deprived parts of the country

Deprivation is also related to patient satisfaction. Looking at the deprivation of patients registered to a practice[1] shows us that the lowest satisfaction rates are found in the practices with the most deprived quintile* of patient lists in England in 2023. In 2012, some 86.1% of patients in this quintile had a good experience of general practice but this fell by 17.9ppt to just 68.2% in 2023 – the largest fall. In contrast, the least deprived quintile had the smallest drop in that time: 13.3ppt, from 90.5% to 77.2%.

Taken together, this shows the gap in patient satisfaction between the most and least deprived quintiles more than doubled from 4.4ppt in 2012 to 9.7ppt in 2023.

Figure 4 **Patients satisfied with their GP practice, by patient list deprivation, 2012–23**

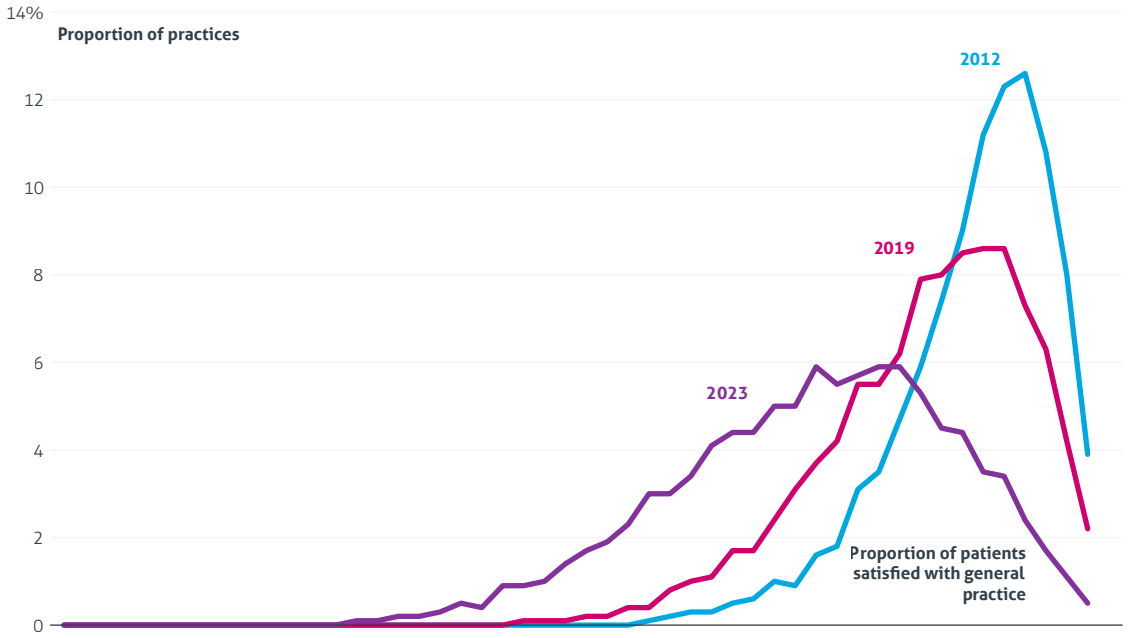


Source: Institute for Government analysis of NHS, 'GP Patient Survey' (Q32), 2012–2023 and DHSC, 'Fingertips' (Deprivation score, IMD 2019). Notes: Figures relate to England and show the proportion of patients rating satisfaction with their GP practice as 'Very good' or 'Fairly good'. A methodology change means 2024 results are not comparable to previous years so we have excluded it from this chart. 'Deprivation' refers to the deprivation of a practice's patient list, based on the area where the patient lives.

* The most deprived quintile shows practices with the top 20% of deprivation scores in England.

Variation in patient satisfaction has increased since 2012

Figure 5 **Distribution of patients satisfied with their GP practice, 2012, 2019 and 2023**



Source: Institute for Government analysis of NHS, 'GP Patient Survey' (Q32), 2012, 2019 and 2023. Notes: Figures relate to England and show the proportion of patients rating satisfaction with their GP practice as 'Very good' or 'Fairly good'.

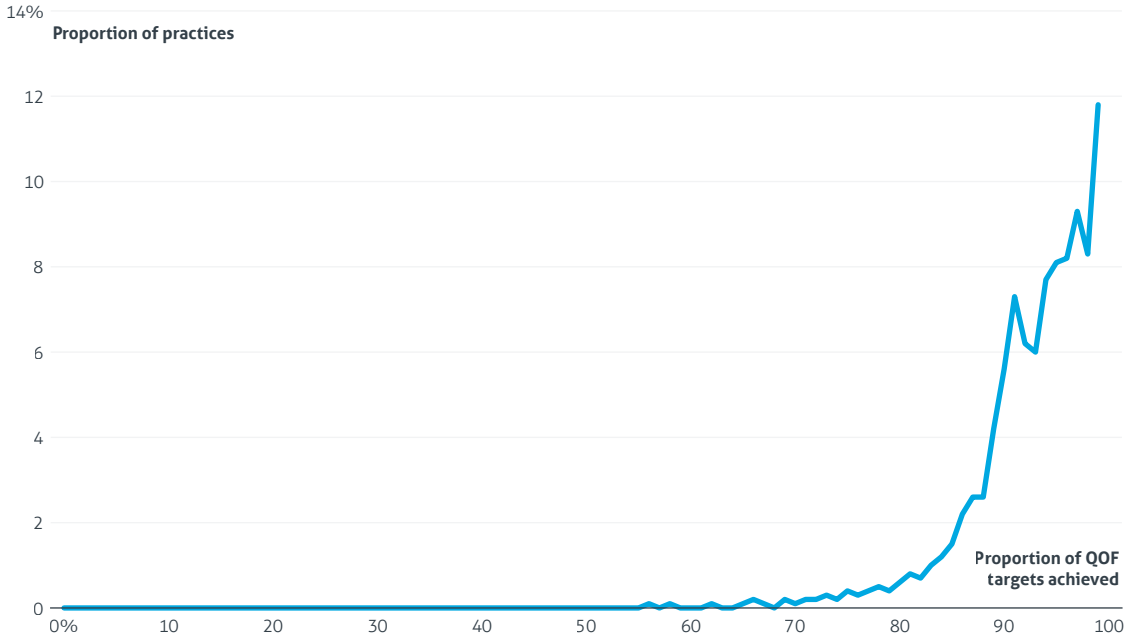
The variation in satisfaction over time is even more evident when looking at the practice level. Here, there has been a dramatic shift in the distribution of patients reporting a good experience of general practice. In 2012, just under half of practices (47.7%) had very high (>90%) patient satisfaction. In 2023, this had fallen to less than 1 in 10 practices (9.1%). At the other end of the distribution, in 2012 fewer than 1 in 100 (0.4%) practices had patient satisfaction under 60%. This had risen to more than one in six (17.9%) by 2023.

Many practices achieve nearly all QOF targets

We also look at the relationship between QOF achievement and practice characteristics in this report. We do that because QOF is another indicator of the quality of care in a practice. The government chooses QOF targets that are intended to improve health outcomes for patients. An example of a clinical target is that the practice maintains a register of patients with coronary heart disease (CHD) and then manages those patients' condition. Practices are deemed to be effectively managing CHD if patients are taking an effective medication, such as aspirin.[2] Achieving or missing QOF targets are not the only metric of quality of care for a practice, but they do reflect the government's priorities for the service.

It is harder to compare QOF achievement over time because the government frequently changes the number and type of QOF targets. But it is possible to look at the distribution of QOF achievement in 2023/24.

Figure 6 **Distribution of GP practices' achievement of quality and outcomes framework targets, 2023/24**



Source: Institute for Government analysis of NHS Digital, 'Quality and outcomes framework: achievement at practice level, all domains', 2023/24. Notes: This shows England only.

In that year, 11.8% of practices achieved between 99% and 100% of their QOF targets and 78.5% of practices achieved more than 90%. Despite this relatively tight distribution of QOF achievement, there is still sufficient variation to compare to other characteristics of general practice (more of which below).

How patient and staff numbers are related to patient experience

This section looks at which characteristics of practices are associated with higher and lower patient satisfaction.

The number and type of staff in general practice has changed in recent years

Nowhere is the radical change in general practice more evident than in the workforce. Some of that change has been planned and managed, but much of it has not. From 2019, the Conservative government oversaw a rapid and intentional expansion in direct patient care staff (such as pharmacists, physiotherapists and others hired under the Additional Roles Reimbursement Scheme), pouring money into general practice and primary care networks to facilitate this.[1]

In contrast, the fully qualified GP workforce has declined despite repeated attempts to grow it. In September 2015, there were 28,515 fully qualified permanent GPs.* By December 2024, this had fallen by roughly 1,200 – a decline of 4.2%. There has been an increase in fully qualified permanent GPs since the middle of 2023, though this has been driven entirely by a rise in salaried GPs (as opposed to GP partners).**

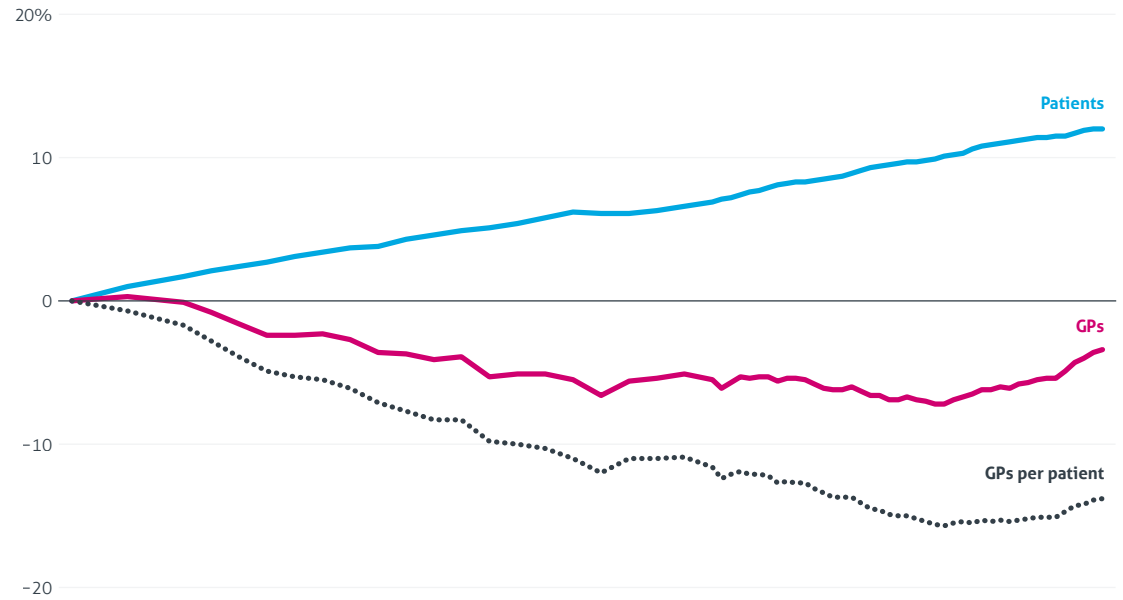
GP partners are vital for the working of the partnership model of general practice. They own and manage a practice and hold a contract with the NHS to deliver services, effectively making them small business owners. They also undertake a large amount of clinical work, as discussed in more depth below. Partners often take on significant personal financial risk: partnerships tend to follow an 'unlimited liability' model, in which a partner is personally responsible for the practice's liabilities. For example, the partner will be responsible for paying back the mortgage that a practice may hold if they want to shut the practice. Partners also fear being the 'last partner standing' – when all other partners leave the service, shifting all of the practice's liabilities on to the shoulders of the remaining partner.

In contrast, a salaried GP is employed by a practice. They carry out clinical work but do not have the same responsibilities or liabilities as partners.

Between September 2015 and December 2024, the number of patients rose substantially, meaning that the number of GPs per patient has fallen. In September 2015, there were 50.2 fully qualified permanent GPs per 100,000 patients in England. This fell by 13.8% (to 43.3) by December 2024, driven by a mixture of an increase in patients registered in general practice (+12.0%) and a decline in the number of fully qualified permanent GPs (-3.4%).

* This is the sum of GP partners and salaried GPs, but excludes regular GP locums and GP trainees.
** Throughout this report any reference to staff numbers is in terms of full-time equivalent numbers, unless specifically stated otherwise.

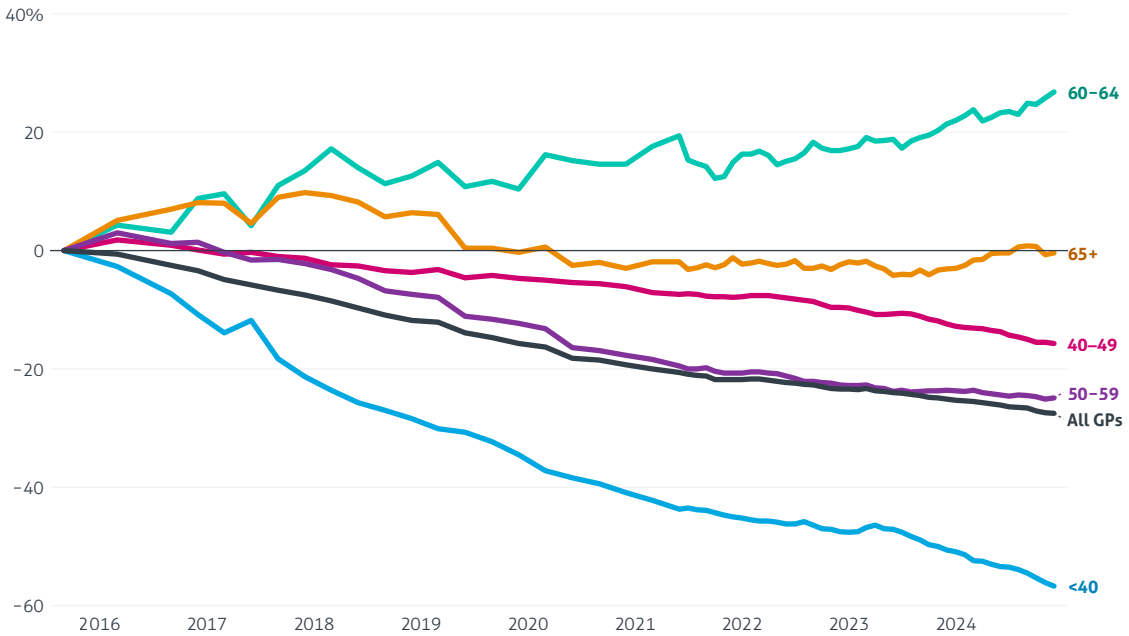
Figure 7 **Change in GP and patient numbers since September 2015**



Source: Institute for Government analysis of NHS Digital, 'General practice workforce - bulletin tables' (Tables '1a' and '5'), December 2024. Notes: This shows England only. All staff numbers are in terms of FTE. 'GPs' refers to fully qualified permanent GPs.

The aggregate drop in fully qualified permanent GPs disguises a more radical change: the number of GP partners fell from 21,655 in September 2015 to 15,703 in December 2024, a fall of 5,952 or 27.5%. The decline has been greater among younger GP partners. In September 2015, there were 4,152 GP partners aged under 40. By December 2024, this had fallen to 1,796 – a drop of 56.7%. This trend is not the result of an intentional change from the government but has instead happened in an unplanned and haphazard way.

Figure 8 **Change in GP partner numbers since September 2015, by age band**



Source: Institute for Government analysis of NHS Digital, 'General practice workforce, England, bulletin tables December 2015 – May 2024' (Table '2a'). Notes: All staff numbers are in terms of FTE. This shows England only.

Greater numbers of GP trainees are not bolstering the workforce as expected

The government has tried to expand the GP workforce. It has more than doubled the number of GP trainees between 2016 and 2024 – but those trainees are not translating into the fully qualified workforce* at the same rate.

It is difficult to work out exactly what is driving this, but there are a few likely reasons. First, there is simply a lag effect between doctors starting their training and entering the fully qualified workforce.** A GP traineeship usually lasts for three years. After a doctor finishes their GP training, there is often then another gap before they join the workforce, as shown in Figure 8. Among those GPs who finished their training in the year ending June 2019, under half had joined the workforce 12 months later (48.2%). This is understandable. Many take a break after finishing their training, decide where they want to apply for a permanent job, or work elsewhere for a while.

There then seems to be an upper limit to the number of trainees who ever join the workforce. By December 2024 – more than five and a half years after finishing their training – little over three quarters of those doctors who finished their GP training in the year to June 2019 had ever joined the GP workforce (77.4%). It seems unlikely that many more of their cohort will eventually join.

