Measuring continuity of care in general practice

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Contents

Key points

- General practice is under extreme pressure. The number of appointments is increasing, while the number of full-time GPs has fallen. Patients can find it hard to see a GP at all, let alone see the same one over time.
- The extent to which a patient has an ongoing relationship with their GP is a type of continuity of care. This is something highly valued by many patients and GPs.
- A national measure of continuity of care in general practice was recommended by the Health and Social Care Committee. Labour has included routine measurement of continuity in their proposed plan for the NHS.
- Continuity of care can be measured in different ways, for example, by looking at electronic health records or the GP Patient Survey to understand how often a patient sees the same GP or their preferred GP.
- We examined these measures and found that, on both, continuity fell steadily for more than a decade before the pandemic. However, this trend reversed during the pandemic as continuity was maintained or increased. This was likely because fewer patients visited their GPs during the pandemic.
- These measures of continuity of care are not perfect. They depend on patient and practice characteristics and are affected by how often a patient visits their GP. Hence, change in continuity over time or differences in continuity between patient groups, practices or areas need to be interpreted cautiously.
- Using both electronic health records stratified by patient characteristics as well as the GP patient survey can provide a more rounded picture of continuity than using either measure alone.
- Demand and capacity are key drivers of continuity of care in general practice. If policymakers want to fundamentally improve continuity for patients, primary care capacity needs to increase, including long-term investment in the workforce, facilities and IT infrastructure.

1. Introduction

General practice is under extreme pressure. The number of full-time equivalent, fully qualified and permanent GPs has been falling over time, reflecting the struggle to recruit and retain GPs. At the same time, demand for general practice is greater than ever, due in part to an ageing population, a higher prevalence of long-term conditions and pressures elsewhere in the health system. This means it is harder for patients to see a GP at all, let alone the same GP over time in order to develop a clinical relationship.

Continuity of care in general practice can be defined as the degree to which patients experience consultations as consistent with their needs. It is considered a key component of high-quality health care, particularly in general practice. An important aspect is whether patients are able to see their usual or preferred GP. Continuity has benefits for patients, GPs and the wider health system. For example, increased continuity has been linked to lower avoidable hospital admissions, fewer urgent care visits and higher satisfaction among both patients and GPs.

Currently, practices and policymakers are grappling with trade-offs between access and continuity. Prioritising rapid access to appointments in the past has often been at the expense of improving continuity. Policies such as evening and weekend appointments and increased use of multidisciplinary teams may help patients get an appointment, but not necessarily with their usual GP. In theory, some policies that support access, such as enhanced care navigation and triage, could free up GPs' time to prioritise patients who need continuity. But balancing these competing asks is difficult, particularly in areas of high deprivation, where GP numbers are lowest and the burden of chronic conditions is highest.

Continuity of care can have a bigger impact for certain patients. Older people, those with chronic conditions, those living in the most deprived areas and those with new or changing symptoms stand to benefit most from improvements in continuity. The value of continuity for patients also depends on their reason for consultation. For example, a patient with a long-term condition may want to see the same GP with whom they have an existing relationship and who understands their situation. For a patient seeking antibiotics for a one-off ear infection, timeliness may be more important than continuity.

Improving continuity of care is recognised as a key policy aim for general practice across the political spectrum. The recent Health and Social Care Committee report on the future of general practice highlighted its importance and recommended the reporting of a national measure of continuity of care at the practice level. In response, the government acknowledged the value of continuity of care but did not commit to a national measure. In their plan to build an NHS fit for the future, the Labour Party has promised, if they win the next election, to 'bringing back the family doctor' by prioritising

continuity for patients with long-term conditions. This includes adding a measurement of continuity of care to the Quality and Outcomes Framework.

If policymakers want to set a goal to improve continuity of care in general practice, how might it be measured? This analysis sets out the main ways continuity could be measured and understood from current data sources.

2. Types of continuity of care

There are three main types of continuity: relational, managerial and informational (Box 1). Relational continuity is about the relationships between GPs and patients and has subdomains including longitudinal, conditional and episodic continuity. Longitudinal continuity is about a patient seeing the same GP over time. There are also other important types of continuity of care (see Box 1), for example managerial and informational. We focus on understanding patients' longitudinal continuity with GPs.

