BALANCING SUPPLY AND DEMAND IN PRIMARY CARE

How will the “family doctor” evolve to meet growing demand?

04 OCTOBER 2024

AUTHORS

Matthew Bell
Director
matthew.bell@frontier-economics.com

Nick Woolley
Manager
nick.woolley@frontier-economics.com

Tom Baily
Consultant
thomas.baily@frontier-economics.com

WWW.FRONTIER-ECONOMICS.COM

This analysis compares future demand for and supply of primary care. Other forecasts have been published (including recent analysis by the National Audit Office).[1] The advantage of this analysis is that it builds up supply and demand in aggregate across all of primary care in a fully transparent fashion. Our analysis also looks forward: how will demand and supply evolve over the next decade and what does that imply?

The current challenges facing primary care have been well documented. Demand is rising for a number of reasons: aging population, increase in long term conditions such as obesity and mental health conditions and capacity constraints in secondary care. Various plans have been put forward for how to meet that rising demand. When those plans are added together:

01

What do they achieve compared to expected demand?

02

What will the resulting primary care system look like?

03

Will I still be able to see my GP?

This analysis develops a GP demand forecast reflecting population growth, demographic change, deprivation and additional demands arising through management of more conditions in primary care. On this we overlay a supply forecast operationalising the GP training and retention schemes assumed in the NHS Long-Term Workforce Plan (LTWP), on top of which consider the scope for other staff groups such as Nurse Practitioners or pharmacist consultations to deliver appointments traditionally delivered by GPs. These other staff groups can have a significant role in bridging the supply-demand group. Finally, we incorporate trends in part-time working and productivity increases. The analysis allows us to understand how the gap between demand and supply evolves, how it closes and what type of workforce results.

Demand forecast

The ONS forecast shows flat population growth from 2024 onwards.[2] However, the composition of that population changes: it is aging. By applying Carr-Hill age-gender weights to the population (a well-established process to model changing demographics), the demand for primary care carries on its previous upward trajectory. This is because many of those in

1 NHS England's modelling for the Long Term Workforce Plan (nao.org.uk)

2 Population projections by the Office for National Statistics, 2020-based principal projection

lower-demand age groups are growing into higher-demand age groups even if the overall population is relatively stable.

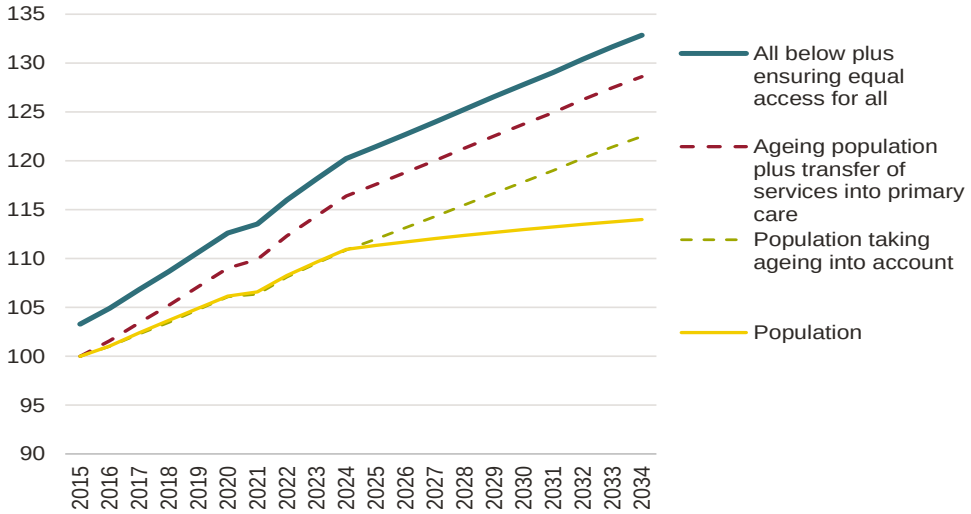
We also add increases in demand load due to morbidity. The Health Foundation projections of patterns of illness in England finds that three quarters of the increase in morbidity in the future will be due to age, and the other quarter is due to underlying morbidity increase; for example reflecting lifestyle and living conditions.[3] We therefore add this morbidity component on top of the age-driven increases, i.e. another third of the demographic-driven increase to account for raised morbidity.

We then add in the fact that various pathways being moved into general practice (such as T2CDM, epilepsy, ADHD etc.) increases demand further. We estimate this has added 5% to demand from 2015 to 2024. We have not assumed that this trend continues beyond 2024 as this would involve forecasting beyond current policy. However, it would not be unlikely that the gradual transfer of clinical tasks to general practice continues.