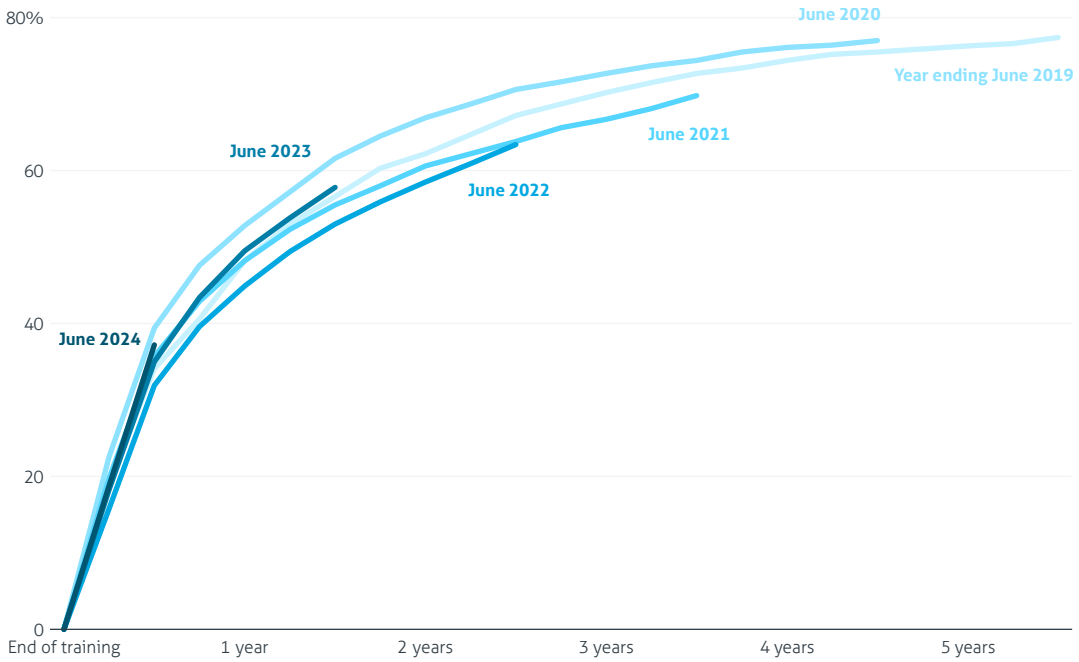
Second, there is evidence that the pandemic may have affected the rate at which GP trainees moved into the workforce. As Figure 8 shows, those doctors who finished their GP training in the years ending June 2021 and 2022 have not joined at the same rate as the June 2019 cohort discussed above. Two years after finishing training, 62.2% of that cohort had joined the workforce – compared to 60.6% and 58.5% of the June 2021 and June 2022 cohorts respectively.*** The June 2023 and June 2024 cohorts, however, seem to be tracking closer to pre-pandemic levels, suggesting that this drop may resolve itself within the next few years.

* For the rest of this section, unless otherwise stated 'the workforce' refers to the 'fully qualified workforce'.

** Throughout this section we refer to three stages in a GP's career. Their time undertaking a medical degree, which we refer to as medical training, and which may have taken place in a country outside the UK. There is then their time spent training to be a GP in England. During this time, we refer to them as 'GP trainees'. Finally, once a doctor finishes their GP training, they can join the fully qualified GP workforce.

*** This data shows only whether a GP that previously finished training ever joins the workforce. It doesn't capture how long they stay or show when they leave.

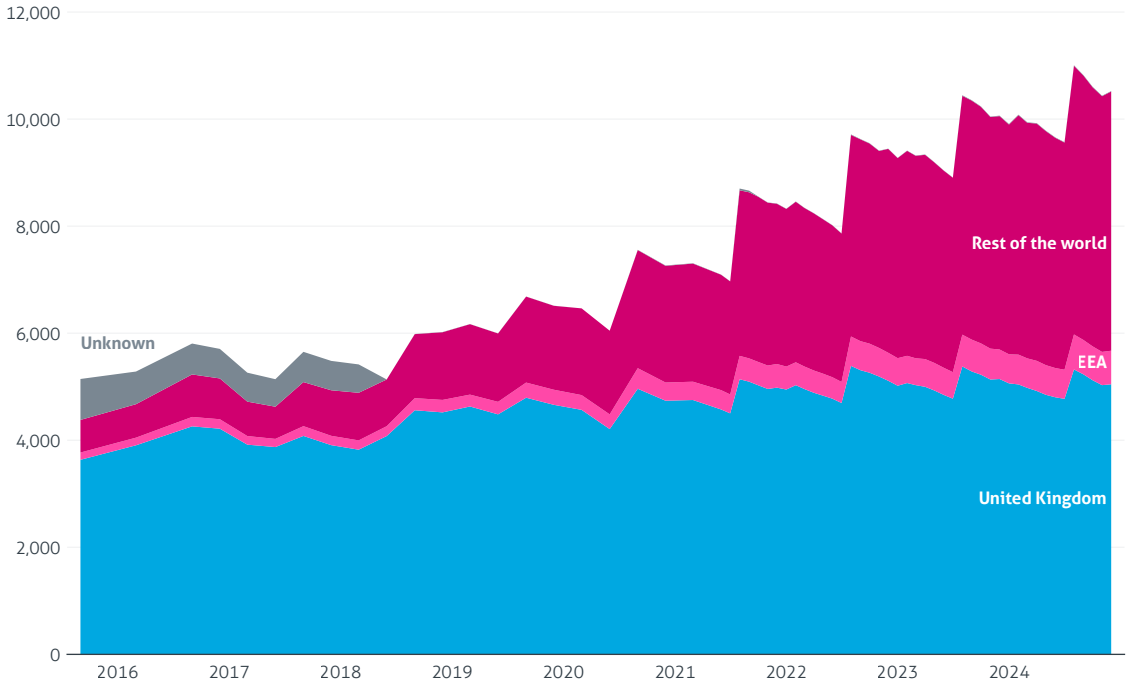
Figure 9 **Proportion of GP trainees entering the fully qualified workforce, by year in which they completed training, 2019–24**



Source: Institute for Government analysis of NHS Digital, 'Tracking GPs in training into fully qualified general practice roles' ('1. All GPs' table), December 2024. Notes: Each series shows the GPs that finished their training programme in the previous 12 months. They might have subsequently left the workforce. This shows England only.

Third, it could also be that the falling rates are due to a changing source of GP trainees. Since the end of the last decade, the NHS has increasingly hired GP trainees from outside the UK. When breaking down the countries in which trainees completed their medical degrees between September 2018 and September 2024, the data shows the number from the UK grew by 14.7% (from 4,561 to 5,232), while the growth in the number of trainees who completed medical degrees outside the UK was almost three-fold (292.5%, from 1,422 to 5,582). Indeed, 2024 is the first time that the number of trainees from outside the UK exceeds the number from the UK.

Figure 10 **GP trainee headcount, by country of medical training, September 2015 to December 2024**

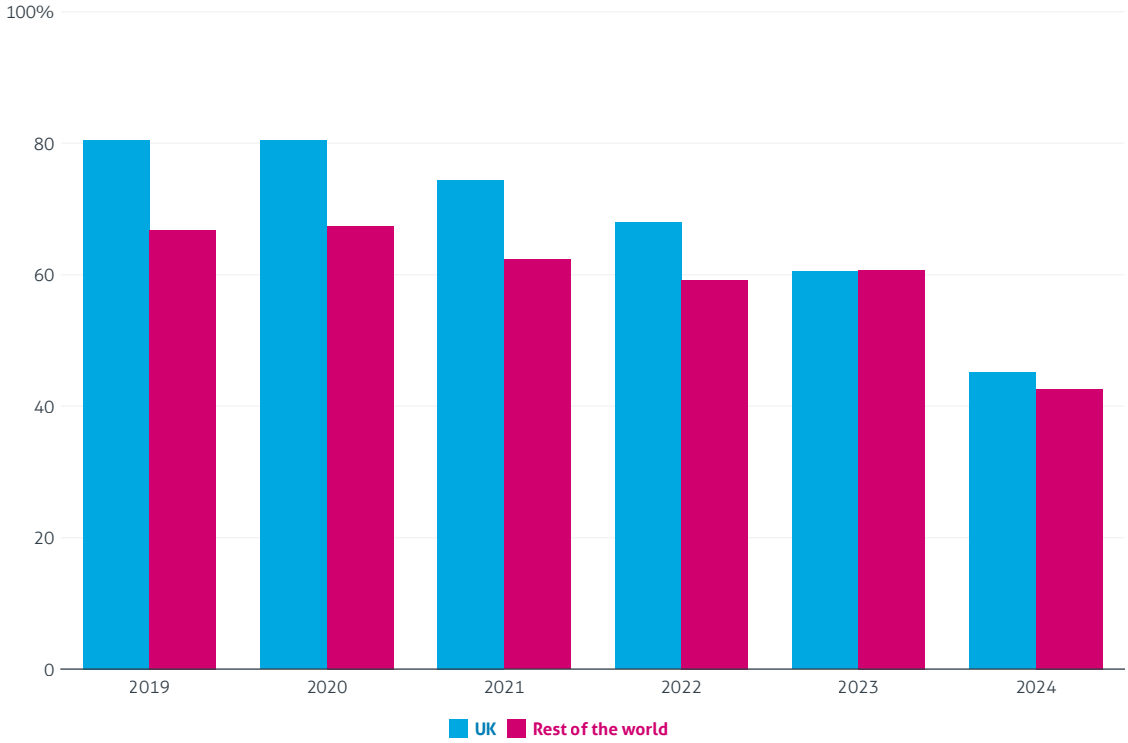


Source: Institute for Government analysis of NHS Digital, 'General practice workforce, England, bulletin tables December 2015 – December 2024' (Table '4'). Notes: 'EEA' is the European Economic Area. This shows England only.

This is likely influencing the conversion rate between the trainee and fully qualified workforce. Among GP trainees that completed their training between July 2018 and June 2019, 80.5% of UK-qualified GPs had entered the workforce by December 2024; the figure for those who qualified outside the UK was 66.8%.

That difference is relatively consistent in the three following cohorts (those that finished training in the years ending June 2020, 2021 and 2022). There seems to have been a more recent change, however, with the trainees in the June 2023 and June 2024 cohorts joining the workforce at roughly equal rates, regardless of country of medical training, at 60.5% and 60.7% respectively for the June 2023 cohort. This could again point to a pandemic-era pattern that is correcting itself.

Figure 11 **GP trainees that have joined the fully qualified workforce, by country of medical training and the year they finished GP training, 2019 to 2024**



Source: Institute for Government analysis of NHS Digital, 'Tracking GPs in training into fully qualified general practice roles' ('3. By country of qual' table), December 2024. Notes: Each column shows the proportion of GP trainees that completed their training in the 12 months to June of the stated year and that have entered the fully qualified workforce at any point between then and December 2024. They might have subsequently left the workforce. 'Rest of the world' here includes those from the European Economic Area. This shows England only.

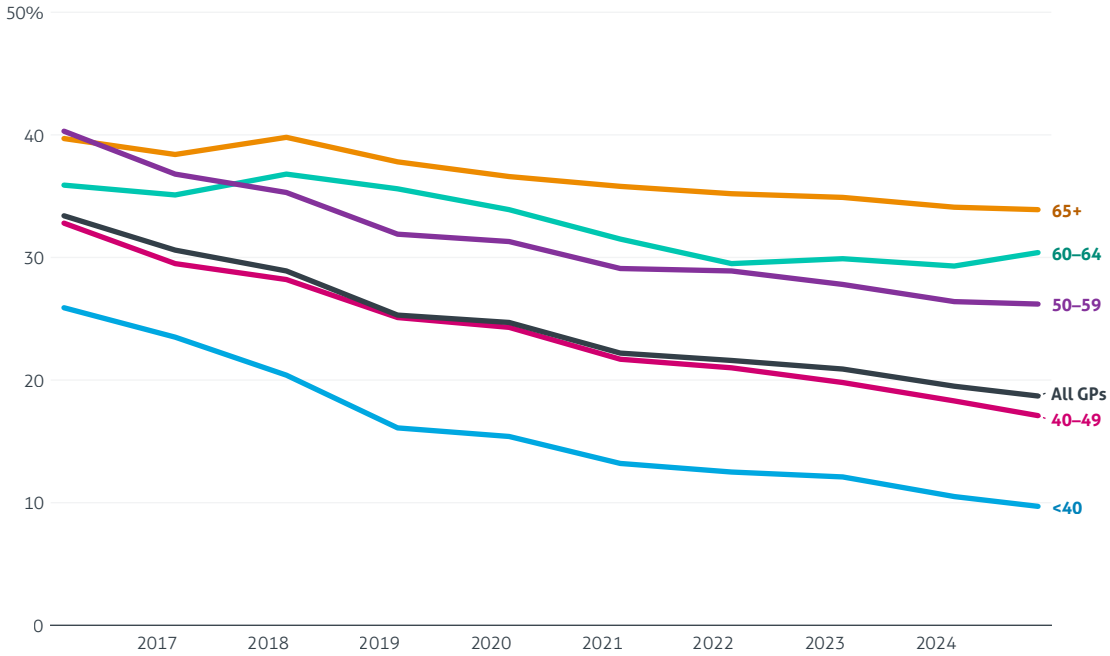
This data only captures whether a GP trainee ever joins the fully qualified workforce, but not how long they remain in it or whether they leave. This is far harder to determine, though work from the General Medical Council finds that doctors (which includes but is not limited to GPs) from outside the UK are far more likely to leave the GMC register in the years after they join than their British counterparts. Of those doctors who joined the register in 2015, 89% of the UK-trained doctors were still registered in 2021, compared to 66% of their non-UK-trained counterparts.[2]

GPs from outside the UK are, however, more likely to work full-time – or more than full-time hours – than British doctors. In December 2024 a quarter of GPs from outside the UK worked more than or equal to full-time hours (24.9%), compared to 16.7% among British GPs.

Fourth, GPs are increasingly working part-time. The proportion of fully qualified permanent GPs working more than or equal to full-time* fell from 33.4% in March 2016 to 18.7% in December 2024. Younger GPs are also less likely to work full-time than older age bands: 9.7% and 17.1% of under 40s and 40- to 49-year-old GPs worked full-time in December 2024. Those age bands also had the largest decline in the proportion working full-time between 2019 and 2024: 6.4 and 8ppt respectively. This will further suppress the number of fully qualified full-time equivalent (FTE) GPs.

* The NHS defines full-time as 37.5 hours of working per week. A GP who works 15 hours per week is therefore 0.4 full-time equivalent (FTE). Though this may not capture the full amount of time that many GPs work as they often do other work such as admin after finishing their contracted hours.

Figure 12 **GPs working full-time or more, by age band, 2019 and 2024**



Source: Institute for Government analysis of NHS England, 'General practice workforce data – individual level CSVs', March 2016 to December 2024. Notes: This shows fully qualified permanent GPs. This shows England only. 'Full-time' working is 37.5 contracted hours per week.

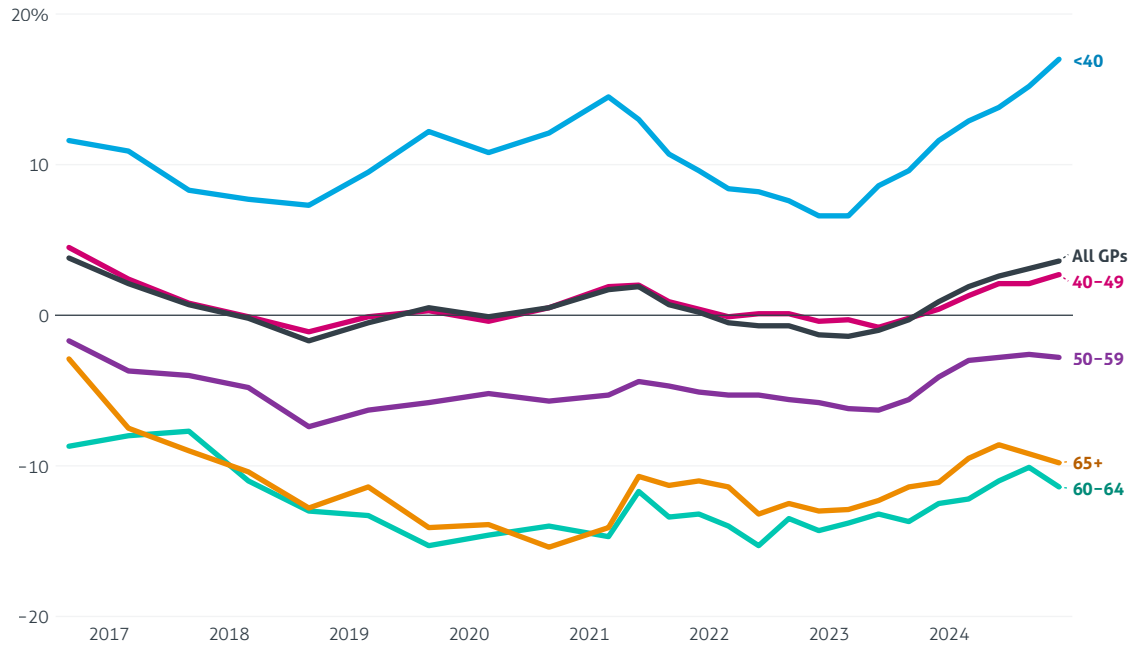
There are a few reasons for that decline in full-time working, including an increasing desire to pursue a 'portfolio' career[3] – in which GPs work in multiple roles; for example, as a part-time salaried GP in a practice, as an emergency department GP or as a GP in a prison[4] – and GPs taking proactive steps to avoid the burn-out that comes with working full-time.[5] This is partly because GPs are often required to work more than the hours for which they are contracted.

There is no data about vacancy rates in general practice, or the number of GPs that are seeking work, but there is anecdotal evidence of an 'employment paradox' in the service.[6] This is where a need for additional GPs and a desire to increase the number of fully qualified staff exists alongside a large number of GPs who are out of work and seeking a role. Polling by Cogora shows that two reasons for this paradox may be a lack of funding to employ staff and a lack of physical space in which they can work[7] – the latter point is supported by previous Institute for Government work.[8]

There are, however, reasons to think that there has been a recent shift in some of the trends that have kept the number of fully qualified GPs lower than anticipated. Likely related to the recent increase in the proportion of trainees joining the workforce, there has been a steady increase in the net joiner and leaver rate of younger GPs, as shown in Figure 13,* since mid-2023. In the year to December 2024, there was a record net joiner rate among the under-40 age group: 17.0% compared to a pre-pandemic high of 12.2% in the year to September 2019. The increase in the proportion of international staff working in general practice could also have a beneficial effect on the number of FTE GPs.