Box 1: Types of continuity of care in general practice

1. Relational continuity

GPs develop therapeutic relationships with patients over time and accumulate knowledge of patients and their care that is consistent with the patients' needs. Relational continuity can be further broken down into:

- **Longitudinal continuity:** care is provided by as few GPs as possible, consistent with need and uninterrupted for as long as a patient requires.

- **Conditional continuity:** a patient interacts with the same GP regarding a specific health condition.

- **Episodic continuity:** a patient interacts with the same GP for an episode of time or care.

2. Managerial continuity

Handovers of care between teams and organisations are timely and efficient, and patients' preferences and needs are respected and met at every stage of their journey. For example, a patient's care is well managed and coordinated across multidisciplinary teams within general practice or between primary and secondary care.

3. Informational continuity

GPs and other primary care staff have access to accurate, up-to-date patient records, and patients do not have to repeat their symptom histories to multiple clinicians.

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3. Measuring continuity of care

A variety of continuity of care measures are used in general practice research. One common approach is to use electronic health records from general practice, as these provide data on which patient sees which GP. This information can be used to calculate how often a patient sees the same GP or combination of GPs, or how often a GP sees a patient on their list. Another approach is to ask patients, for instance through the GP Patient Survey, how often they are able to see or speak to their preferred GP when they would like to. Survey information can capture additional nuances about patient preference for continuity of care that are not available from electronic health records.

Strengths and limitations of electronic health records

Electronic health records capture information about each consultation a patient has with a GP. A number of different measures can be calculated using these data. Some of the most common approaches are explained in Box 2.

Box 2: Common measures of continuity of care calculated from electronic health records

- **Usual Provider of Care (UPC) index**
  The UPC index is the most common measure for longitudinal continuity of care in general practice. It is calculated as the proportion of consultations a patient has in a period that were with their usual GP (ie the GP they see most often). For example, if a patient had four consultations in a year and three were with the same GP, the UPC index would be 0.75.

- **Bice-Boxerman Continuity of Care (COC) index**
  This index takes into account the contact a patient has with all GPs, not just the one they see most often. For instance, if a patient had 10 consultations in a year and five were with the same GP, their COC index would depend on how many other GPs they saw. If they saw just one other GP, they would have a higher COC score than if they saw three.

- **St Leonard's Index of Continuity of Care (SLICC)**
  The SLICC is a measure of how often doctors see patients on their personal lists. Unlike the UPC and COC indices, the SLICC is calculated for each doctor rather than each patient. The advantage of the SLICC is that it does not require patients to have had multiple appointments in a given time frame. However, it does rely on doctors having personal patient lists, which is becoming increasingly rare.

The strength of measures calculated from electronic health records is that they are objective, straightforward to calculate and based on accurate and up-to-date information about patients at the point of care. However, they also have some limitations. For instance, they can only be calculated for patients with more than one consultation. The number of visits a patient has to their GP affects their continuity score for all the measures except the SLICC. Such issues can particularly bias the results if the frequency with which patients visit their GPs changes over time or differs between patient groups or geographies. None of these measures take patient preference into account.

In this section, we demonstrate some strengths and limitations of using electronic health records with an example from our analysis of continuity of care using data from the Clinical Practice Research Datalink. Our methods are outlined in Box 3.

Box 3: How we used electronic health records

We used primary care records from patients registered at 400 general practices participating in the Clinical Practice Research Datalink (CPRD) Aurum database. The study included all patients aged 3 years and older who experienced at least three contacts with a GP at the same practice during any given 12-month period between 1 April 2017 and 1 March 2021.

We measured continuity of care using the UPC index and stratified the results by number of contacts with a GP in the preceding 12 months, age, deprivation quintile based on the Index of Multiple Deprivation 2019, ethnicity, morbidity and region.

In an additional analysis of the same data, we also examined which patient and practice-level characteristics are the biggest drivers of continuity of care.

We repeated the first analysis using the COC index as a sensitivity analysis, and our results were similar (not presented here). We could not calculate the SLICC from electronic health records, as information on GPs' personal lists is not available in the CPRD.