Finally, we model current untapped demand if all deprivation quintiles enjoyed the same level of access as the least deprived two quintiles. This increases demand further by around 3%.

The successive additions to demand are shown in Figure 1, with demand at 2015 = 100. The starting year is based on the furthest back consistent data can be taken and is not otherwise meaningful. Overall demand is projected to be a third higher in 2034 than it was in 2015.

Figure 1 Demand projection



Source: Frontier analysis based on NHSE and ONS data

[3] https://www.health.org.uk/publications/health-in-2040

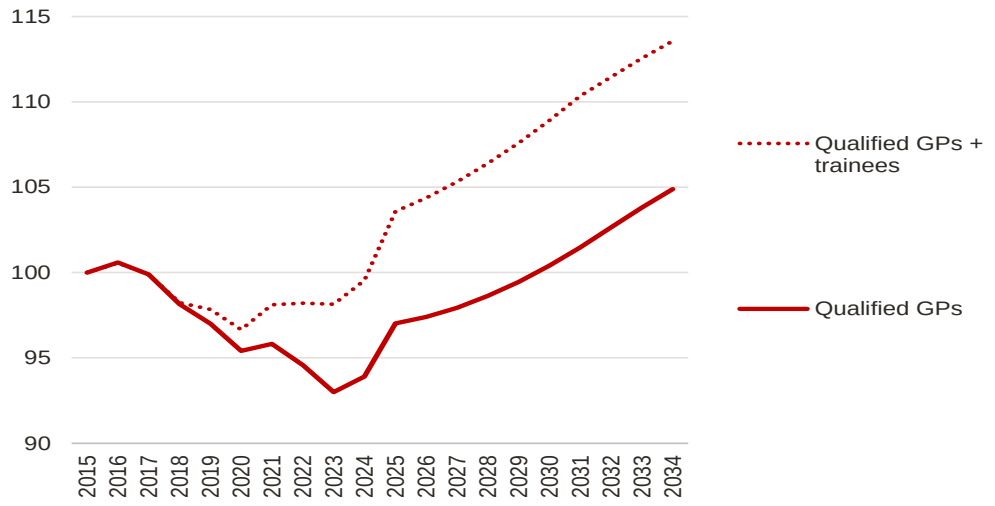
Supply forecast

We use GP joiner and leaver data to model retention and attrition. An attrition rate of 8.2% is assumed, which is the average from 2015 to 2024. Analysis of joiner data over the last 5 years shows around 1,150 qualified GP FTEs aged under 45 joining each year, in relation to around 3,600 ST3&4 trainees. There are also 1,200 older joiners per year, who are not from the trainee cohort, but have been recruited from overseas or already qualified GPs returning to general practice.

As per the LTWP the number of training places increases by around 50%, so similarly the numbers of graduating trainees per year will increase correspondingly. There is also a wider pool of trainees who are delivering care, depending on assumptions.

In Figure 2, we show the change in the number of qualified GPs only (bottom line). There is a gradual increase in numbers of qualified GPs as the training pipeline delivers net increases. We also add in an additional 1000 GPs this year through changes in the Additional Roles Reimbursement Scheme (ARRS) which gives a sharper increase in 2025.[4]