* This is calculated as the number of joiners in an age group minus the number of leavers in that age group, divided by the total number of GPs in that age group. Please see the Methodology for more details.

Figure 13 **Net GP joiners and leavers, by age group, September 2016 to December 2024**

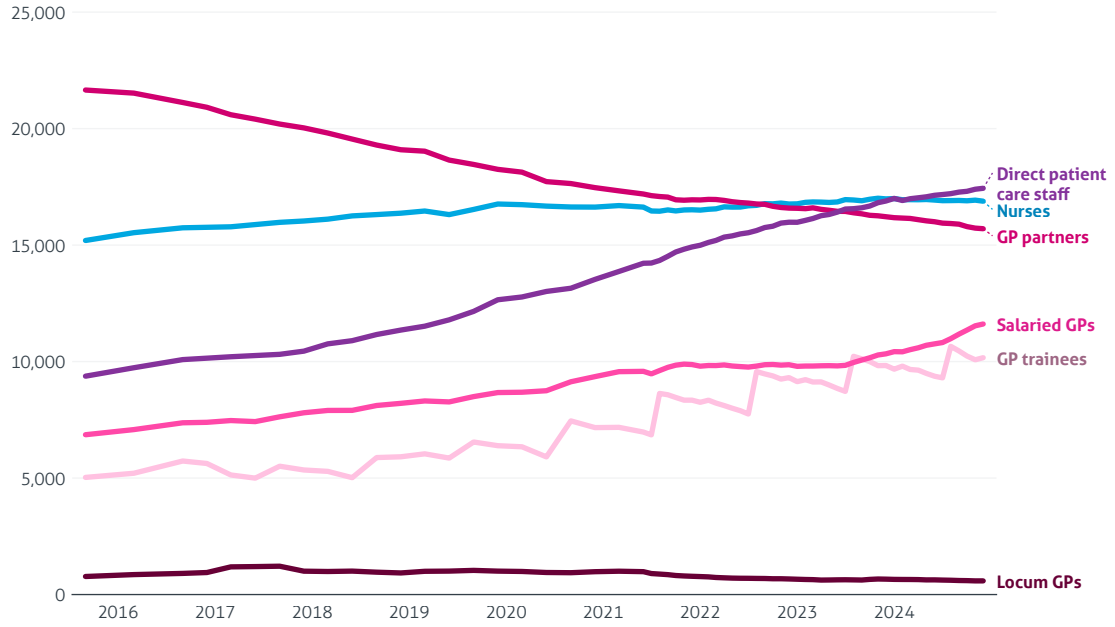


Source: Institute for Government analysis of NHS Digital, 'General practice workforce, England, GP Joiners and Leavers 2015 – December 2024' (Tables '2a' and '2a percentages'). Notes: This shows England only. The figures relate to fully qualified GPs who left and joined the NHS in the 12 months up to the relevant date. Numbers are in terms of FTEs.

The staff mix in general practice has changed radically

The make-up of the general practice workforce is markedly different now compared to the middle of the last decade, when the dataset starts.

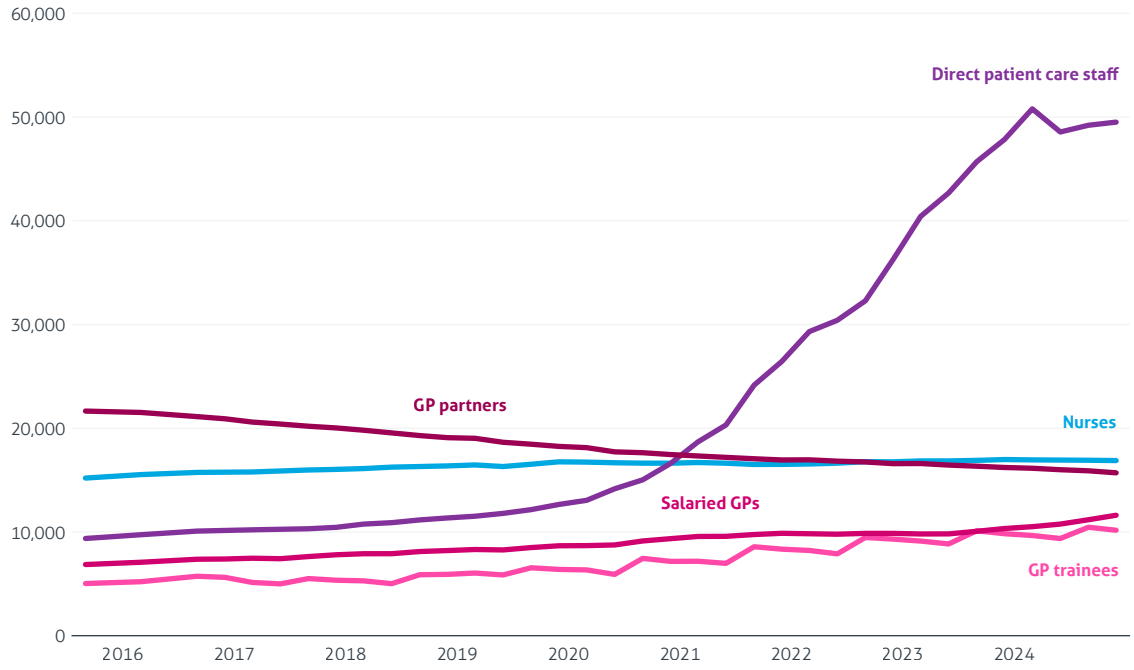
Figure 14 **General practice workforce, by staff group, September 2015 to December 2024**



Source: Institute for Government analysis of NHS Digital, 'General practice workforce, England, bulletin tables December 2015 – December 2024' (Table '1a'). Notes: All staff numbers are in terms of FTE. This shows England only.

Due to the decline in the fully qualified GP workforce and the expansion of direct patient care (DPC) staff, the latter group now outnumber nurses and GP partners. There are even more DPC staff employed in primary care networks (PCNs). When they are included, there were 49,515 DPC staff working in primary care in December 2024, compared to just 9,373 in September 2015 – a per-patient rise of 387.4%.

Figure 15 **NHS primary care staff, by staff group, September 2015 to December 2024**



Source: Institute for Government analysis of NHS Digital, 'General practice workforce, England, bulletin tables December 2015 – September 2024' (Table '1a'), NHS Digital, 'Primary Care Network Workforce March 2019 – June 2021' (Table '1a') and NHS Digital, 'Primary Care Workforce quarterly update' (Table '1b'), December 2024. Notes: For more information on how DPC staff are calculated, please refer to the Methodology. All staff numbers are in terms of FTE. This shows England only.

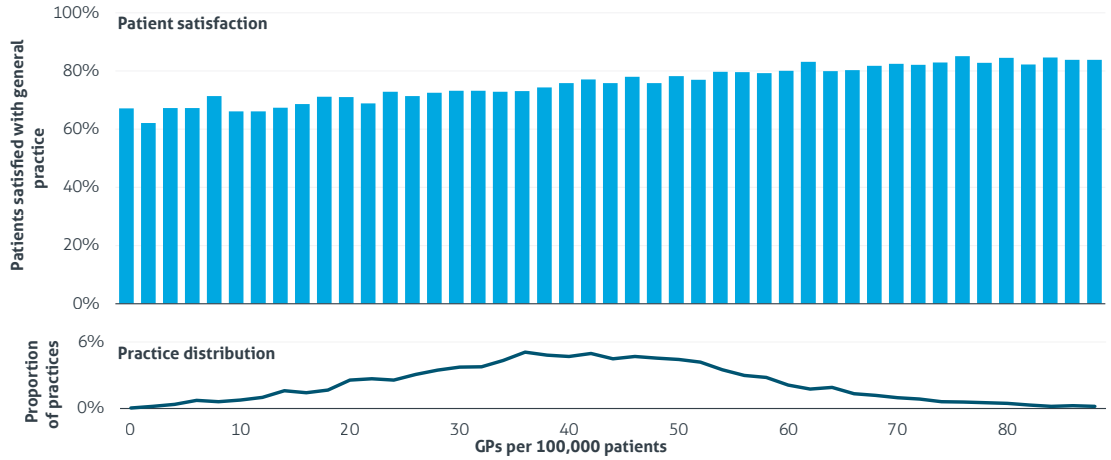
In theory, DPC staff in PCNs could have a positive impact on patient satisfaction with general practice, as it may be easier for patients to access appointments – though we find no evidence for this (discussed more later).

Patients have higher satisfaction in areas and practices with more doctors

When looking at the practice level, there is a clear trend of increasing satisfaction as the number of GPs per 100,000 weighted patients increases.[*,9] There is more variation at either end of the distribution due to fewer practices (and therefore fewer respondents to the survey) meaning that one or two practices with unusually high or low patient satisfaction have an outsized effect on the overall satisfaction of that band.

[*] We use weighted patients rather than registered patients throughout this report when we refer to patients at a subnational level. 'Weighted patients' is a measure created by NHS England that adjusts a practice's patient list to better reflect the level of need. NHS England weights patients according to age and gender, patient morbidity and mortality, list turnover, market forces, rurality, and whether the patient is in a nursing or residential home.

Figure 16 **Patients satisfied with their GP practice, by GPs per 100,000 weighted patients and by practice, 2024**



Source: Institute for Government analysis of NHS, 'GP Patient Survey' (Q32), 2024. Notes: Figures relate to England and show the proportion of patients rating satisfaction with their GP practice as 'Very good' or 'Fairly good'. 'GPs' refers to fully qualified permanent GPs. Staffing levels are in terms of FTE. 'Weighted patients' is a metric that adjusts a practice's patient list to account for complexity of care required.

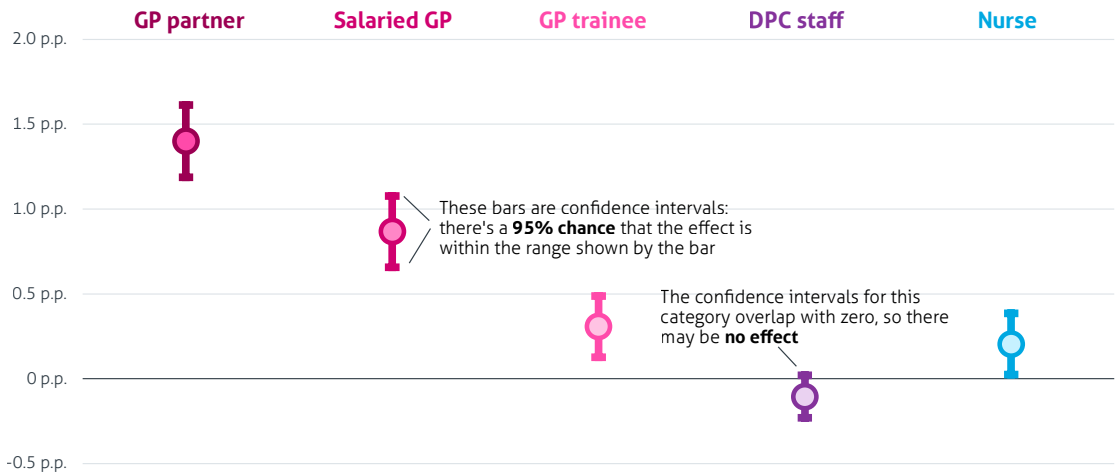
In 2024, only 70.6% of patients in practices that had between 20 and 22 GPs per 100,000 weighted patients reported having a good experience – this is against 81.5% for practices that had between 70 and 72 GPs.

The number of GP partners is most strongly associated with patient satisfaction

We can also assess the effect of more detailed staff groups on patient satisfaction by running a multivariate regression controlling for other factors, which we will refer to as regression 1 throughout this report (for details of this and other regressions, please see Appendix 1).

From that regression, we can see that the number of GP partners, salaried GPs and GP trainees are strongly significant, nurses are weakly significant, while the number of DPC staff are not significant.

Figure 17 **Implied effect of an additional staff member per GP practice on proportion of patients satisfied with their practice**



Source: Institute for Government analysis of NHS, 'GP Patient Survey' (Q32), 2024; NHS Digital, 'General practice – practice level staffing', March 2024. Notes: This shows England only. All staff numbers are in terms of FTE. This is based on the results from a multivariate regression, which controls for other practice characteristics. For details of the regression results, see Appendix 1.

Of those staff groups, GP partners are associated with the largest effect on patient satisfaction: one additional GP partner per practice is associated with a 1.4ppt increase in satisfaction. In comparison, the same number for salaried GPs and GP trainees is 0.9 and 0.3 respectively. An additional nurse is associated with an increase of 0.2ppt of patients satisfied with their practice. An additional direct patient care staff member has no statistically significant effect on patient satisfaction.

Box 2 **Primary care networks (PCNs)**

Our analysis so far has only been at a practice level and therefore does not account for the additional DPC staff employed in PCNs, even though they often work in general practice. It could be that those additional staff affect patient satisfaction.

To test the robustness of the findings at a practice level, we carried out a regression (regression 7 in Appendix 1), which includes those additional staff and appointments.

Figure 18 **Implied effect of one additional staff member per primary care network on proportion of patients satisfied with their GP practice**

Source: Institute for Government analysis of NHS, 'GP Patient Survey' (Q32), 2024; NHS Digital, 'General practice – practice level staffing', March 2024; and NHS Digital, 'Primary care network bulletin tables' (Table '4a'). Notes: This shows England only. All staff numbers are in terms of FTE. This is based on the results from a multivariate regression, which controls for other practice characteristics. For details of the regression results, see Appendix 1.

The results of this regression were broadly similar to our results at a practice level and crucially showed that there was no statistically significant relationship between PCNs with higher numbers of DPC staff and patient satisfaction in that PCN. We will therefore carry out the rest of our analysis at a practice level as it allows for more accurate analysis of other variables.

Decline in satisfaction since 2019 is strongly associated with declining numbers of GP partners

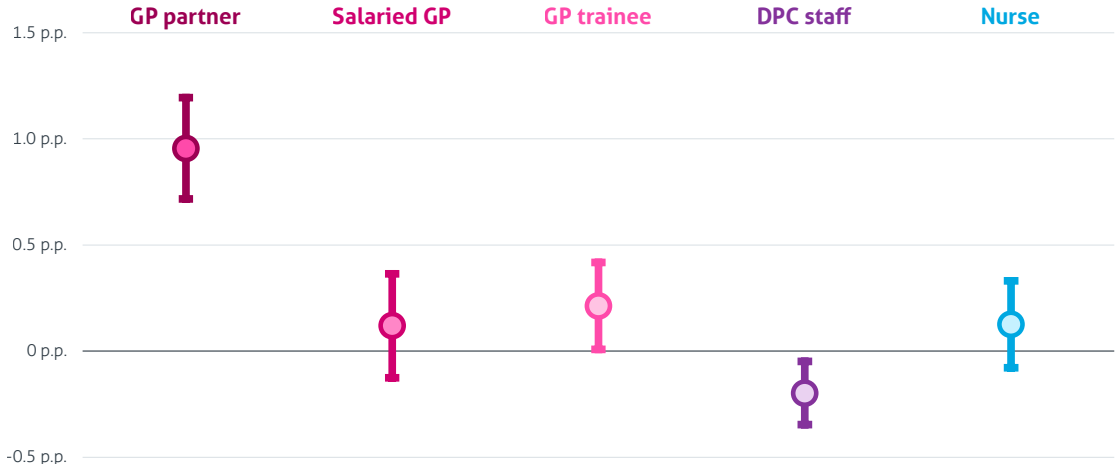
We then created another regression (referred to as regression 2 hereafter, details are available in Appendix 1) that uses the change in patient satisfaction between 2019 and 2023 as the dependent variable.

We are not able to include any controls for the change in the number of appointments because there is no practice-level data for appointments before October 2022. We think that, if anything, this understates the size of the effect of the decline in the proportion of face-to-face appointments, as some of the effect is offset by the increase in patient satisfaction that comes from having more appointments, which we cannot observe.

We think there is benefit in including this regression because analysis that includes a change over time is generally considered to be more robust than single-year, cross-sectional analysis, such as that conducted in regression 1.*

Among staff groups, the changes in the number of GP partners, DPC staff and GP trainees were significant (strongly, moderately and weakly, respectively).

Figure 19 **Implied effect of one additional staff member per practice on the change in proportion of patients satisfied with their GP practice, between 2019 and 2023**



Source: Institute for Government analysis of NHS, 'GP Patient Survey' (Q32), 2024; NHS Digital, 'General practice – practice level staffing', March 2024. Notes: This shows England only. All staff numbers are in terms of FTE. This is based on the results from a multivariate regression, which controls for other practice characteristics. For details of the regression results, see Appendix 1.