Interpreting changes in continuity of care

Our analysis using electronic health records found that continuity of care decreased steadily between April 2018 and September 2020 before increasing after that (Figure 1). To interpret this trend, it is important to consider contextual factors. For example, many people avoided visiting their GP during the pandemic. Therefore, the pre-pandemic study population will be different from that during the pandemic. There were likely to have been fewer one-off visits from patients with respiratory infections during the pandemic compared to before, but people with long-term conditions likely continued to see their doctor for regular appointments as needed. In addition, more consultations

were delivered remotely during the pandemic, and practices were urged to increase their use of digital tools for care navigation and triage. The results of our analysis suggest that lower demand, changing patient populations and different practice operating models may have enabled higher continuity of care during the pandemic. More work would be required to understand exactly how these factors combined to achieve this, but understanding changing patterns of demand in general practice is critical to making comparisons of continuity of care over time.

Figure 1

Continuity of care decreases as number of GP visits increases

Mean Usual Provider of Care (UPC) index by month and number of contacts with a GP in the previous 12 months

Number of visits to GP in the previous 12 months ■3 ■4 ■5 ■6 ■7 ■8 ■9+
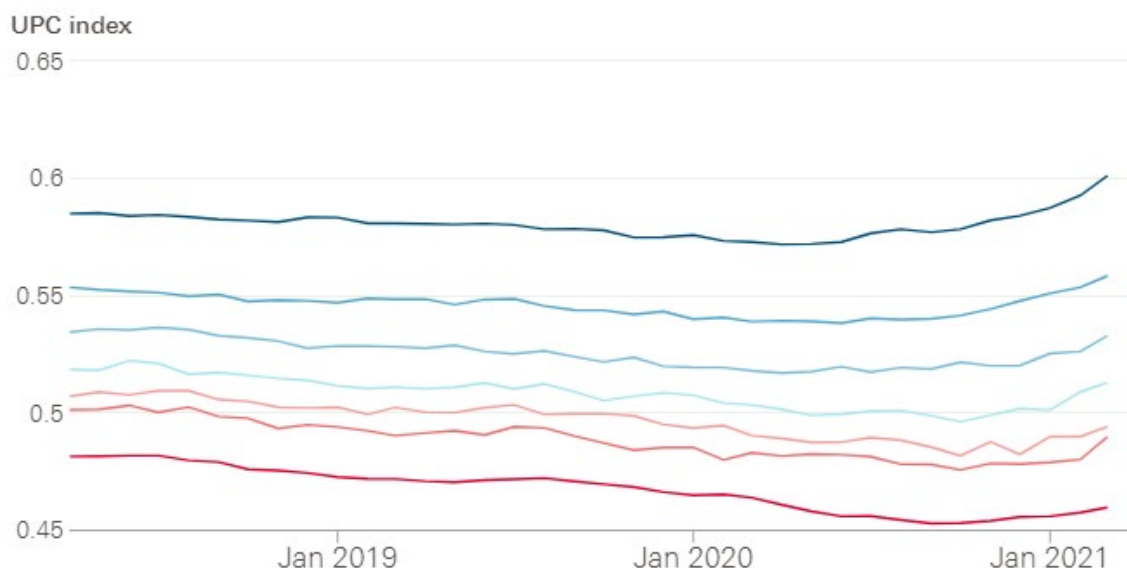
The Health Foundation © 2023 — Source: The Health Foundation analysis of CPRD • The higher the UPC index, the higher the continuity of care

More GP visits often mean lower continuity of care scores

In our analyses of both the UPC index (Figure 1) and the COC index (not shown), continuity of care decreased as a patient's number of consultations in the previous 12 months increased. Lower continuity of care scores in patients who visit GPs more often can arise for simple reasons such as staff turnover or absence, mode of appointment or convenience. For these patients, practices may focus on other types of continuity of care, for example ensuring good notes and communication between staff so patients do not have to always repeat their health or personal information (ie informational continuity).