Figure 2 GP supply forecast



Source: *Frontier analysis based on NHSE and ONS data*

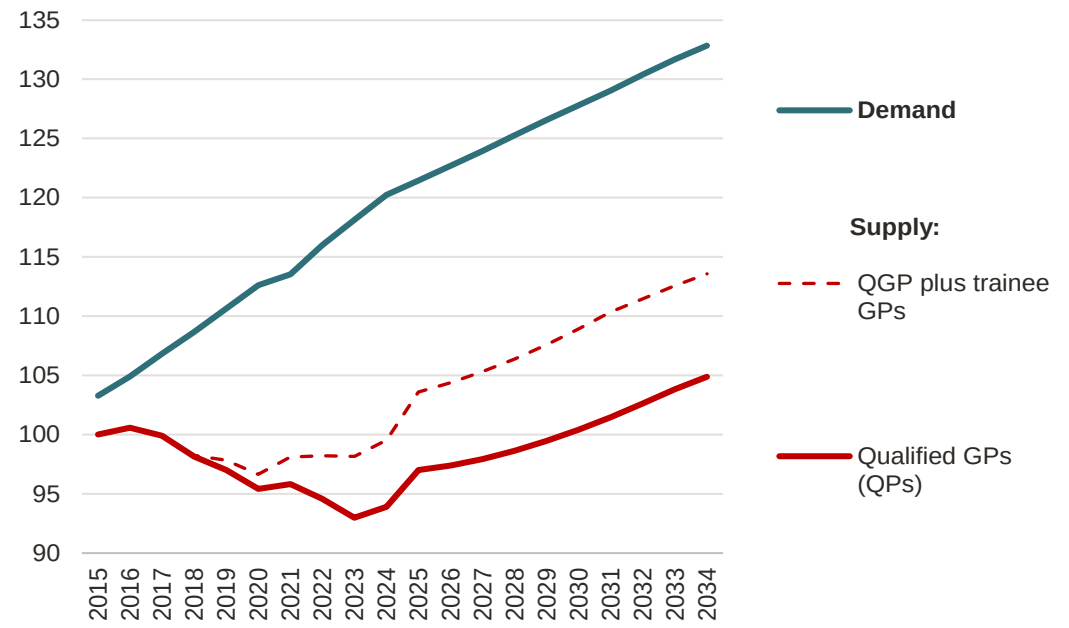
[4] https://www.gov.uk/government/news/over-1000-more-gps-to-be-recruited-this-year This is interpreted as being a headcount measure, so is converted into FTEs at 0.8. Since this is financed out of ARRS, there would be a reduction in ARRS DPC roles, other things being equal. The conversion into forgone ARRS roles uses and assumes GP salary of £86.5k and £30k for DPCs, consistent which is between Agenda for Change pay bands 4 and 5. Attrition is applied to the additional 1000 as per the pool of qualified GPs.

We then consider that trainees go some way in delivering primary care. Trainees do a fairly small number of consultations and require extensive supervision from senior staff. We assume that one additional trainee FTE does 40% of the work of a fully qualified GP FTE.[5] The dashed line shows the GP supply inclusive of trainees.

Will supply meet demand? Bringing the forecasts together

If we were dependent solely on GPs and trainees we could not meet future demand. Even assuming trainees are 40% equivalent to a qualified GP (and recent NHSE evidence suggests trainees may only be 19% equivalent), the GP projection is well below demand growth.

Figure 3 Combined supply and demand



Source: Frontier analysis based on NHSE and ONS data

[5] NHSE have used a much lower figure: that a trainee is equivalent to 19% of a full qualified GP. That might rise as the trainee gains experience. The less able trainees are to substitute for qualified GPs the more other professions are needed to fill the demand-supply gap.

Additional staff types

The gap between demand and supply of existing and new GPs means that other professionals will be needed. It is not possible to train enough GPs quickly enough or bring even more in from overseas.

We now consider how other staff types will meet the supply gap, successively adding Nurse Practitioners and Physician Associate, other Direct Patient Care (DPC) roles, and finally consultations delivered via Pharmacy First. These potentially represent substantial additional capacity which may be sufficient to address the supply-demand gap.

We first add in Nurse Practitioners and Physician Associates. These are assumed to substitute for qualified GPs (QGPs) at the rate of 50% (given slower consultation rates and the need for GP supervision/support). These staff grow in line with the LTWP.[6] There are around 5,000 of these roles currently, projected to grow to 6,000.

We then model the impact of additional types of DPC to supplement GPs. This includes counsellors, social prescribers, physiotherapists, paramedics, and clinical pharmacists recruited provided through the ARRS. This gives a further 15,000 FTEs in areas we have modelled as substitutable. We take into account both the assumed substitutability and typical consultation load per FTE. There is very limited evidence about the substitution of GP time by these staff types so we include a modest assumption that, on average, an ARRS DPC FTE accounts for 0.26 QGP FTEs, representing around 3,700 QGPs overall.[7]

The dashed green line in Figure 4 shows the impact on supply once these other role have been added in. From 2021 they have accounted for a substantial increase in the supply of GP-related services. However, as per the LTWP, they are not envisaged to expand much in future years.

We then consider the impact of Pharmacy First. The impacts of Pharmacy First increase over time, adding 1m consultations per year and reaching 10m per year in 2034. Overall, this would equate to 1,631 QGP FTE positions.[8] This is shown in the solid green line, which nearly reaches the demand line.