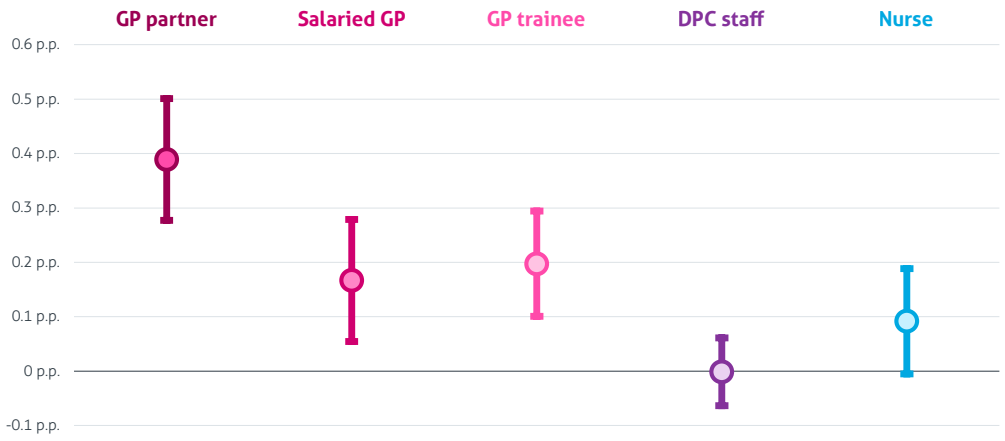
An increase of one GP partner per practice was associated with a 1.0ppt increase in patient satisfaction and an increase of one GP trainee per practice was associated with a 0.2ppt increase in satisfaction. In contrast, an increase of one DPC staff was associated with a 0.2ppt decline in patient satisfaction.

Additional GP partners are associated with higher QOF performance

We can also create a multivariate regression using QOF achievement as the dependent variable. For more details, see regression 6 in Appendix 1. That shows that GP partners, salaried GPs and GP trainees all have a statistically significant relationship with QOF achievement. As with patient satisfaction, there is no statistically significant relationship between the number of DPC staff and nurses and QOF outcomes.

* This type of analysis is known as 'difference-in-difference' analysis. The benefit of examining how the change in satisfaction is correlated with changes in other characteristics is that it allows us to abstract from other time-invariant differences between areas. For example, the analysis above showed that areas with more GPs per weighted patient have higher levels of satisfaction but it could be that there are other unobserved reasons why areas may both have higher satisfaction and a higher number of GPs: for example, if practices in more challenging areas both struggle to recruit GPs and find it harder to deliver a good quality of service.

Figure 20 **Implied effect of an additional staff member per practice on a practice's achievement of quality and outcomes framework targets**

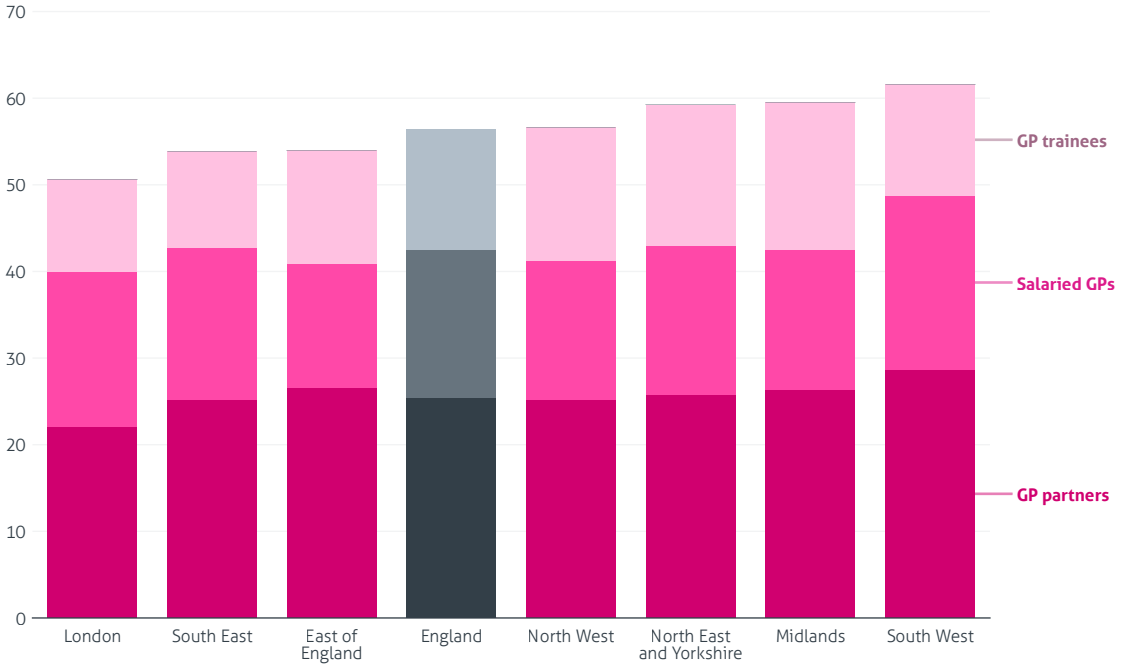


Source: Institute for Government analysis of NHS Digital, 'QOF 2023–24: achievement at practice level, all domains' ('Overall domain achievement' table); NHS Digital, 'General practice workforce – practice level CSVs', March 2024.
Notes: This shows England only. All staff numbers are in terms of FTE. This is based on the results from a multivariate regression, which controls for other practice characteristics. For details of the regression results, see Appendix 1.

As with patient satisfaction, there is a moderately statistically significant positive relationship between the proportion of appointments that are conducted face-to-face and QOF achievement. An additional percentage point of appointments delivered face-to-face is associated with a 0.013ppt increase in QOF achievement.

Some regions have more GPs per patient than others

Figure 21 **GPs per 100,000 weighted patients, by region, March 2024**



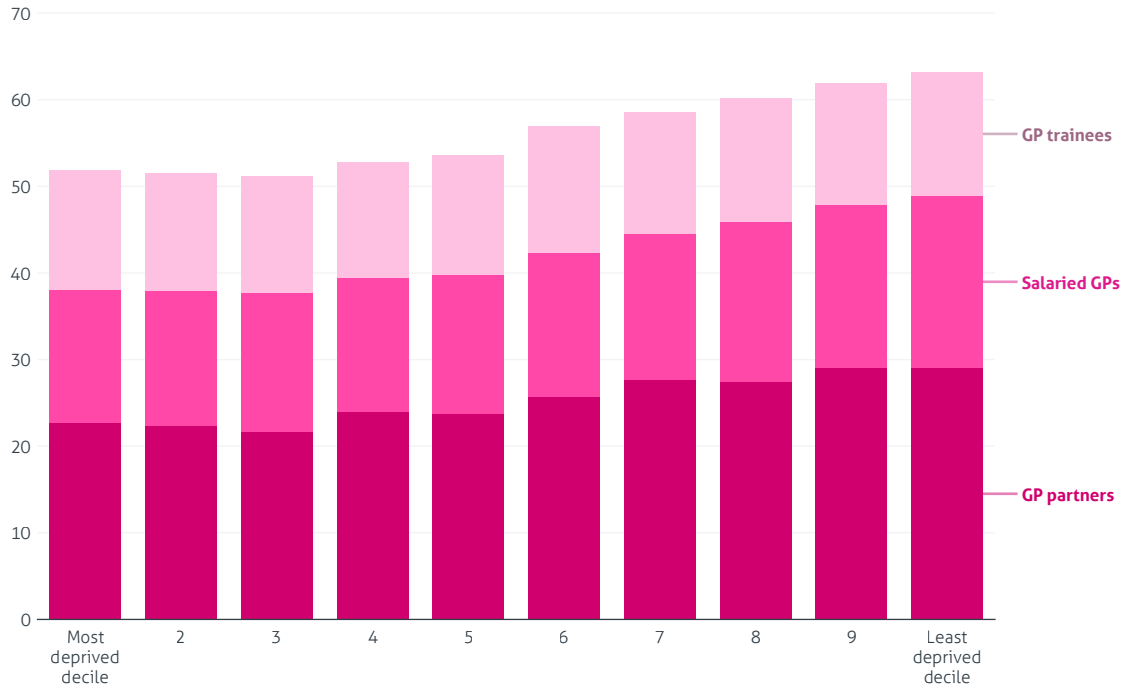
Source: Institute for Government analysis of NHS Digital, 'General Practice Workforce' March 2024, and NHS England, 'Payments to general practice' 2022/23. Notes: All analysis is in terms of FTEs. This shows England only. 'Weighted patients' is a metric that adjusts a practice's patient list to account for anticipated complexity of care. This uses weighted patients from 2022/23 as this is the most recent data.

There is large variation in the number of GPs per weighted patient between regions. The South West has the most fully qualified permanent GPs per weighted patient (48.8 per 100,000 weighted patients in March 2024) and London the least (40.0). When accounting for GP trainees, the South West still has the most total GPs per 100,000 patients (61.6). London is the also the lowest on that metric (50.7).

This variation across the country in the number of GPs is likely to explain some of the variation in satisfaction with general practice: London also has the lowest patient satisfaction, and the South West the highest.

There are fewer GPs per patient in more deprived parts of the country

Figure 22 **GPs per 100,000 weighted patients, by patient list deprivation, March 2024**



Source: Institute for Government analysis of NHS England 'Payments to general practice', 2022/23 and NHS Digital, 'General practice – practice level staffing', March 2024. Notes: England only. Staff numbers are FTE. 'Weighted patients' adjusts a practice's patient list to account for anticipated complexity of care. Deprivation is calculated from a practice's patient list, based on the area where the patient lives.

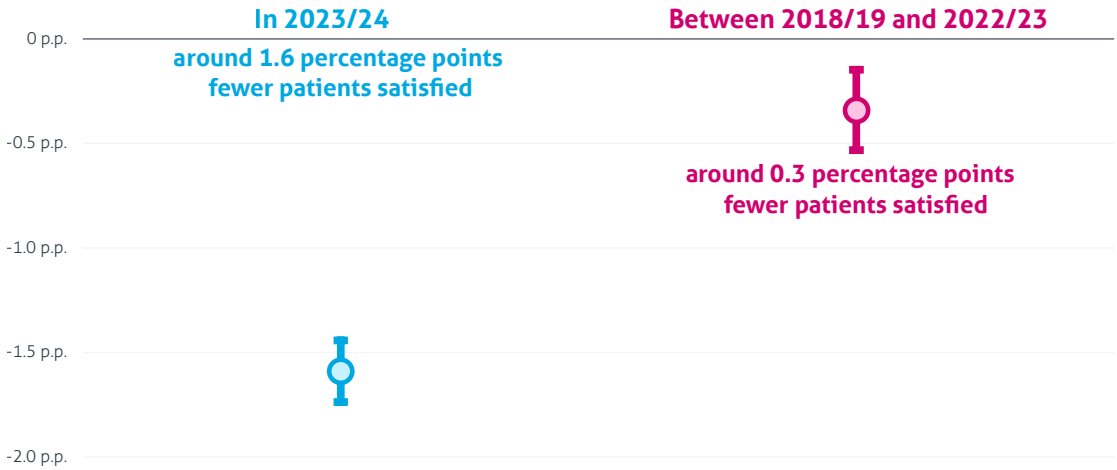
There is substantial variation in the number of GPs per weighted patient when grouping practices by the deprivation of their patient lists. There were 38.0 fully qualified permanent GPs per 100,000 weighted patients in the practices with the most deprived decile of patients in March 2024. In comparison, the least deprived decile had 49.0 GPs (28.8% higher), though when including GP trainees the gap is slightly smaller (21.8%).

That variation in the number of GPs per patient by deprivation matches the variation in patient satisfaction by decile of deprivation: the least deprived areas have more GPs per patient and better patient experience.

Patients report higher satisfaction with practices that have smaller patient list sizes

Regression 1 also shows that patients in practices with larger patient list sizes are less satisfied than those in smaller practices. The effect is significant but not large: for every additional 1,000 weighted patients, our central estimate is that satisfaction declines by approximately 1.6ppt.

Figure 23 **Implied effect of 1,000 additional weighted patients per GP practice on proportion of patients satisfied with their GP practice**

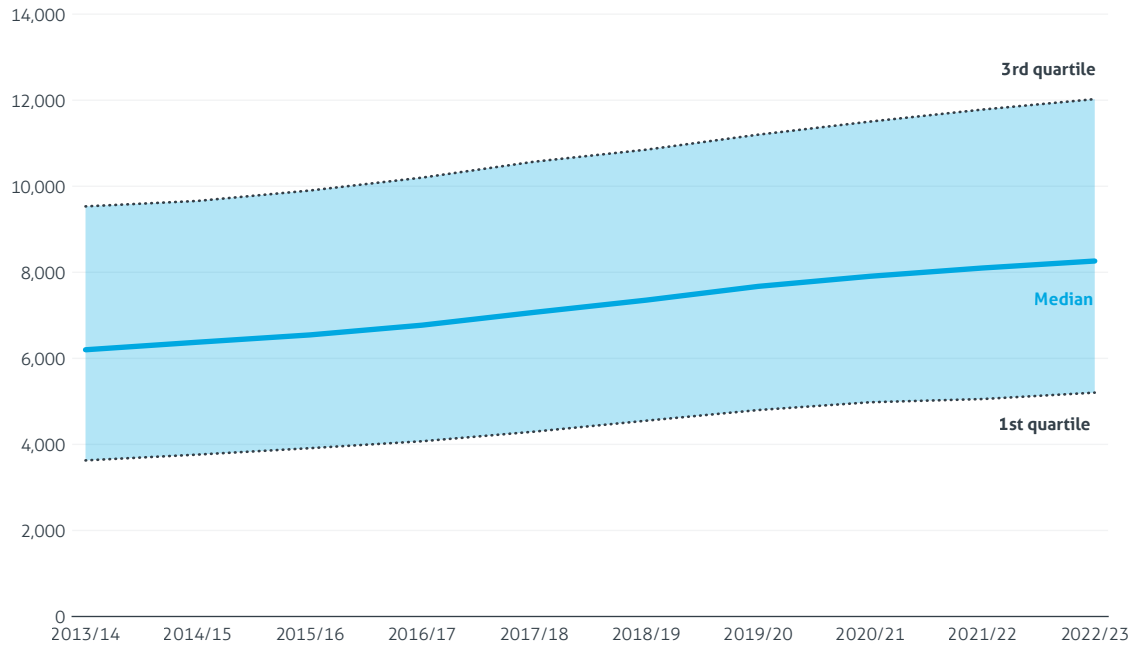


Source: Institute for Government analysis of NHS, 'GP Patient Survey' (Q32), 2024; NHS England, 'NHS payments to general practice – practice level CSV', 2018/19 to 2022/23. Notes: This shows England only. 'Weighted patients' adjusts a practice's patient list to account for anticipated complexity of care. This is based on the results from two multivariate regressions (regressions 1 and 2), which control for other practice characteristics. For details of the regression results, see Appendix 1.

From regression 2, we can see that there is also a statistically significant relationship between the change in the number of weighted patients between 2019 and 2023 and the change in patient satisfaction in that time: an increase of 1,000 weighted patients was associated with a 0.3ppt reduction in patient satisfaction.

The average list size has grown since 2013/14 and there is a wide range of list sizes

Figure 24 **Weighted patients per practice, 2013/14–2022/23**



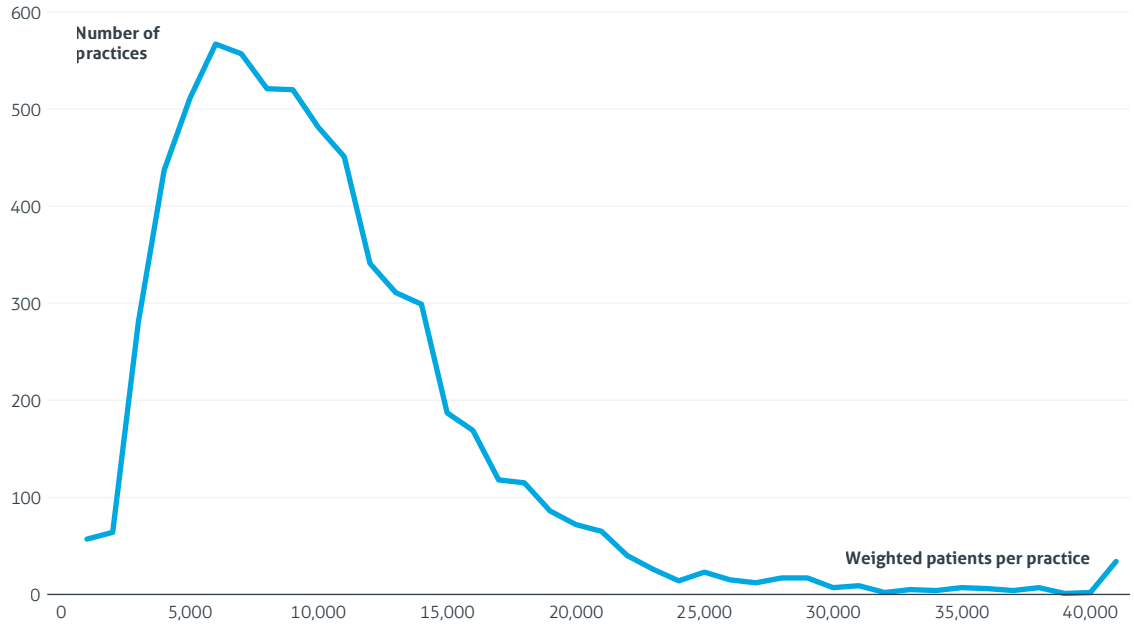
Source: Institute for Government analysis of NHS England, 'Payments to general practice' 2013/14 to 2022/23.
Notes: This is an average for the stated financial year. England only. The maximum and minimum have been excluded to show the broader trend more clearly. 'Weighted patients' adjusts a practice's patient list to account for anticipated complexity of care.

The average weighted patient list size has increased steadily since 2013/14 (the first year for which data is available). There was no year between then and 2022/23 in which the median list size did not increase, beginning with a median practice list size of 6,199 weighted patients, rising to 8,262 in 2022/23 – an increase of 33.3%. The interquartile range (IQR) also grew in this time, from 5,904 weighted patients between the practices in the 1st and 3rd quartile in 2013/13 to 6,822 patients in 2022/23.