Careful interpretation is important when comparing different patient groups. For instance, patients with multiple long-term conditions are more likely to have a higher number of GP consultations, and so may have a lower UPC index.
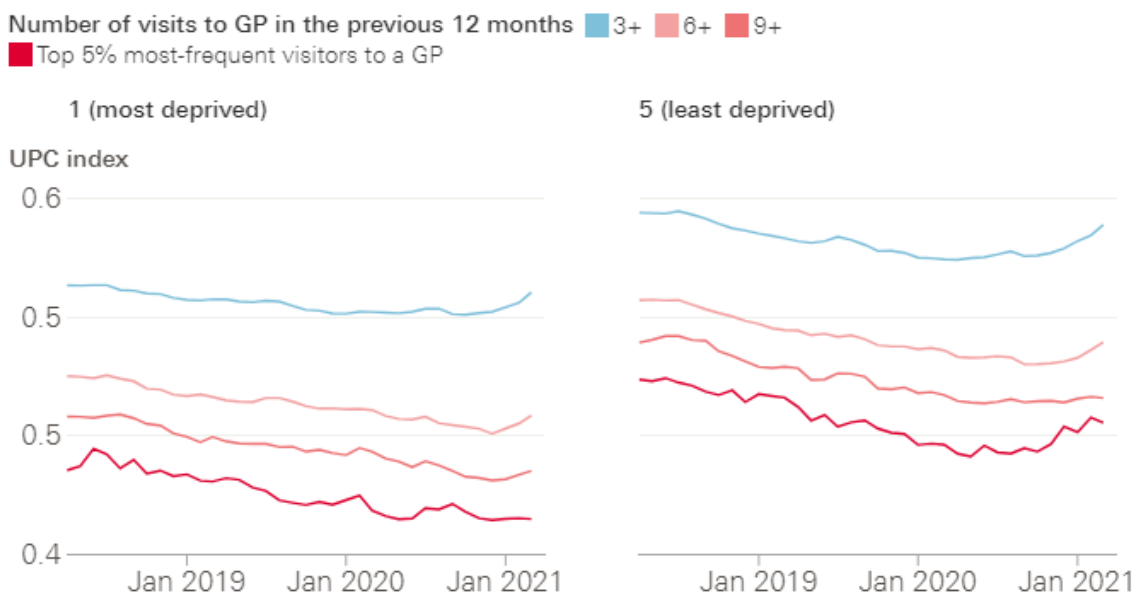
Electronic health records allow us to look at differences between patient groups

We found that older patients, men, patients living in more affluent areas, patients of white ethnicity and patients with multimorbidity tend to have the highest continuity of care. Figure 2 shows how continuity increases as deprivation decreases. These results are consistent with previous evidence. The reasons for this are complex, and some groups will value continuity more than others, but it demonstrates the importance of considering patient mix when measuring continuity of care.

Figure 2

Continuity of care is lowest among patients living in the most deprived areas
Mean Usual Provider of Care (UPC) index by month and number of consultations in the previous year in two Index of Multiple Deprivation 2019 quintiles

Number of visits to GP in the previous 12 months ■ 3+ ■ 6+ ■ 9+
■ Top 5% most-frequent visitors to a GP

The Health Foundation © 2023
Source: The Health Foundation analysis of CPRD • The higher the UPC index, the higher the continuity of care

Interpreting differences between geographies

We found some marked differences in continuity trends between regions (Figure 3). These differences should be interpreted cautiously, as the analysis does not take into account differences in the patient population, with differences in patient demographics, number of long-term conditions, frequency of consultations and levels of deprivation explaining some of the variation between regions. Metrics would need to be used with care in the context of setting targets for practices or regions, as the metrics are not directly comparable across different patient populations.

Figure 3

People living in the East Midlands have higher levels of continuity of care, whereas people living in Yorkshire and the Humber and east of England have the lowest levels of continuity of care
Mean Usual Provider of Care (UPC) index by month and region
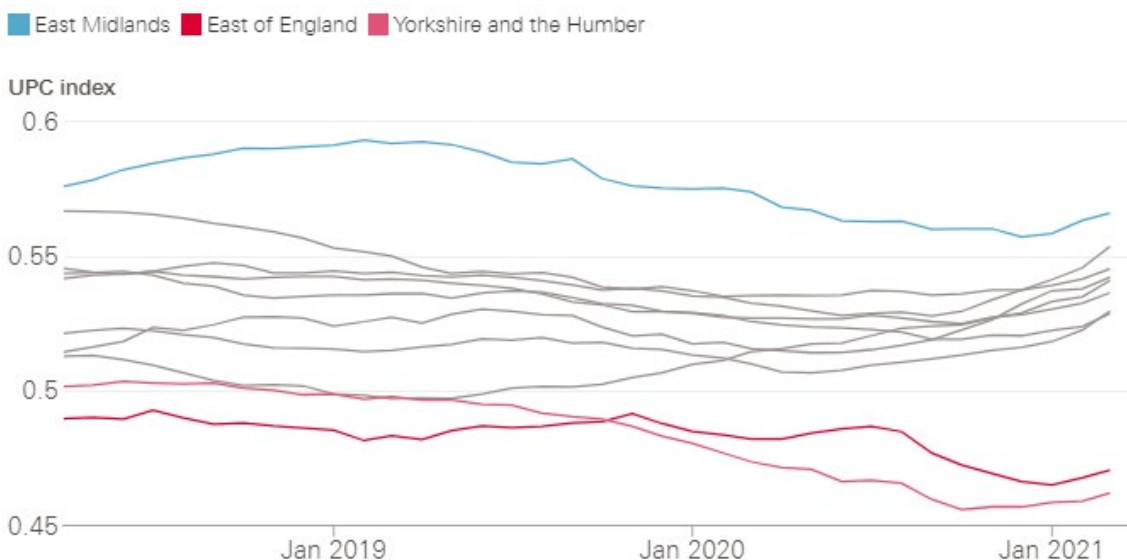
East Midlands ■ East of England ■ Yorkshire and the Humber