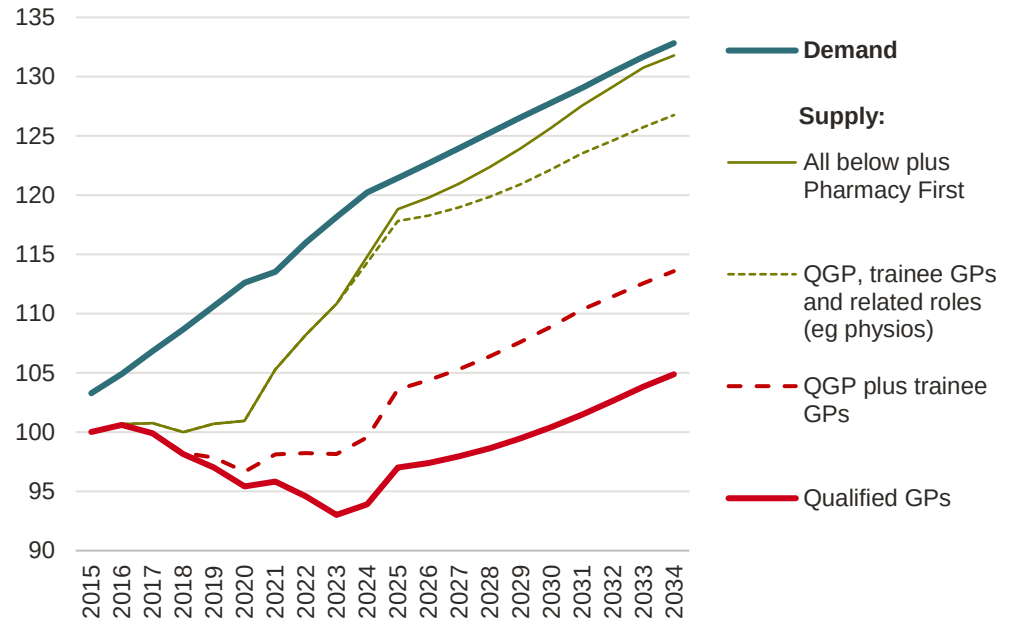
[6] https://www.england.nhs.uk/wp-content/uploads/2023/06/nhs-long-term-workforce-plan-v1.21.pdf

"increasing the number of non-GP direct patient care staff by around 15,000"

[7] The 0.26 rate is a weighted average across roles, taking into account assumed substitutability and number of consultations delivered.

[8] The conversion assumes a GP carries out 28 consultations per working day, or 6,132 over the year..

Figure 4 Supply and demand with additional staff groups added

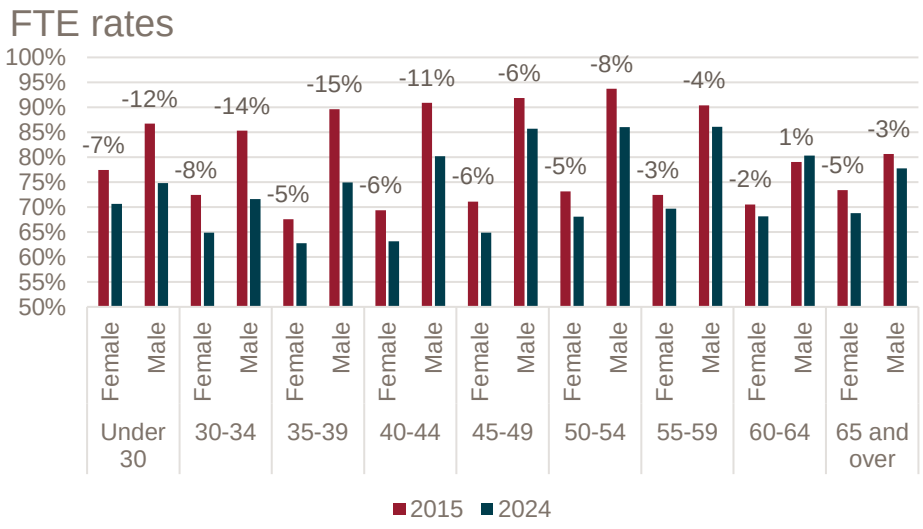


Source: *Frontier analysis based on NHSE and ONS data*

Adjustments for FTE reductions and productivity

Over the past 10 years, GPs have reduced the hours they work per week. As a result, full time equivalents (FTEs) among the existing qualified GPs fell from 78.2% to 70.5%. This is shown in Figure 5 below, where for each age-gender band we compare FTE rates in 2015 and 2024. For example, it shows male GPs aged 35 to 39 used to work on a 90% FTE basis on average, whereas now they work on a 75% FTE basis, a 15 percentage point reduction. There are reductions across virtually all bands, but they are largest for male GPs.