As we have discussed in previous work,[10] this increase in average patient list size is driven by a combination of practice closures and mergers. There are more than 20% fewer practices in 2024 than in 2013. At least some of this change can be attributed to government policy. The 2014 NHS *Five Year Forward View* outlined a shifting model of general practice that relied less on "smaller independent GP practices".[11] Other practices consolidated to deal with financial pressures in the 2010s; for example, to share the cost of administrative work.[12]

Because it shows only the IQR, the time series of practice sizes in Figure 25 hides a long tail of larger practices. In 2022/23, some 317 practices (4.9% of the total) had more than 20,000 weighted patients; there were only 73 practices (0.9%) of this scale in 2013/14.

Figure 25 **Distribution of practice sizes, 2022/23**



Source: Institute for Government analysis of NHS England, 'Payments to general practice', 2022/23. Notes: England only. The far right of the distribution shows the total number of practices with patient list sizes over 40,000. 'Weighted patients' adjusts a practice's patient list to account for anticipated complexity of care.

Larger practices are also associated with lower QOF scores

From regression 6, we can see that there is also a strongly significant negative relationship between the number of weighted patients in a practice and the practice's achievement against QOF targets. An additional 1,000 weighted patients is associated with a 0.3ppt decline in QOF achievement.

The benefits or otherwise of practice size are uncertain

While larger practices are associated with lower patient satisfaction, there are other reasons why a government might choose to support the shift towards larger practices. Larger practices can operate more efficiently than smaller practices. Work from Nuffield Trust found that practices achieved savings through standardising ways of working across sites, automating processes and centralising administrative and support staff to avoid duplication.[13] Work from Deloitte (albeit from 2006) found that a 10% increase in patient list size was associated with a 3% reduction in cost per patient.[14]

Work from the Institute for Fiscal Studies found that patients of practices with smaller lists were more likely to require admission to hospital.[15] Other work shows that single-handed practices tend to perform worse on QOF indicators such as cancer detection and diabetes management.[16] Finally, smaller practices were less likely to refer patients on to secondary care than their larger counterparts.[17] Qualitative work found that benefits from larger practice size comes from targeting improvements across the network, allowing clinical case discussions between GPs, and performance incentives across the network.[18]

But there is also evidence that practices with larger patient lists have higher patient turnover, which researchers speculate could harm continuity of care leading to worse quality of care.[19]

Larger practices are therefore neither straightforwardly a positive or negative trend and the government should balance these competing costs and benefits when considering whether to try to reduce patient list size.

Higher funding is associated with higher patient satisfaction

Regression 1 also controls for the total payment to each practice in 2022/23.* That shows that payments to general practice are strongly significant in relation to patient satisfaction with general practice.

An additional £1,000 of funding is associated with a 0.001ppt increase in patient satisfaction.** For context, the average payment to a practice after deductions in 2022/23 was £1.4 million.

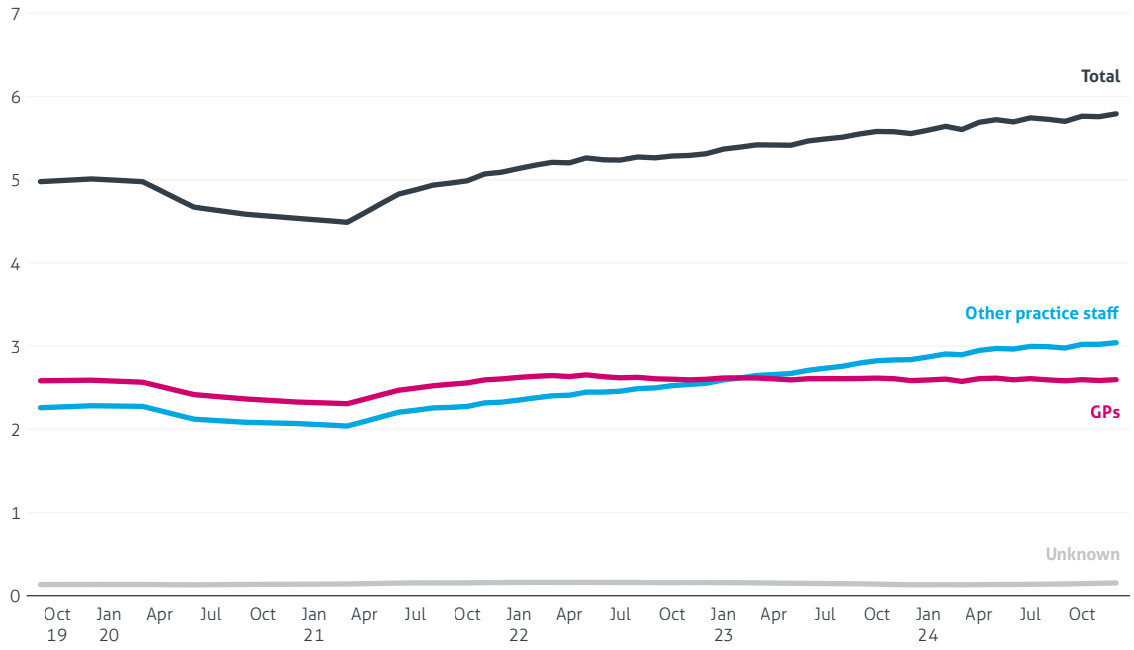
* We use payments to general practice in 2022/23 because there is not yet any data for 2023/24. This assumes that there will not be a significant change in payments between 2022/23 and 2023/24.

** For the purposes of this analysis, we are using the metric of 'total NHS payments to general practice minus deductions'.

The number and type of appointments are related to patient satisfaction

General practice now delivers more appointments than it did before the pandemic

Figure 26 **Appointments per patient, by staff group, September 2019 to December 2024**



Source: Institute for Government analysis of NHS England, 'Appointments in General Practice' ('Table 1a'), December 2024 and NHS England, 'Patients Registered at a GP Practice' December 2024. Notes: This is the sum of appointments in the previous 12 months and a rolling 12-month average for patients. This shows England only.

Staff in general practice carried out 367.4 million appointments in 2024 compared to 300million in 2019, an increase of 22.5% in five years. The number of appointments delivered by each GP remained steady: 4,529 in 2019 and 4,499 in 2024.

It is difficult to draw conclusions about the number of appointments delivered by each non-GP staff member due to the expansion of DPC staff since 2019. In all primary care, the number of appointments delivered by other staff members (nurses and DPC staff) rose from 136.8 million in 2019 to 200.0 million in 2024, an increase of 46.2%. But the workforce grew much more quickly than that, meaning that the number of appointments per other staff member fell from 4,791 in 2019 to 3,009 in 2024 (a drop of 37.2%).

This is likely because much of the activity of DPC staff is not captured in appointment data. For example, care co-ordinators – who make up 14.2% of the PCN DPC workforce – spend much of their time liaising between different parts of a multi-disciplinary team to ensure a patient receives the correct care. That activity does not count as an appointment. That means that we cannot draw conclusions about changes in the 'productivity' of those staff.

The number of patients registered in general practice has also risen. There were 59.3million registered patients in September 2018 and 63.7million in December 2024 – an increase of 7.4%.

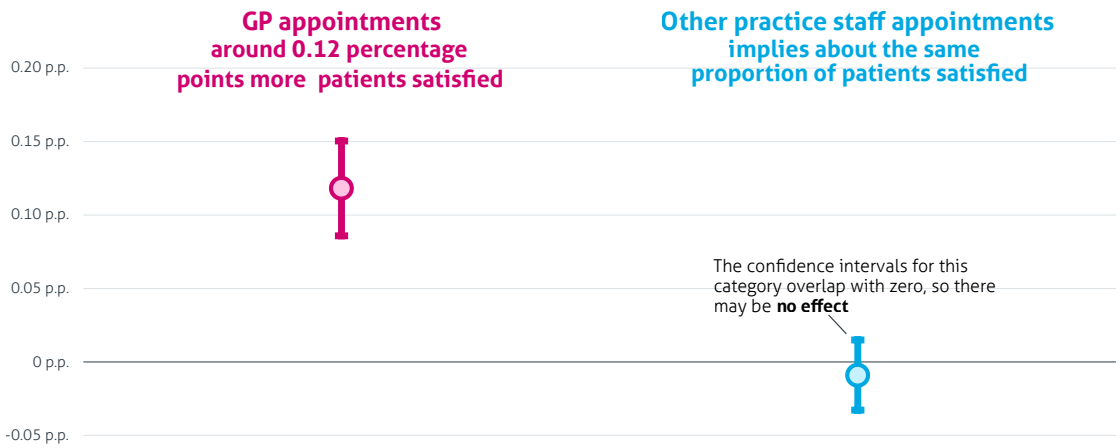
Ultimately, though, what matters to patients is not the number of appointments that a staff member delivers, but rather the number of appointments that they themselves can access. In 2019, general practice delivered 5.0 appointments per patient. This rose to 5.8 in 2024 – an increase of 15.6%. The number of appointments per patient delivered by non-GP staff rose by 33.2%. The number of GP appointments per patient has not changed, remaining at 2.6.

There could also be other factors driving this increase in appointments. There is evidence that some of the increase in remote appointments has been because of coding differences between systems that practices use to track and submit appointment data.[1] For example, one of the appointment systems in this work – CPRD Aurum – treats electronic messages exchanged with patients as a 'consultation', while other systems do not.[2] This could artificially increase the number of appointments that general practice appears to conduct, and also reduce the apparent proportion of appointments that staff conducted face-to-face.

Patient satisfaction is higher in areas that deliver more appointments per patient

There are lots of reasons why patients could value additional staff, including a greater range of care offered or that it is easier to speak to someone when calling their GP practice. But one reason could be that they provide more appointments. We can observe the number of appointments that were delivered in each practice in 2023/24 and whether a GP or another staff member delivered them (but cannot split those into DPC and nursing staff appointments).

Figure 27 **Implied effect of an additional 1,000 appointments on proportion of patients satisfied with their GP practice**



Source: Institute for Government analysis of NHS, 'GP Patient Survey' (Q32), 2024; NHS Digital, 'Appointments in general practice – practice level', March 2024. Notes: This shows England only. This is based on the results from a multivariate regression, which controls for other practice characteristics. For details of the regression results, see Appendix 1.

From regression 1 we can see that only the number of GP appointments delivered in a practice has a strongly statistically significant relationship with patient satisfaction. An additional 1,000 GP appointments in a practice is associated with patient satisfaction increasing by 0.14ppt. For context, the average number of GP appointments delivered per practice was 25,439 in 2023/24.

Additional GP appointments are not as strongly associated with QOF achievement as they are with patient satisfaction

The major difference between regression 1 and regression 6 is that, unlike patient satisfaction, there is only a weakly statistically significant relationship between QOF outcomes and the number of GP appointments that a practice delivers. There is, however, a far stronger relationship between the number of appointments delivered by other staff (nurses and DPC staff) and QOF outcomes. This is likely because other practice staff – particularly nurses – play a large role in managing patients' ongoing health conditions[3] and delivering clinics that are required to meet QOF targets.[4]

The size of the effect is also stronger for appointments by other practice staff than GP appointments: 1,000 additional GP appointments increases QOF achievement by 0.02ppt while 1,000 additional appointments from other practice staff increases the same metric by 0.05ppt. This is a very small effect. Because of the way that achievement is grouped towards the upper end of the distribution, if the median practice increases its QOF achievement by 0.05ppt, it would move from the 50th percentile to the 50.1st percentile.

Carrying out more remote appointments means practices deliver more total appointments

We have speculated in previous work that rising proportions of remote appointments means that practices can conduct more appointments overall. But until recently there hasn't been the practice-level appointment data which would make further analysis possible.

From regression 9, we see that there is a strongly statistically significant relationship between the proportion of appointments that were carried out face-to-face and the average number of appointments carried out by each clinical staff member. According to our central estimate, for each ppt reduction in the proportion of face-to-face appointments, staff carried out an average of 11.5 more appointments in 2023/24.

Regression 10 shows the impact on GP appointments per GP. Once again, the proportion of face-to-face appointments is strongly significant and a 1ppt reduction of that appointment mode was associated with GPs delivering 18.2 more appointments, compared to an average of 4,416 GP appointments conducted per GP in 2024.

This indicates that much of the increase in GP appointments between 2019 and 2024 can be attributed to a shift towards more remote appointments. The decline in the proportion of total appointments conducted face-to-face between 2019 and 2024 was 14.5ppt. GPs delivered 10.6 million more appointments in 2024 than 2019. If GPs followed the same trend as most of general practice, then the shift towards remote appointments would account for more than 90% of that change.

An increase in appointments driven by more remote consultations doesn't necessarily mean that GPs are able to see more patients, however. There is evidence that a digital-first approach in fact increases GP workload – unless the consultations are kept particularly short, or if they do not often result in a follow-up face-to-face appointment.[5]

Different staff groups deliver different numbers of appointments

We also explored the effect of an additional staff member on the number of appointments that a practice delivers.* The figures in Table 2 below are the results of a regression of total appointments on staffing at a practice level. As such, they do not measure directly the appointments delivered by each staff member, but the average increase in total appointments if a practice adds one additional staff member, holding other staff categories constant. In both regressions, every staff group was strongly significant.

* Please see regressions 3 and 4 in Appendix 1. In regression 3, the dependent variable is the number of total appointments delivered in general practice in 2023/24, with the number of GP partners, salaried GPs, GP trainees, DPC staff and nurses as the independent variables (all in terms of FTE). Regression 4 uses the number of GP appointments in 2023/24 as the dependent variable and the number of GP partners, salaried GPs and GP trainees as the independent variables.

Table 2 **The effect of one extra staff member on appointment numbers per year, by appointment type and staff group**

Staff group	All appointments	GP appointments
GP partners	**5,439**	**4,256**
Salaried GPs	**4,939**	**4,261**
GP trainees	**1,477**	**1,036**
Nurses	**4,976**	**N/A**
DPC staff	**2,279**	**N/A**

Notes: This shows the central estimate for each category and is in terms of FTE.

It might be surprising that GP partners are associated with the largest increase in GP appointments. Alongside their clinical work, partners also have responsibility for managing their practices, which might suggest they would have *less* time to carry out appointments. But it is also possible that their responsibility for their practices is the cause of this, too: GP partners often carry out much of their administrative work outside of usual working hours, likely because they are either personally liable for the practice or are at least strongly incentivised to make sure that the practice is performing well.

Our finding that GP partners generate more additional appointments among non-GP staff (than do salaried GPs) also suggests that an additional GP partner improves the management capacity of a practice, leading to improved productivity of their colleagues.

At the other end of the spectrum, an additional GP trainee is not associated with as many appointments as their fully qualified colleagues. This is perhaps not surprising: trainees require supervision, meaning that they are not able to provide as many appointments as GP partners or salaried GPs.

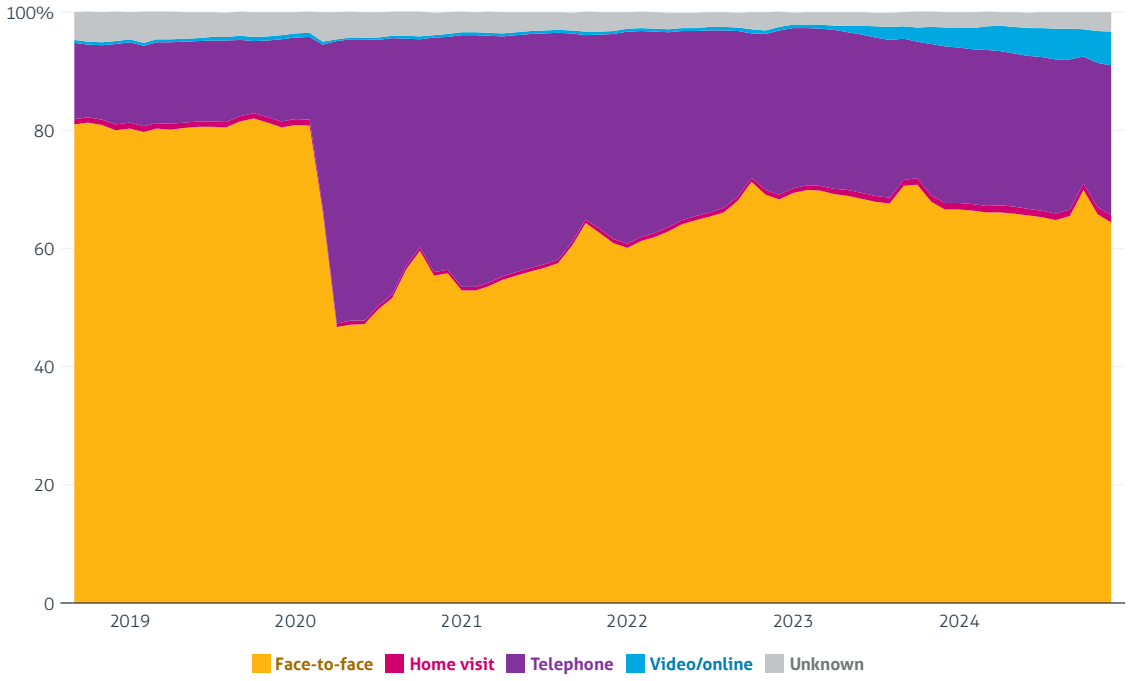
More surprisingly, however, an additional DPC staff member adds less than half as many appointments as a salaried GP or a nurse on average. This may be because there is a wide range of roles covered by the DPC staff group – some of which will not include patient appointments. For example, there is evidence that some of the activity carried out by pharmacists is not captured by current appointment coding practices.[6]

Patients are more satisfied with practices that provide more of their appointments face-to-face

Alongside changes in staff mix, there has also been a substantial shift in how general practice delivers appointments. In 2019, more than four in five of appointments were delivered face-to-face (80.7%). The pandemic precipitated a rapid and radical shift in how general practice staff delivered appointments. In 2020/21, barely more than half of appointments took place face-to-face (53%).