UPC index

The Health Foundation © 2023 — Source: The Health Foundation analysis of CPRD • The higher the UPC index, the higher the continuity of care

Strengths and limitations of the GP Patient Survey

The GP Patient Survey is another way of measuring relational continuity of care. It is an annual survey of patients' experiences with general practice in England. It asks patients if they have a GP they prefer to see or speak to, and if they do, how often they see them. This measure differs from the others discussed as it is a self-reported measure rather than a numeric indicator based on practice records. The question was first included in the survey in 2009, but due to changes in the survey methodology, results before 2018 are not directly comparable.

At present, the GP Patient Survey is the only nationally representative measure of continuity that is updated regularly. However, it is self-reported and therefore reflects not just the care patients receive but also their expectations. The question also does not give patients a time frame to consider when answering. As such, some may answer about their experiences in the past few months, while others may answer for the past few years. It also only applies to patients with a preferred GP. Here, a preferred GP refers to a particular GP patients prefer to see or speak to for either some or all of their appointments. This means that patients without a preferred GP are not included, but it does recognise that the GP a patient sees most is not necessarily the one they would like to see. A further strength of the GP Patient Survey is the rich demographic data it collects, including working status, sexual orientation and religion, which are not routinely recorded in GP records. As the data are self-reported, ethnicity is more likely to be accurate and complete than in health records, where some ethnic minority groups are disproportionately recorded as 'other' or 'not known'.

In this section, we demonstrate some strengths and limitations of using the GP Patient Survey with examples from our analysis of continuity of care. Our methods are outlined in Box 4.

Box 4: How we used the GP Patient Survey

We used GP Patient Survey results from between 2009 and 2023. In 2023, 759,000 patients completed the questionnaire. We analysed weighted data, which accounts for differences between all patients registered at a GP practice and the patients who completed the questionnaire.

In the survey, patients were asked, 'Is there a particular GP you usually prefer to see or speak to?'. Respondents who answered 'yes, for all appointments' or 'yes, for some appointments but not others' were directed to answer the following question, 'How often do you see or speak to your preferred GP when you would like to?'. Patients were given the response options 'always or almost always', 'a lot of the time', 'some of the time', 'never or almost never' and 'I have not tried'.

We compared results over time and stratified 2023 results by work status and ethnicity.