Figure 5 Changes in part-time working by qualified GPs, by age and gender band



Source: *Frontier analysis based on NHSE and ONS data*

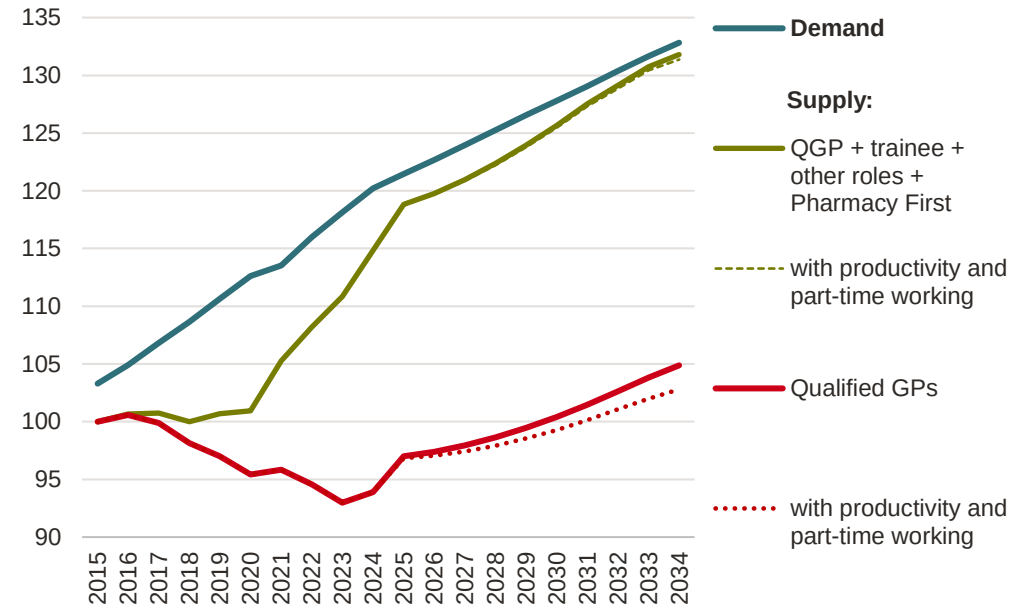
There is no suggestion this trend is temporary. We have added this to our analysis of supply and included a further reduction phased over the next 10 years.

The LTWP assumes productivity increases occur across the NHS.[9] In relation to GPs it refers to technology reducing appointment length by 1 minute from 15. Achieving this by 2034 is roughly consistent with a productivity growth of 0.6% per year. This is equivalent to the capacity of about 2,000 qualified GPs by 2034.

The impact of increases in part-time working and increases in productivity largely off-set each other. This is shown in Figure 6 below. The net effect is more negative for the QGP- because the part-time working applies to the entirety of the group, whereas in the broader measure it only affects the QGPs and not the trainees or DPCs.

[9] The LTWP explores a range from 0.6% to 0.93% per annum across all the NHS.

Figure 6 Supply and demand with productivity and part-time working



Source: Frontier analysis based on NHSE and ONS data

Discussion

The analysis presented above suggests three main conclusions:

First, meeting demand requires a concerted effort drawing on multiple sources of new primary care expertise; demand cannot be met by relying on qualified GPs and new trainees.

Second, meeting demand in this way will result in a different experience of a GP practice for a member of the public. A “visit to the family doctor” more frequently, compared to 2015, results in a visit to someone other than a qualified GP, even if they are ultimately under the supervision of a qualified GP. Our modelling suggests that in 2015, about 90% of GP appointments resulted in a visit to a qualified GP. That is likely to fall to around 70% by the end of our forecast period (2034).

Third, our ability to meet growing demand is full of risks. The analysis above is only able to “close the gap” by assuming that all the plans in the LTWP are achieved, that productivity rises as predicted (including new technology supporting that rise), that trainees can take on a significant part of the work of fully qualified GPs and that a range of other measures (including Pharmacy First) deliver as planned.

These are the challenges facing the new government. One test of the new long term plan will be its ability to meet these challenges. Doing so will require more than plans, it will require careful design of economic incentives and training regimes and standards. It will focus attention on the ability of qualified GPs to manage a much more diverse workforce to achieve improving outcomes.

Appendix: A note on data sources:

The demand analysis uses ONS population projections, ONS postcode lookup, Indices of Multiple Deprivation (MHCLG), Carr-Hill weightings and General Practice Workforce data from NHSE.

The supply analysis also incorporates Primary Care Workforce and Primary Care Network workforce data from NHSE, as well as our interpretation of NHS policy announcements and expert input.

WWW.FRONTIER-ECONOMICS.COM