There has since been some reversion to in-person appointments, but the new equilibrium appears to be somewhat lower than in 2019: in 2024, staff delivered two thirds (66.2%) of appointments face-to-face and 30.0% either by telephone or online. GPs and other practice staff work in different ways. GPs conducted 59.9% of appointments face-to-face in 2024, compared to 73.9% for other practice staff. This is because it is harder for nurses or other practice staff to deliver remote appointments when their work may require things like taking blood.[7]

Figure 28 **GP appointments by mode of delivery, September 2018 to December 2024**



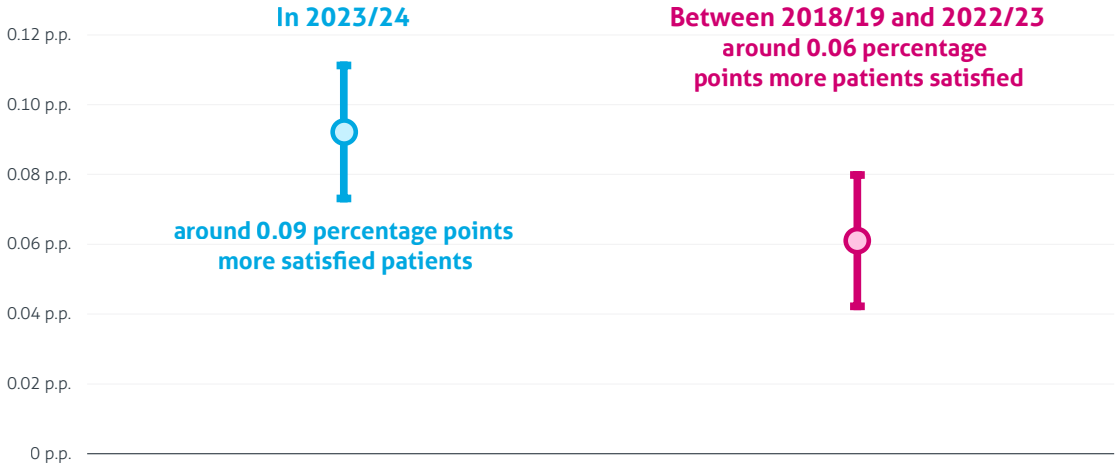
Source: Institute for Government analysis of NHS England, 'Appointments in General Practice, December 2024' ('Table 1'). Notes: Data was first published in 2018/19. This shows England only.

The shift has generated negative media attention. The *Daily Mail* even created a tool ranking practices on the proportion of their appointments that are face-to-face, labelling those that do fewest the 'worst' practices in the country.[8] This is despite relatively widespread acceptance of the shift: in the Office for National Statistics' 2020 'Opinions and lifestyle survey' more than two thirds of respondents said they would be 'comfortable' or 'very comfortable' attending an online appointment (68%), though the number was lower for those aged 70 and over (61%).[9]

And, as discussed below, it also appears there is a trade-off between how many appointments are delivered and what proportion take place face-to-face, as practices that conduct more of their appointments remotely are able to deliver more appointments overall. The NHS has recently started to publish practice level data of appointment mode, meaning that we can now look at the associations between appointment type and patient satisfaction.

Regression 1 shows that there is a strongly statistically significant relationship between the proportion of face-to-face appointments and patient satisfaction.

Figure 29 **Implied effect of a 1ppt increase in the proportion of a practice's appointments conducted face-to-face on patients satisfied with their GP practice**



Source: Institute for Government analysis of NHS, 'GP Patient Survey' (Q32), 2024; NHS England, 'Appointments in general practice – practice level', March 2024. Notes: This shows England only. This is based on the results from two multivariate regressions (regressions 1 and 2), which control for other practice characteristics. For details of the regression results, see Appendix 1.

We found that patient satisfaction is higher in practices that deliver more of their appointments face-to-face, conditional on the total number of appointments provided. While the relationship is statistically significant, the strength of the relationship is only moderate: according to our central estimate, a 10ppt increase in the proportion of appointments delivered face-to-face is associated with a 0.9ppt increase in patient satisfaction.

We also found (using regression 2, which examines the change in satisfaction between 2019 and 2024) that those practices with more remote appointments in 2024 had experienced a bigger fall in satisfaction since 2019 (as shown in Figure 29). Assuming that these are the practices that have increased remote appointments the most since 2019 (data for appointment mode is not available at practice level before 2022), this would indicate that appointment mode is a driver of satisfaction.

We have also heard anecdotal evidence that it is predominantly older patients who prefer face-to-face appointments. Regression 8 shows that older patients on average prefer face-to-face appointments. This could be because those aged over 65 now are more likely to find technology difficult to navigate compared to younger patients, meaning the effect could lessen over time as more tech-savvy patients age.

The GP practices that deliver more appointments face-to-face achieve higher QOF scores

Regression 6 also shows that there is a moderately statistically significant relationship between the proportion of appointments delivered face-to-face and QOF achievement. An additional ppt of appointments that are delivered face-to-face is associated with a 0.03ppt increase in QOF achievement – a relatively small effect.

Patients prefer having more face-to-face appointments over more appointments delivered by GPs

The shift towards delivering more remote appointments pulls patient satisfaction in two directions. On one hand, patients report lower satisfaction in practices that provide fewer face-to-face appointments. But conducting a greater proportion of appointments remotely means clinical staff can carry out more appointments overall – a factor that is associated with higher patient satisfaction.

As shown earlier, a 1ppt reduction in the proportion of appointments that are delivered face-to-face results in each GP on average being able to deliver 18.2 more appointments per year. From regression 1, we know that, at a practice level, that increase in appointments is associated with an increase of 0.015ppt in patient satisfaction.

At the same time, patients report a 0.09ppt reduction in satisfaction for each ppt decline in the proportion of appointments that are delivered face-to-face.*

This analysis suggests that increasing the proportion of appointments delivered remotely leads to lower satisfaction overall on average, even though it results in more appointments.

Patient satisfaction is not impacted by the timeliness of appointments

Both the government and the press focus on patients' ability to access same-day appointments as an important indicator of general practice quality. But regression 1 shows that there is no statistically significant relationship between patient satisfaction and the time between the appointment being booked and taking place, whether that's same day, 1–7 days, 8–14 days or even 14+ days.

* For more information on how we calculated this effect, please see the Methodology.

What should the government take away from these findings?

The large decline in patient satisfaction since 2012 – particularly since 2019 – should concern the government. The previous government quietly spent a lot of time and money reforming primary care, all while patient satisfaction declined. This section looks into what this government – not long off a year in office – should be looking at as it embarks on its programme of NHS reform, specifically to improve the picture in general practice.

Most national trends are in the opposite direction to what patients value in general practice

The three factors that we have found are most closely associated with patients' experience of general practice are:

1. More GPs – particularly partners – per patient

2. A higher proportion of appointments delivered face-to-face

3. Smaller patient list sizes.

In addition, all three of these factors are positively related to the proportion of QOF indicators that a practice achieved in 2023/24.

Yet all three of these trends have nationally been going in the opposite direction to the way that would improve patient experience. There were 13.8% *fewer* GPs per patient in December 2024 than in September 2015. Staff in general practice delivered proportionally *fewer* appointments face-to-face in 2024 (66.2%) than in 2019 (80.7%). The list size of the median practice *grew*, from 6,199 weighted patients in 2013/14 to 8,262 in 2022/23, an increase of 33.3%.

Conversely, the enormous expansion of the DPC workforce, the last government's signature primary care policy achievement, has coincided with the largest drop in patient satisfaction on record. Our regressions also showed a negative relationship between the change in DPC staff and the change in satisfaction between 2019 and 2023. In other words, the larger the increase in DPC staff, the more likely it was that patients' satisfaction with a practice would fall.

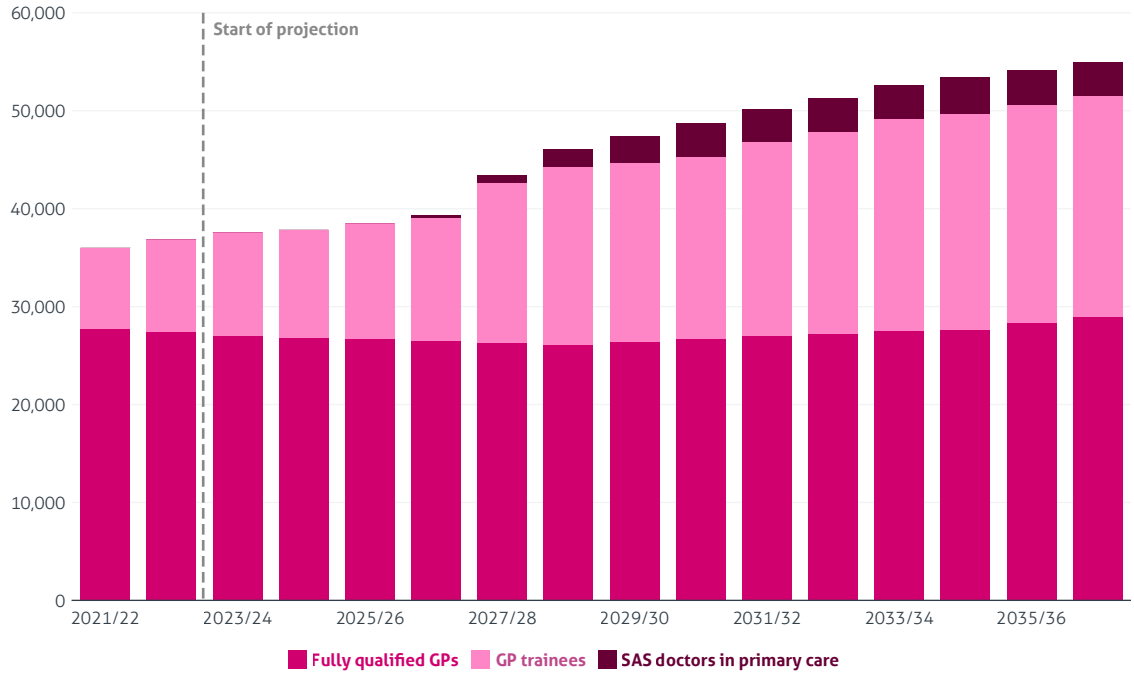
While patient satisfaction is by no means a perfect proxy for service performance, the findings of this report should give the government pause.

The current GP workforce plan will not increase the number of appointments or patient satisfaction as much as other approaches

The current iteration of the NHS *Long Term Workforce Plan* (LTWP) forecasts that the number of GPs (both fully qualified and trainee GPs) working in primary care will increase from 37,841 in 2024/25 to 51,533 in 2036/37, a rise of 36.2%. This is clearly intended to increase access to general practice as demand is expected to rise.

But that increase is driven almost entirely by rising numbers of GP trainees. Trainee GPs will more than double in that time, from 10,974 to 22,605. At the same time, the number of fully qualified GPs is only expected to increase by 7.7%, from 26,867 to 28,928.

Figure 30 **Projection of total doctors working in primary care, 2021/22–2036/37**



Source: Adapted from National Audit Office analysis, 'NHS England's modelling for the Long Term Workforce Plan' ('Figure 11'), 2024. Notes: This shows England only. All staff numbers are in terms of FTE. SAS doctors in primary care are qualified doctors who do not hold a Certificate of Completion of Training in General Practice.

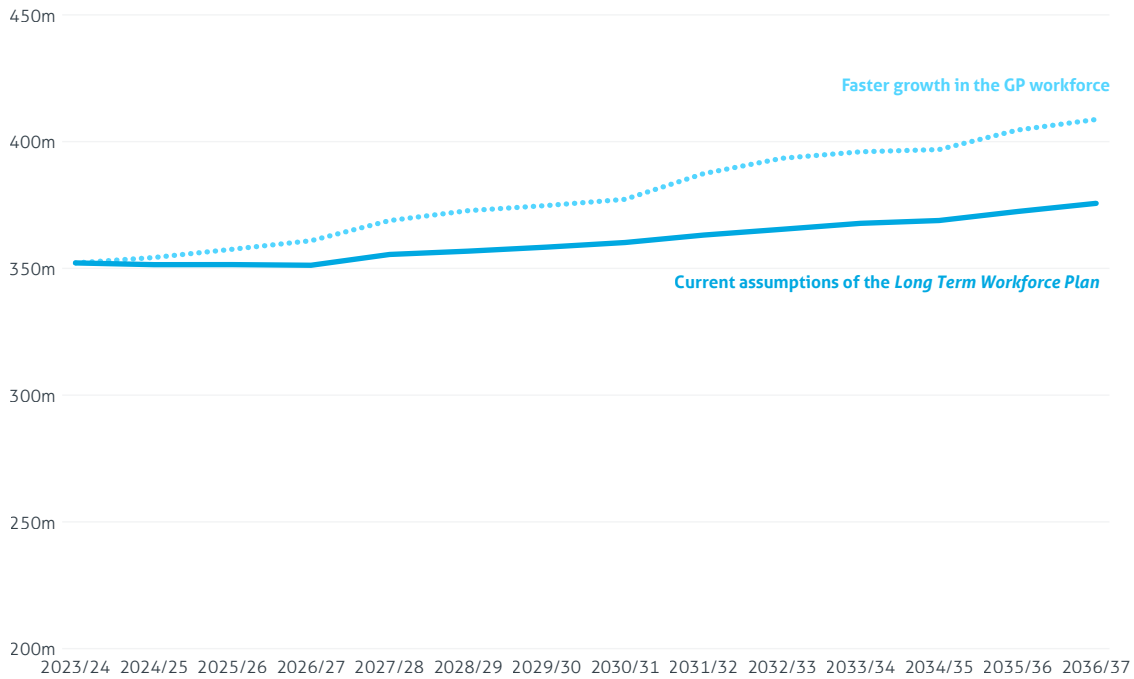
That is a reasonable assumption. Since 2019, the number of GP trainees has almost doubled, while the fully qualified workforce has remained relatively stable. This modelling is therefore a continuation of existing trends.

We can estimate the effect on the number of GP appointments by using the results of our analysis from regressions 3 and 4. Using those estimates, the current plans for the increase in GP trainees and fully qualified permanent GPs between 2023/24 and 2036/37 will result in 23.5 million more total appointments in general practice in that time, of which 20.5million will be GP appointments with the remaining coming from other practice staff.

In contrast, if the government and the NHS reduced the implied leaving rate in the LTWP from just over 10% of fully qualified GPs per year to the average leaver rate of 7.4% since June 2023, then there would be 6,486 more fully qualified GPs in the workforce by 2036/37 compared to the baseline scenario (35,414 vs 28,928). In turn, that would result in 27.6 million more GP appointments in general practice, compared to the current LTWP assumptions, and 4.7 million more appointments from other practice staff.

In total, therefore, there would be 33.1 million more appointments, including the increase in appointments delivered by 'unknown' staff members.*

Figure 31 **Projection of appointments in general practice under different staffing scenarios, 2023/24–2036/37**



Source: Institute for Government analysis of NHS England, 'Appointments in General Practice, October 2024' ('Table 1') and NHS England, *Long Term Workforce Plan*. Notes: This shows all appointments delivered in general practice. All staffing analysis is conducted in terms of FTEs. This shows England only. For more details on the calculations, please see the Methodology.

The impact on access to general practice from these different scenarios is stark. It also raises the question of value for money. It is expensive for the NHS to train a GP. The government will achieve much better value for money if trainees spend years or decades in the NHS after qualifying than if they either never join the fully qualified workforce, or else leave soon after joining.

The government should focus on **addressing issues that discourage trainees from joining the fully qualified workforce** and which push them out when they do eventually join. This will result in more appointments in the long run, higher patient satisfaction as a result, and better value for money.

* For more information on the assumptions underlying this calculation and the calculation below, please see the Methodology.

The government urgently needs to address the crisis in the GP partner workforce

This work shows that GP partners are the members of staff associated with the largest increases in patient satisfaction, appointments and achievement against QOF targets. Larger patient lists – which are associated with lower patient satisfaction – are also at least partly due to declining partner numbers: fewer GP partners lead to more practice closures and mergers, resulting in larger patient lists in the remaining practices.

There is a more subtle point about the importance of GP partners to general practice. GP partners deliver not only the most appointments themselves but are also associated with greater increases in appointments among other staff members. In other words, they likely play an effective management, co-ordination and resource allocation role. This is probably due to their incentives to ensure that the practice runs efficiently and within its budget.

Finding a way to reverse the decline in **GP partner numbers would be one of the most effective ways that the government could increase access to general practice** without piling more pressure on existing GPs.

But as we have shown, there has been a steady erosion of GP partners from the service since at least 2016: there are roughly a quarter fewer GP partners in 2024 than in 2016. The situation is worse among younger GPs where there are now half as many partners under the age of 40 compared to 2016.