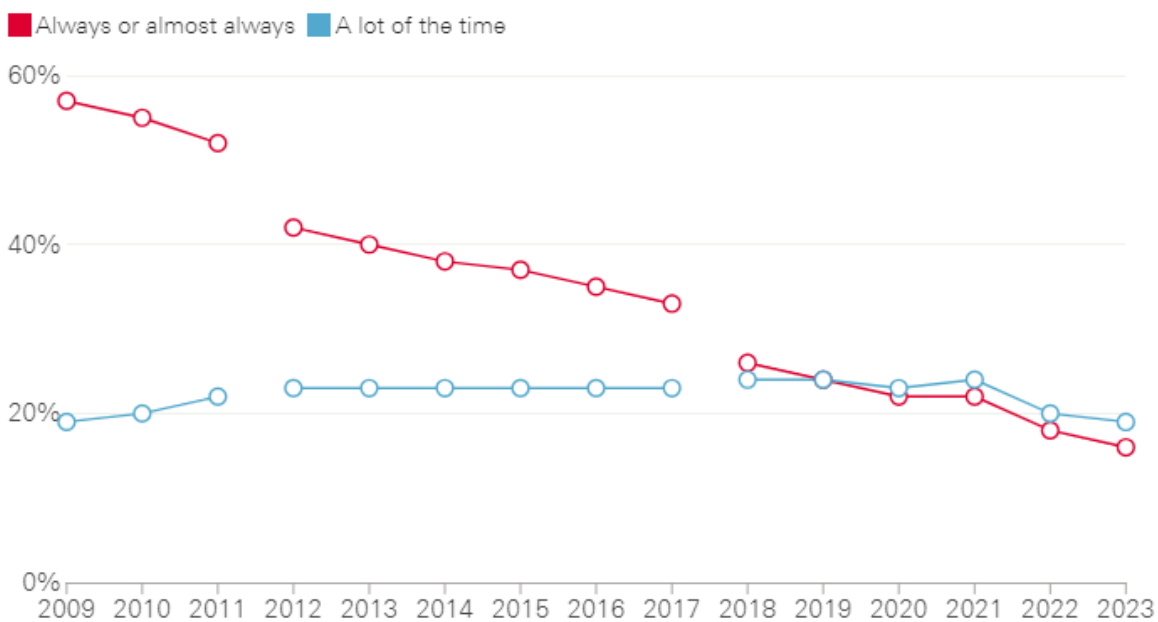**The GP Patient Survey shows a fall in continuity over time**

The GP Patient Survey shows that the percentage of patients who can see their preferred GP 'always or almost always' has fallen over time – from 26% in 2018 to 16% in 2023 (Figure 4). Due to significant revisions to the survey, results before 2018 are not directly comparable; however, we can see that there has been a decreasing trend since 2009.

While the survey shows a fall in continuity over time both before and after the pandemic, continuity of care appears to have been maintained for a period during the pandemic. In both 2020 and 2021, 45% of patients reported seeing their preferred GP 'always or almost always' or 'a lot of the time'. Continuity of care fell compared to the previous year for all other years in our study period where previous data were comparable.

Figure 4

Over the past 14 years, fewer people get to see their preferred GP

The percentage of patients who reported seeing their preferred GP 'always or almost always' or 'a lot of the time', of those who have a preferred GP

■ Always or almost always ■ A lot of the time

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Source: NHS, GP Patient Survey 2009–23 • Note: The survey was significantly redeveloped in 2012 and 2018, meaning results before/after these changes cannot be directly compared
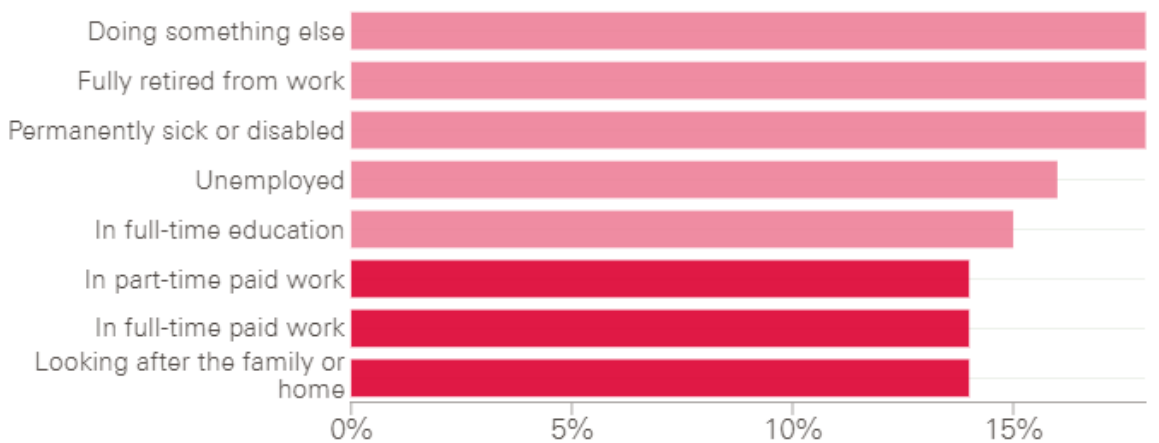
The GP Patient Survey lets us look at inequalities not usually measured

Patients in work or looking after family had lower continuity than those who had retired, were permanently out of work due to sickness or disability, or were 'doing something else' (Figure 5). This kind of information on work status is not available in electronic health records.

Figure 5

People in work or looking after family and home see their preferred GP less often
The percentage of patients who reported 'always or almost always' seeing their preferred GP by work status, 2023

Work status	
Doing something else	
Fully retired from work	
Permanently sick or disabled	
Unemployed	
In full-time education	
In part-time paid work	
In full-time paid work	
Looking after the family or home	

0%   5%   10%   15%

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Source: NHS, GP Patient Survey, 2023 • Only includes patients who reported having a preferred GP that they liked to see or speak to for either some or all of their appointments
'Doing something else' represents any respondent who did not feel they fell into the other categories

The majority of patients do not have a preferred GP

In 2023, only 40% of patients had a preferred GP. This means 60% of patients were not included in the GP Patient Survey measure of continuity of care – either because they did not have a preferred GP or their practice had only one GP. The percentage of patients with a preferred GP has fallen over time. Therefore, the GP Patient Survey measure of continuity of care represents an increasingly small sample of patients.

Having a preferred GP varies across different patient groups. For example, white British, African and Chinese patients are less likely to have a preferred GP than Pakistani or Bangladeshi patients (Figure 6). Younger patients are less likely to have a preferred GP than older patients. We do not know if these patients would benefit from an ongoing relationship with a GP. Focusing only on those who have a preferred GP could mask inequalities in continuity of care.

Figure 6

White British, African and Chinese patients are less likely to have a preferred GP than Pakistani or Bangladeshi patients

The percentage of patients who reported having a particular GP they prefer to see or speak to for either all or some of their appointments, by ethnicity, 2023

The percentage of patients with a preferred GP
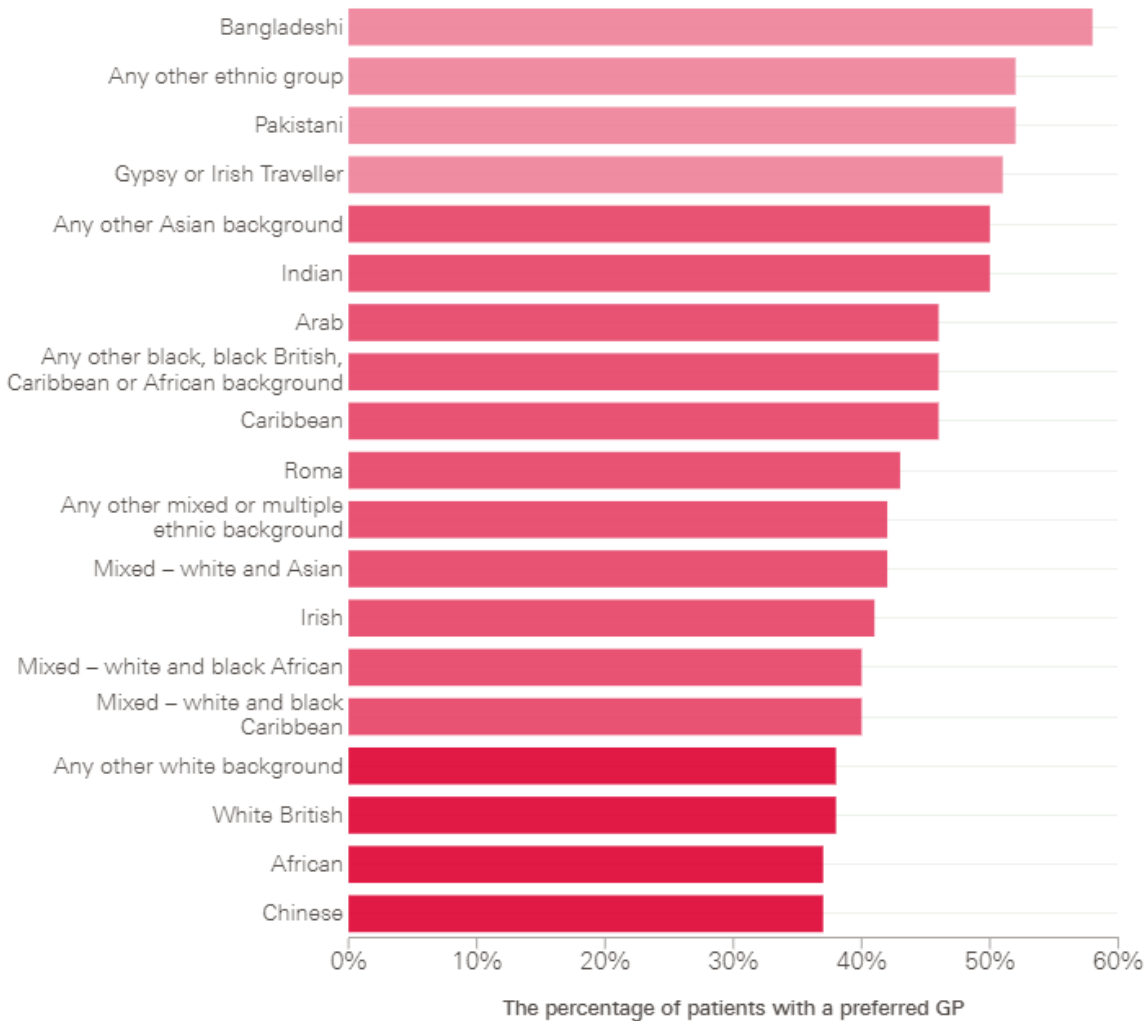
The measures