If the government intends to continue to use the partnership model to deliver general practice, it needs to urgently address some of the factors that make partnership less attractive. They include: the high cost of entering partnership, the unlimited financial liability that comes with most partnerships (particularly related to the ownership of premises), fears of being the 'last partner standing', and increasing workloads.[1]

If the government thinks that the partnership model is no longer a feasible way of delivering general practice, then **it should assess whether other models could be more appropriate and plan accordingly**. If current trends continue, particularly given the tendency for younger GPs to reject partnership, there is a risk that it will become impossible for the government to deliver general practice with the existing partnership model. **The government should have options in place if that does become more likely.**

There are questions about the efficacy of the expanded DPC workforce

Since 2019, the centrepiece of government policy in primary care has been the addition of DPC staff. That agenda has been incredibly successful, with almost 50,000 DPC staff now working in primary care. DPC staff have delivered most of the increase in appointments in general practice.

But as we have shown, patients do not report higher satisfaction in areas with more DPC staff, or when the number of non-GP appointments increases. Outside of our findings here, there are also concerns that DPC staff require substantially more management by GPs (particularly GP partners), which may reduce the time that they have available to deliver appointments.[2]

DPC staff contribute fewer appointments than other staff, though as has previously been discussed, this appointment data may not capture the full extent of the activity that DPC staff carry out in general practice.

The rolling out of DPC staff has clearly had both positive and negative impacts on general practice. But regardless, the government should be concerned that the staff group into which the most additional resources have been poured over the last five years is not associated with higher patient satisfaction.

The government should improve the quality of DPC data

It is very difficult to evaluate the efficacy of all new DPC staff with publicly available data. The government records PCN staff separately to GP practice staff while including PCN staff's activity in general practice appointment data. The NHS's guidance for how PCNs should record their staff's activity is unhelpfully vague. It says that "PCNs can record their appointments in any way they feel allows them to provide the highest level of care for their patients", which means they can record data in existing GP practice appointment systems, PCN hub appointment systems, in sub-contractor or GP Federation appointment systems or "a combination of the above".[3]

That makes it close to impossible to unpick the effect of additional staff hired in PCNs on general practice activity, satisfaction, QOF outcomes or any other performance metric.

The government also reports activity and staffing data at inconsistent levels of geography. PCN staff are – logically – reported at a PCN level. However, PCN activity is only reported at a sub-ICB level, limiting the ability to carry out analysis at a lower geography.

This sounds like an academic complaint but it has real implications for evaluating policy. The expansion of the PCN DPC workforce since 2019 is one of the largest changes to primary care in recent history. Despite that, the government does not publish data that allows for effective external evaluation of the impact of those staff members. The government should take steps to improve the quality of publicly available data for primary care staffing and activity. The ultimate objective should be to allocate PCN DPC staff to a practice level depending on the amount of time that they work in each practice. The government should also require all PCNs to record activity data consistently so that it is possible to see exactly how many appointments are carried out in general practice and how many elsewhere.

There should also ideally be greater granularity of appointment data at a staff level. Currently, it is possible to see whether an appointment was carried out by a 'GP' or an 'other practice staff' member. That makes it hard to know how much an additional GP trainee or an additional pharmacist (for example) contributes to practice activity.

The government needs to understand the trade-offs in pushing for GPs to deliver more appointments

The substantial variation in the number of appointments that individual GPs carry out might encourage the government to push more GPs at the lower end of the distribution to deliver similar amounts of appointments as their colleagues who deliver more. And there will probably be useful learnings to take from the way that some GPs organise their practices and their time.

However, pushing GPs to deliver more appointments above all else may not be a wise policy. Patients care about more than just access to general practice; they also care about how those appointments are delivered. It is difficult to assess the quality of appointments, but this report has shown that practices that provide more appointments remotely are associated with lower patient satisfaction. There are other metrics of quality that are difficult to capture and might be inversely related to the number of appointments that a GP carries out – for example, the British Medical Association (BMA) has recommended that GPs move to an average appointment length of 15 minutes (where many practices currently average 10).[4]

It will also increase GP workloads, raising the risk of burn-out. The most recent GP voice survey, commissioned by the Royal College of General Practitioners (RCGP), found that the two most cited reasons for why a GP might leave the service in the coming years was "to find a better work/life balance" and because they "find general practice too stressful".[5] Given the difficulties in retaining GPs (particularly younger GPs), and the impact that high workloads have on the attractiveness of partnership, the government should be wary of increasing access to general practice by requiring GPs to deliver ever more appointments.

Finally, productivity is a slippery concept in general practice. We have used the number of appointments per GP as a proxy for productivity in this report because appointments are the only type of GP activity for which we have meaningful data. But appointments are only one part of a GP's workload and raw numbers of appointments tell us little about the quality of those consultations. They also spend time carrying out activity such as indirect patient care – like writing referral letters – and managing other employees in the practice, among many other things. None of this activity is captured by the appointments data. One interviewee suggested to us that those GPs that deliver fewer appointments in a year are just substituting appointments with other work.[6] Just because this work is not measured by NHS England does not mean that it is not valuable or that GPs are not being productive when they focus on it.

One of Wes Streeting's three shifts is towards a more preventative health system. GPs are a crucial part of that ambition. But if GP care became more preventative, it might require longer appointments[7] and improved continuity of care.[8] Delivering a more preventative model of general practice might therefore have a detrimental impact on the number of appointments that GPs can deliver per year.

The government must effectively communicate its reform plans

General practice has changed substantially over recent years, moving away from the more 'traditional' model of delivery. If the government is successful with its three shifts (Streeting wants to shift care from hospitals to the community, from sickness to prevention, and from analogue to digital), it is likely that general practice will continue to change.

But the analysis in this paper shows that patients tend to report higher satisfaction with factors that are usually associated with that more 'traditional' model of general practice. They like to see a GP, in a face-to-face appointment, in a practice with a smaller number of registered patients. This is despite other characteristics of general practice – for example, more appointments delivered by non-GP staff are associated with improved QOF achievement – being associated with better care outcomes.

It seems very unlikely that the government will return to that 'traditional' model of general practice despite its stated ambition to return to the "family doctor": it is unlikely that the NHS is going to reverse the influx of DPC staff; it is unlikely that there will be a rapid turnaround in the GP partner workforce; and it is unlikely that there will be a return to smaller patient lists.

However, patient satisfaction is at least in part a function of patients' expectations. When they fill in the GP patient survey, they are implicitly comparing their actual experience with their expected experience. Part of the decline in patient satisfaction between 2020 and 2023 could therefore be because general practice has changed substantially while patients' expectations have remained relatively static. Some of that is likely because the government has not effectively communicated its reform plans or why they would benefit patients.

This interpretation places an onus on the government to improve the way it communicates its policies: where the government believes that reforms to the 'traditional' model of general practice will generate better outcomes, it should ensure that the changes and their intended benefits are communicated more effectively to the public.

As an example, the increase in DPC staff since 2019 has happened largely unnoticed. Aside from a narrow debate that focuses on the use of physician associates (PAs, which account for only 4.3% of the expanded DPC workforce) in general practice, there has been little attention given to the more radical shift in how patients access pharmacy, physiotherapy, dietary or other services. It may therefore be unsurprising then that a patient reports lower satisfaction following an appointment conducted by these staff members rather than the GP they were expecting.

It is not enough, however, to just communicate the change that is happening. The government should also ensure that it explains what it is hoping to achieve with the change. For example, the government might think that more DPC staff means that patients should be able to access an appointment more quickly. Or that larger patient list sizes represent better value for money for patients. Or that conducting more appointments remotely means that GPs can deliver more appointments overall and saves patients the difficulties of coming into the surgery. But patients, understandably, may not be aware of or agree with those rationales. It is up to the government to make the case for its reforms.

If the government can communicate these changes more effectively, and then follow through by providing the promised benefits, it could be that patient satisfaction recovers without a return to a more 'traditional' model of general practice.

Appendix 1 – Approach to regressions and regression tables

This section will explain the data sources, why we chose those metrics, and how we approached creating regressions.

Time periods

The GP patient survey – one of two metrics we use as an indicator of practice performance in this dataset – is published annually, with the fieldwork typically done at the beginning of a year. For example, for the 2024 GP patient survey, the NHS conducted the field work between January and March 2024 and published the results in July 2024.[1] Because of that, we match patient surveys to the previous financial year for activity such as appointments, and QOF achievement, and use a snapshot in March of that year for staffing numbers.

We created one regression (regression 2) that uses change in patient satisfaction between 2019 and 2023 as the dependent variable. We used that period for a few reasons. First, it captures a large national decline in patient satisfaction. Second, we used 2019 as the start date because we felt that the practice-level workforce data was higher quality then that in previous years. Third, we used 2023 as the end point because there was a change in the methodology for the 2024 GP patient survey, which means that the results were not comparable with previous years.

We then included the change in staff numbers, change in weighted patients, and change in total payment to general practice minus deductions as independent variables that changed over that period. We included two further independent variables – deprivation in 2019 and the proportion of appointments that a practice delivered face-to-face in 2023/24 – that did not show change over time. We included them because we felt that it was likely that, in the case of deprivation, the deprivation of a practice's patient list would not change substantially over time, so the 2019 deprivation was a reasonable proxy for deprivation across the period. We used the proportion of appointments that a practice delivered face-to-face in 2023/24 as we assumed that the practices with the lowest proportions in 2023/24 were likely the practices that had experienced the biggest decline in that metric since 2019.

We did not include controls for appointments because there was no appointment data at a practice level before October 2022 and we did not think that the total number of appointments in 2023/24 was a reasonable proxy for the number of appointments in 2019.

Interpretation and presentation of regressions

Our analysis controls for practice characteristics for which we have data and which we think could reasonably be related to patient satisfaction. But there are other features of GP practices that we cannot control for that drive the results we observe. As a result, the regressions should be interpreted as a description of the observed relationship between practice characteristics, rather than necessarily causal relationships.

Choice of regression type

For all regressions but one, we use an ordinary least squares regression.

We use a Tobit regression for regression 6 where the dependent variable is QOF achievement. This is because the results are mostly clustered towards the top of the distribution (78.5% of practices achieved between 90% and 100% of QOF targets in 2023/24) and a Tobit regression is designed to estimate linear relationships between variables when the dependent variable is bounded to either the upper or lower value, as is the case with QOF achievement.

Significance thresholds

In the following regression tables, we use asterisks to denote the level of significance of an independent variable, as determined by the p-value from our regressions. Three asterisks signify the highest level of significance and one asterisk the lowest. The thresholds are as follows, and includes the word we use to describe these results in the body of the text:

* Weak relationship: $0.01<p<0.05$

** Moderate relationship: $0.001<p<0.01$

*** Strong relationship: $p<0.001$

Regression 1

Dependent variable: Proportion of patients satisfied with general practice in 2024

Level of analysis: GP practices

Coefficient shows the ppt difference in the proportion of patients in a practice who are satisfied from a one unit increase in the independent variable

Type of regression: Ordinary least squares

Independent variable	Coefficient	Standard error	Significance
Weighted patients (2022/23)	−0.00159	0.00008	***
Deprivation	−0.18876	0.01317	***
GP partners	1.39937	0.10856	***
Salaried GPs	0.86727	0.10722	***
GP trainees	0.30763	0.09205	***
DPC staff	−0.10496	0.06424	
Nurses	0.19109	0.09231	*
GP appointments	0.00012	0.00002	***
Other practice staff appointments	−0.00001	0.00001	
Proportion of appointments delivered face-to-face	0.09226	0.00972	***
Proportion of appointments delivered on the same day	−0.01510	0.01415	
Proportion of appointments delivered between 1 and 7 days	0.04888	0.02875	
Proportion of appointments delivered between 8 and 14 days	0.01232	0.01776	
Proportion of appointments delivered after 14 days	−0.02143	0.20703	
Payment to general practice minus deductions + £1,000 (2022/23)	0.00261	0.00041	***

Regression 2

Dependent variable: Change in patient satisfaction between 2019 and 2023

Level of analysis: GP practices

Coefficient shows the ppt difference in change in patient satisfaction between 2019 and 2023 in a practice from a one unit change in the independent variable

Type of regression: Ordinary least squares

Independent variable	Coefficient	Standard error	Significance
Weighted patients - 2019 to 2023	−0.00034	0.00010	***
Deprivation	−0.05178	0.01265	***
GP partners - 2019 to 2023	0.95578	0.12191	***
Salaried GPs - 2019 to 2023	0.12029	0.12490	
GP trainees - 2019 to 2023	0.21348	0.10441	*
DPC staff - 2019 to 2023	−0.19763	0.07593	**
Nurses - 2019 to 2023	0.12718	0.10440	
Proportion of appointments delivered face-to-face (2023/24)	0.06101	0.00959	***
Total payments to general practice minus deductions, +£1,000, 2018/19 to 2022/23	−0.00004	0.00001	

Regression 3

Dependent variable: Number of all staff appointments in 2023/24

Level of analysis: GP practices

Coefficient shows the difference in all staff appointment numbers from a one FTE increase in the independent variable

Type of regression: Ordinary least squares

Independent variable	Coefficient	Standard error	Significance
GP partners	5,439	155.4	***
Salaried GPs	4,939	159.0	***
GP trainees	1,477	160.9	***
DPC staff	2,279	99.5	***
Nurses	4,976	139.0	***

Regression 4

Dependent variable: Number of GP appointments in 2023/24

Level of analysis: GP practices

Coefficient shows the difference in GP appointment numbers from a one FTE increase in the independent variable

Type of regression: Ordinary least squares

Independent variable	Coefficient	Standard error	Significance
GP partners	4,256	77.2	***
Salaried GPs	4,261	74.5	***
GP trainees	1,036	87.3	***

Regression 5

Dependent variable: Proportion of patients satisfied with general practice in 2024

Level of analysis: GP practices

Coefficient shows the ppt difference in patient satisfaction in a practice from a one unit increase in the independent variable

Type of regression: Ordinary least squares

Independent variable	Coefficient	Standard error	Significance
Weighted patients (2022/23)	−0.00146	0.00007	***
Deprivation	−0.13690	0.01336	***
GP partners	1.25151	0.10693	***
Salaried GPs	0.81168	0.10525	***
GP trainees	0.23527	0.09041	**
DPC staff	−0.10363	0.06301	
Nurses	0.15365	0.09058	
GP appointments	0.00011	0.00002	***
Other practice staff appointments	−0.00003	0.00001	*
Proportion of appointments delivered face-to-face	0.08818	0.00954	***
Proportion of appointments delivered on the same day	−0.02411	0.01390	
Proportion of appointments delivered between 1 and 7 days	0.03309	0.02823	
Proportion of appointments delivered between 8 and 14 days	0.00306	0.01744	
Proportion of appointments delivered after 14 days	−0.04276	0.20307	
Total payment to general practice minus deductions, +£,1,000, (2022/23)	0.00258	0.00041	***
Achievement against QOF targets	0.37622	0.02483	***

Regression 6

Dependent variable: Proportion of QOF targets that a practice met, 2023/24

Level of analysis: GP practices

Coefficient shows the ppt difference in QOF achievement in a practice from a one unit increase in the independent variable

Type of regression: Tobit

Independent variable	Coefficient	Standard error	Significance
Weighted patients (2022/23)	−0.00034	0.00003	***
Deprivation	−0.13600	0.00660	***
GP partners	0.38564	0.05460	***
Salaried GPs	0.15462	0.05465	**
GP trainees	0.19341	0.04740	***
DPC staff	0.00182	0.03034	
Nurses	0.09088	0.04665	
GP appointments	0.00002	0.00001	*
Other practice staff appointments	0.00005	0.00001	***
Proportion of appointments delivered face-to-face	0.01272	0.00491	**

Regression 7

Dependent variable: Proportion of patients satisfied with general practice in 2024

Level of analysis: Primary care networks

Coefficient shows the ppt difference in QOF achievement in a practice from a one unit increase in the independent variable

Type of regression: Ordinary least squares

Independent variable	Coefficient	Standard error	Significance
Weighted patients (2022/23)	−0.00032	0.00003	***
GP partners	0.69936	0.06101	***
Salaried GPs	0.40560	0.05999	***
GP trainees	−0.01151	0.05451	
DPC staff	0.02490	0.01771	
Nurses	0.01327	0.04911	
GP appointments	0.00002	0.00001	*
Other practice staff appointments	NaN	0.00001	
Proportion of appointments delivered face-to-face	0.12942	0.02112	***

Regression 8

Dependent variable: Proportion of patients satisfied with general practice in 2024

Level of analysis: GP practices

Coefficient shows the ppt difference in the proportion of patients in a practice who are satisfied from a one unit increase in the independent variable

Type of regression: Ordinary least squares

Independent variable	Coefficient	Standard error	Significance
Weighted patients (2022/23)	−0.00136	0.00008	***
Deprivation	−0.09232	0.01423	***
GP partners	1.15942	0.10754	***
Salaried GPs	1.00165	0.10535	***
GP trainees	0.23976	0.09020	**
DPC staff	−0.15668	0.06296	*
Nurses	0.03170	0.09115	
GP appointments	0.00014	0.00002	***
Other practice staff appointments	−0.00002	0.00001	*
Proportion of appointments delivered on the same day	−0.01158	0.04091	
Proportion of appointments delivered between 1 and 7 days	0.01791	0.04182	
Proportion of appointments delivered between 8 and 14 days	0.05808	0.04276	
Proportion of appointments delivered after 14 days	0.00862	0.05510	
Total payment to general practice minus deductions, +£1,000 , (2022/23)	0.00000	NaN	***
Proportion of patient list aged 65+	0.18279	0.09433	
Proportion of appointments delivered face-to-face	0.03346	0.02406	
Interaction variable between proportion of patients aged 65+ and % appointments face-to-face	0.27121	0.12875	*

Regression 9

Dependent variable: Appointments per all staff members

Level of analysis: GP practices

Coefficient shows the number of additional appointments delivered per clinical staff member in a practice from a one unit increase in the independent variable

Type of regression: Ordinary least squares

Independent variable	Coefficient	Standard error	Significance
Weighted patients (2022/23)	0.33017	0.01120	***
Deprivation	4.79633	3.01975	
GP partners	−514.4	24.3	***
Salaried GPs	−457.2	24.4	***
GP trainees	−432.7	21.6	***
DPC staff	−218.4	13.6	***
Nurses	−197.7	20.2	***
Proportion of appointments delivered face-to-face	−11.47622	2.22875	***

Regression 10

Dependent variable: GP appointments per GP (all GPs)

Level of analysis: GP practices

Coefficient shows the number of additional appointments delivered per GP member in a practice from a one unit increase in the independent variable

Type of regression: Ordinary least squares

Independent variable	Coefficient	Standard error	Significance
Weighted patients (2022/23)	0.41351	0.02674	***
Deprivation	5.91023	7.18826	
GP partners	−1097.0	58.0	***
Salaried GPs	−858.5	58.0	***
GP trainees	−645.1	51.3	***
DPC staff	42.7	32.3	
Nurses	−114.4	48.0	*
Proportion of appointments delivered face-to-face	−1817.7	529.5	***

Methodology

Data sources

Deprivation

Throughout this paper, we use data from the Department of Health and Social Care's Fingertips database, which calculates the deprivation of a practice's patient list by weighting according to the deprivation of the place in which a patient lives. This shows deprivation in 2019. Unfortunately, this is the most recent data we can use as 2019 is the last time that the Ministry of Housing, Communities and Local Government (MHCLG) published the analysis.