We have only discussed measures of continuity of care with GPs. Around half of appointments in general practice are with a GP, with the remainder provided by other staff such as nurses, clinical pharmacists, health care assistants and first-contact physiotherapists. The number of non-GP direct patient care staff working in general practice is rapidly growing, largely due to the Additional Roles Reimbursement Scheme. As general practice continues to shift towards multidisciplinary teams, managerial and informational continuity will become increasingly important. Measures of continuity of care that account for this are needed.

The effect of the pandemic

In our analysis of both electronic health records and the GP Patient Survey, we found continuity had decreased over the past 5 years except for a period during the pandemic. There could be a variety of reasons for this. First, fewer patients visited their GPs during the pandemic. With lower demand, it may have been easier for practices to schedule appointments with patients' preferred or regular GPs. Second, patients who visited their GPs during the pandemic were likely to have had poorer health on average compared with those visiting before the pandemic and so more likely to have been prioritised for continuity anyway. Finally, the expansion of support roles (including but not limited to those hired through the Additional Roles Reimbursement Scheme) and increased use of remote consultations and better care navigation and triage may have freed up GPs' time to provide continuity for patients who need it. But these support roles can increase GPs' workloads as they have to supervise and help integrate new staff. Furthermore, the GP Patient Survey measure of continuity showed a return to declining trends from 2022. The expansion of support roles and triage are still in place post-pandemic, suggesting these were not the key drivers of continuity. Further research is needed to understand the change in continuity during the pandemic.

4.   Why measuring continuity of care matters

Improving continuity of care in general practice is associated with positive outcomes for patients, GPs and the wider health system, such as fewer hospital admissions and higher patient satisfaction. Accurately measuring continuity of care – tracking progress over time and identifying inequalities – is key to its improvement. Measuring continuity of care is important not only to evaluate national policy but also to shape change on the ground as shown in the Health Foundation's continuity of care improvement programme. This work shows that continuity can be improved, even in the face of challenging conditions, such as the pandemic.

The aim of measuring continuity of care should be to inform and measure improvements rather than setting specific targets that are uniformly applied to all practices. To get an accurate measure of continuity of care, we need to use a mix of measures: first, a continuity of care index (eg UPC index) based on electronic health records and stratified by patient characteristics that are known to influence baseline continuity (and potential interest in and benefit from continuity of care), and second, the GP Patient Survey. This combination would give a rounded picture, including who is and is not getting continuity (from the electronic records) and whether there are patients who would like to get more continuity (from the survey). If a target for continuity of care is introduced, it should be based on improvements to baseline continuity rather than a specific number to avoid penalising practices that have lower continuity due to the types of patients they care for. Continuity for different groups (eg older patients or those with multimorbidity) should also be considered, given the difference in needs and their baseline continuity.

In other Health Foundation research using the same data, we found that issues of demand and capacity were the most important drivers of continuity of care. If policymakers want to improve continuity of care for patients, primary care capacity needs to increase, requiring long-term investment in workforce, facilities and IT infrastructure. General practice ways of working must also be designed that provide continuity of care for those who need it. Continuity and access are often considered competing priorities that require trade-offs or features of general practice that benefit different patients (eg younger people want access whereas people with long-term conditions want continuity). But many policy ambitions that would help continuity, such as improving recruitment and retention of GPs, would also improve access. Action is needed to increase the number of new GPs entering the workforce and reduce workload and increase GP job satisfaction to retain existing GPs.

Supporting information

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