Weighted patients

When looking at any geographical level beneath national level (practice, primary care network, sub-integrated care board, integrated care board, and decile/quintile of deprivation), we use weighted patients rather than registered patients as our metric. 'Weighted patients' is a metric that adjusts a practice's patient list to better reflect anticipated relative complexity of need. It adjusts based on demographic characteristics such as age, gender, additional needs of patients (for example, long-term conditions) and turnover of the patient list. This creates a metric that allows for better comparison of patient need between practices.

When looking at the national level, there is no need to use weighted patients as it is not a comparative number.

We take the number of weighted patients from the NHS's Payment to general practice dataset, which is published annually for each financial year. Unfortunately, the most recent version of this dataset is 2022/23.[1] This means that there is no weighted patient number for 2023/24. We therefore chose to use the weighted patient numbers from 2022/23 when conducting cross-sectional analysis in 2023/24 as this still provides a reasonable estimate of the number of weighted patients in 2023/24.

Staffing

Throughout this report, staffing levels are in terms of FTE numbers, unless stated otherwise.

Practice staffing

We conduct most of our analysis at a practice level. We take a snapshot of staffing levels at a practice level in March of each year from the practice level CSVs in the GP workforce data releases.[2] At a practice level, we do not include any staff that are employed in primary care networks.

Primary care network staffing

We carry out one regression at the primary care network (PCN) level, primarily as a robustness test for our findings at the practice level. We briefly discuss these findings in Box 2. For that, we first aggregate practice staff into the PCNs in which

they work. We then add staff that are recorded in the Primary care network workforce bulletin[3] dataset to those staff to come to a total number of staff employed in a PCN.

It is difficult to fully analyse the impact of PCN staff. They do not appear in a practice's staffing data, but the NHS does publish data about the number in each PCN. We therefore have to conduct analysis at a PCN level by combining staffing data from a practice level with PCN level data.

The next problem is appointment data. The vast majority of the activity of PCN DPC staff members is captured in GP appointment data but some is captured in PCN activity data. However, PCN activity data is only available at a sub-ICB level. That means either that we have to conduct analysis at a sub-ICB level – and in doing so lose a lot of the variation as we further aggregate data (there are 106 sub-ICBs and 1,250 PCNs) – or else conduct analysis at a PCN level and exclude the PCN activity.

Staff per 100,000 weighted patients

For this calculation, we take the number of staff in each practice/PCN/sub-ICB/decile of deprivation, divide them by the aggregated number of weighted patients in those organisations and then multiply by 100,000.

Appointments

Appointment data at a practice level is only available from October 2022 onwards. The only full financial year for which we have appointment data is therefore 2023/24.

We take that data from the practice level CSVs in the Appointments in general practice dataset.[4]

This dataset also provides information about which staff group (GP or other practice staff) delivered the appointment, the mode of the appointment (face-to-face, telephone, online/video, home visits, or unknown) and the amount of time after booking the appointment that the appointment took place (same day, next day, etc.)

We considered using appointment length as characteristic. But after concerns from reviewers about the quality of the data, we decided not to use that data.

Payments to general practice

For this metric, we use the metric Payments to general practice minus deductions from the NHS payments to general practice dataset. We use this metric because we believe it gives a clearer picture of the amount of money over which practices have control to spend as they choose.

As with weighted patients, the latest data that we have is for 2022/23. So in the cross-sectional regressions for 2023/24, we use data from that year as a proxy of GP funding in 2023/24.

QOF achievement

We take data for this from the NHS's Quality and outcomes framework, 2023/24: achievement at practice level, all domains.[5] This shows the proportion of QOF targets that each practice meets across all five domains. We use the Overall domain achievement, which aggregates all the other domains.

We do not create a time series for QOF achievement or include it in our regression that shows the change in satisfaction between 2019 and 2023 because the number of indicators and available QOF points changes over time, making comparisons between years difficult.

Other methodological notes

Figures 1, 2 and 3: Proportion of patients satisfied at a sub-ICB level and a regional level

For all three of these figures, we aggregate the number of responses to the GP patient survey from each practice in a sub-ICB area and region. We then also aggregate the number of patients who responded that their experience of general practice had been either 'Very good' or 'Fairly good'. We then divided the latter by the former for each year to come to a total proportion of patients who were satisfied with their GP practice.

Figure 4: Patients satisfied with their GP practice, by patient list deprivation

For the deprivation of each practice, we use data from the Department of Health and Social Care's Fingertips database, which calculates the deprivation of a practice's patient list by weighting according to the deprivation of the place in which a patient lives.

To calculate the quintiles of deprivation, we then ranked all GP practices according to their Fingertips IMD score and assigned the 20% of practices with the least deprived patient lists to the least deprived quintile.

We then aggregate up from the practice level as with the methodology described above, just using the quintile of deprivation as the condition for aggregation rather than the sub-ICB area or region.

Figure 9: Proportion of GP trainees entering the fully qualified workforce, by year in which they completed training, 2019–24

For this, we use the NHS's Tracking GPs into the fully qualified workforce dataset,[6] which shows the number of GP trainees that finished their training in each quarter between December 2018 and December 2024 and the number that were eventually registered in the fully qualified workforce at any time after they finished their training.

We then aggregate the number of leavers in four quarters into annual cohorts, for each year ending June. Then we create a cumulative number of each cohort that join the workforce in the following years to create each line in this chart.

This data cannot tell us whether the GP that has joined the workforce subsequently left.

Figure 11: GP trainees that have joined the fully qualified workforce, by country of medical training and the year they finished GP training, 2019 to 2024

We use the same approach here as in Figure 9, we just split the GPs by country in which they completed their medical degrees. The two categories are GPs that completed their medical degrees in the UK and the rest of the world. 'Rest of the world' in our chart is the sum of those who completed their medical training in the European Economic Area (EEA) and 'elsewhere' in the source dataset.

The columns in this chart show the cumulative proportion of each cohort that have ever joined the workforce since finishing their GP training. In effect, it is the end point of each line from Figure 9.

Figure 13: Net GP joiners and leavers, by age group, September 2016 to December 2024

This uses data from the NHS's GP joiners and leavers dataset,[7] which is published quarterly. Each quarter in the data shows the number of staff who left or joined in that age group in the preceding 12 months.

The data does not give a denominator for the total number of GPs in each age group in each quarter. But we can calculate an estimate for this by dividing the number of leavers by the leaver rate (which is a percentage of the workforce who left in the 12 months to that quarter).

Using that imputed total workforce and the number of joiners and leavers, we can aggregate the more granular age groups into the ones that we use throughout this report.

To calculate the net joiner and leaver rate, we subtract the number of leavers from the number of joiners for each age group in each quarter. We then divide that number by the imputed total workforce. A negative percentage therefore implies that there were more leavers than joiners in that age group in a given quarter.

Figure 15: NHS primary care staff, by staff group, September 2015 to December 2024

All staff are shown in terms of FTEs.

Data for the fully qualified GPs, nurses, and GP trainees comes directly from the NHS Digital GP workforce bulletin tables. This therefore only captures those GPs that work in general practice rather than the wider primary care workforce. We discussed this approach with experts on primary care data and they agreed that given how few additional GPs worked outside general practice, this was an acceptable approach.

For the direct patient care (DPC) staff, three approaches were used for different time periods:

- Between September 2015 and December 2018, the DPC staff shown on the chart are taken directly from the GP workforce bulletin tables. Given that primary care networks did not exist at this time, this measure should capture all the DPC staff working in primary care.

- Between March 2019 and June 2021, the DPC staff are a combination of the GP workforce bulletin tables DPC staff and those from the primary care network workforce bulletin tables.

- From September 2021 onwards, the DPC staff comes from the primary care workforce – nurses, DPC and admin/non-clinical staff dataset.

Figure 16: Patients satisfied with their GP practice, by GPs per 100,000 weighted patients and by practice, 2024

For this, we aggregated the total responses to the GP patient survey and the number of patients who responded that their experience of general practice had been either 'Very good' or 'Fairly good', depending on the number of fully qualified GPs per 100,000 weighted patients in that practice. We created buckets with a range of two GPs per 100,000 weighted patients and then divided the number of 'good' responses by the number of total responses to come to a result for each bucket.

Relative effect of fewer face-to-face appointments and more appointments overall on patient satisfaction

For this, we take the central estimate of the effect of a 1ppt reduction in face-to-face appointments on the number of appointments that a GP can deliver from regression 10, which is 18.2. We then multiply that by the average number of all GPs in 2023/24 (36,654) to calculate the additional appointments that all of general practice could deliver from a 1ppt decrease in face-to-face appointments. We then divide that number by the average number of practices in that year to calculate the number of additional GP appointments that each practice would deliver on average.

From there, we apply the central estimate from regression 1 for the impact of an additional GP appointment on patient satisfaction. That gives us the increase in satisfaction associated with a practice being able to deliver more appointments. Finally, we divide that by the effect on the proportion of patients in a practice satisfied with the service from a 1ppt decline in the proportion of appointments delivered face-to-face.

That shows that only 13.5% of the reduction in patient satisfaction that comes from a shift away from face-to-face appointments is accounted for by an increase in the proportion of patients satisfied from a practice therefore being able to deliver more appointments.

Figure 32: Projection of appointments in general practice under different staffing scenarios, 2023/24–2036/37

Both lines on this chart use the number of appointments delivered in 2023/24 as the baseline numbers for the projection. For each line, we then multiply the additional staff numbers that are implied by the NHS *Long Term Workforce Plan* (LTWP) in each year by the number of additional appointments that we calculated in regressions 3 and 4 (see Appendix 1 for details of those regressions results).

The assumptions in the LTWP split GPs into fully qualified GPs, GP trainees and SAS doctors in primary care. We do not include the impact of SAS doctors in primary care in this analysis because we have no way to estimate the impact of additional staff numbers on appointments as there are currently very few working in primary care.

Our analysis splits fully qualified GPs into GP partners and salaried GPs, which the LTWP does not. Given that these two staff groups are associated with different levels of appointments, we need to make an assumption that splits this into those two staff groups. To do so, we apply the average annual change in the number of FTE salaried GPs between 2015/16 and 2023/24 to the baseline number of salaried GPs in 2023/24 for every year between 2024/25 and 2036/37. We then calculate the number of GP partners by subtracting the number of salaried GPs from the total number of fully qualified GPs assumed in the LTWP for each year.

The LTWP was published in June 2023 and therefore includes estimates for the fully qualified workforce in 2023/24 – a year for which we now have outturn data. The number of fully qualified GPs in the LTWP is slightly higher than the average number of fully qualified GPs in that year (27,061 vs 26,714). But we use the LTWP estimate for 2023/24 as the baseline because changing it would throw out the growth in GPs over the rest of the period.

To calculate the number of appointments in the 'current assumptions of the LTWP' line, we multiply the additional staff members in each year by the central estimate of the additional number of appointments that are associated with that staff group, as calculated in regressions 3 and 4. For example, an additional salaried GP is associated with an increase of 4,939 total appointments and 4,261 GP appointments in general practice. Between 2025/26 and 2026/27 we project that the number of salaried GPs will increase by 106. We therefore multiply 106 by 4,939 and 4,261 to calculate that the rise in salaried GPs in that year will increase total appointments by 524,305 and GP appointments by 452,327. This means that the appointments delivered by other practice staff is projected to increase by 71,979. We carry out the same exercise for the change in the number of GP partners and GP trainees. We do not calculate this for changes in the number of nurses and DPC staff because there are no assumptions for those staff groups in the LTWP.

To calculate the 'faster growth in the fully qualified workforce' line, we apply the same methodology described above to an adjusted GP workforce. To demonstrate how changes to the proportion of GP workforce that is made up of fully qualified GPs would affect appointment numbers, we first had to estimate the implied workforce trends in the LTWP. To do this, we created a stock and flow model of the fully qualified GP workforce, using the estimated number of GP trainees as one input.

To calculate the number of GP trainees that would finish their training in any given year, we first created a time series of GPs starting training in each year, using data from Health Education England to estimate the numbers between 2014/15 and 2021/22.[8] We then lagged the number of starters by three years (while they undertook their training) and applied an attrition rate, which we estimated using the NHS's Tracking GPs into the fully qualified workforce dataset,[9] by dividing the number of trainees that finished their training in the 12 months to June for each year by the number of doctors starting GP training three years before. This gave us an estimate that 83.8% of trainees who start training finish it. Given the stock of GP trainees estimated in the LTWP, we can then project forward the number of GP trainees that are estimated to start for any given year between 2022/23 and 2036/37. We can then use that to create a time series of GPs who complete training each year.

Next, we calculate the number of GP trainees that join the fully qualified workforce in each year. We do this by multiplying the number of GPs who finish training by the average rate at which they join the fully qualified workforce in each of the first five years after finishing training. We use the rate at which the trainees who finished their training in the 12 months before June 2019 joined the workforce over the following five years. This is obviously an imperfect estimate because the rate at which that cohort would join the fully qualified workforce would have been impacted by the pandemic from 2020 onwards. But this is the earliest cohort for which we have data and we therefore think that it's more important to have the longest possible time series to capture the full rate at which GPs eventually join the fully qualified workforce.

With this assumption, we can then create an estimate for the number of GPs who join the fully qualified workforce from the GP trainee workforce in any given year. Given that we now have the LTWP's projection for the stock of fully qualified GPs each year and our estimate of the number of GPs joining the workforce in those years, we can calculate the implied rate at which fully qualified GPs leave the workforce between 2024/25 and 2036/37. This shows that the average leaver rate from the fully qualified GP workforce is 10.2% for those years. In comparison, the average leaver rate from the fully qualified GP workforce since June 2023 has been 7.4%, as shown in the GP joiners and leavers – December 2024 dataset.[10]

By assuming that the NHS can implement policies that reduce the leaver rate between 2024/25 and 2036/37 from 10.2% to 7.4%, we can then create a new projection of the number of fully qualified GPs. To calculate the split of these fully qualified GPs into GP partners and salaried GPs, we apply the split in the fully qualified workforce used in the baseline projection to this higher estimate of the fully qualified workforce. The number of GP trainees does not change between the LTWP projection and our projection.

Finally, to calculate the number of appointments in the 'Faster growth in the fully qualified GP workforce' line, we multiply these estimates by the results from regressions 3 and 4, as described above.

The workforce projections under each of the two scenarios can be seen in the table below:

	Current LTWP assumptions					Lower leaver rate assumptions				
Year	GP partners	Salaried GPs	GP trainees	FQP GPs	All GPs	GP partners	Salaried GPs	GP trainees	FQP GPs	
2023/24	16,390	10,671	10,551	27,061	37,612	16,390	10,671	10,551	27,061	
2024/25	16,459	10,716	10,666	27,175	37,841	16,002	11,405	10,974	27,407	
2025/26	16,657	10,845	10,993	27,503	38,496	15,634	12,224	11,800	27,858	
2026/27	16,820	10,952	11,262	27,772	39,034	15,226	13,135	12,533	28,362	
2027/28	17,917	11,666	13,073	29,582	42,655	14,756	14,118	16,355	28,873	
2028/29	18,430	11,999	13,920	30,429	44,349	14,093	15,066	18,273	29,159	
2029/30	18,532	12,066	14,088	30,597	44,685	13,794	15,811	18,253	29,605	
2030/31	18,720	12,189	14,399	30,909	45,308	13,430	16,615	18,563	30,046	
2031/32	19,166	12,479	15,136	31,645	46,781	13,536	18,194	19,755	31,730	
2032/33	19,509	12,702	15,701	32,211	47,912	13,243	19,478	20,637	32,722	
2033/34	19,890	12,950	16,330	32,840	49,170	12,583	20,415	21,674	32,998	
2034/35	20,043	13,050	16,583	33,092	49,675	11,817	21,344	21,984	33,161	
2035/36	20,333	13,239	17,062	33,571	50,633	11,810	22,818	22,295	34,628	
2036/37	20,605	13,416	17,512	34,021	51,533	11,462	23,952	22,605	35,414	

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