



Ipsos MORI  
Social Research Institute

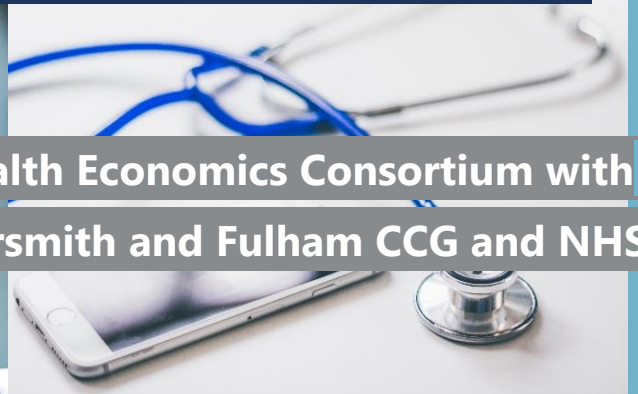
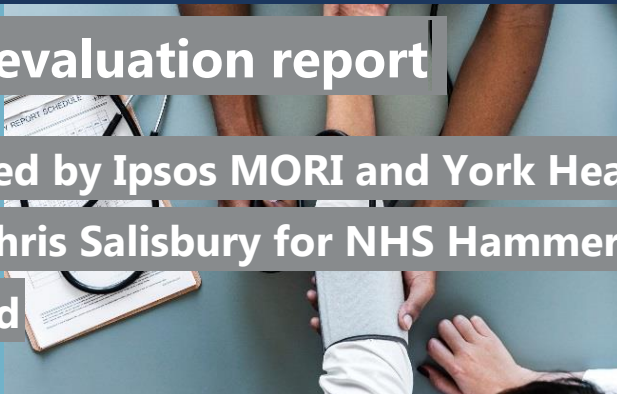


May 2019

# Evaluation of Babylon GP at hand

Final evaluation report

Prepared by Ipsos MORI and York Health Economics Consortium with  
Prof. Chris Salisbury for NHS Hammersmith and Fulham CCG and NHS  
England





# Contents

Executive summary.....	i
<b>1 Introduction and background.....</b>	<b>7</b>
1.1 Introduction.....	7
1.2 Overview of the evaluation.....	7
1.3 The context.....	12
1.4 Primary care context.....	13
1.5 The local context.....	18
1.6 Babylon GP at hand.....	20
1.7 Structure of this report.....	26
<b>2 Activities and inputs.....</b>	<b>28</b>
2.1 Introduction.....	28
2.2 How does the BGPaH model work and how is it used by patients?.....	28
2.3 Patient characteristics.....	33
2.4 BGPaH workforce characteristics.....	40
<b>3 Outcomes and impacts.....</b>	<b>47</b>
3.1 Introduction.....	47
3.2 Patient experience.....	47
3.3 De-registered patients.....	58
3.4 Workforce experience.....	64
3.5 BGPaH outcomes.....	74
3.6 Impact on the wider system.....	80
<b>4 Conclusions and implications.....</b>	<b>84</b>

## List of figures

Figure 1.1: BGPaH patient journey.....	22
Figure 1.2: BGPaH clinic locations.....	24
Figure 2.1: Proportions of patients who have used each of the elements of BGPaH.....	29
Figure 2.2: Monthly virtual consultation rate by months since registration.....	30
Figure 2.3: BGPaH list growth (July 2017 – January 2019).....	34
Figure 2.4: Crude QOF prevalence (%).....	36
Figure 2.5: Actual versus expected QOF disease prevalence (with 95% confidence intervals).....	36
Figure 2.6: Actual versus expected use of NHS 111 and hospital services for 12 months before joining BGPaH.....	37
Figure 2.7: BGPaH NHS 111 call rates compared to London average* pre- and post-registration.....	38
Figure 2.8: BGPaH A&E attendance rates compared to London average* pre- and post-registration.....	38
Figure 2.9: Percentage of hours worked by locum GPs between January 2018 and February 2019.....	44

<b>Figure 3.1: Proportions of patients who had a good overall experience (%) by understanding at time of registration .....</b>	<b>52</b>
<b>Figure 3.2: Percentage of de-registered patients by months registered (at end of November 2018) .....</b>	<b>59</b>
<b>Figure 3.3: Comparison of patient experience of quality of care for those intending to de-register versus those intending to stay registered. ....</b>	<b>60</b>
<b>Figure 3.4: BGPaH outpatient first attendance rate compared to the expected rate for newly registered patients in London .....</b>	<b>62</b>
<b>Figure 3.5: BGPaH elective admission rate compared to the expected rate for newly registered patients in London .....</b>	<b>62</b>
<b>Figure 3.6: Comparison of understanding of BGPaH at the time of registration between patients who intend to de-register and those who intend to remain registered.....</b>	<b>63</b>
<b>Figure 3.7: BGPaH 111 call rate v newly registered London patients (age &amp; sex standardised).....</b>	<b>75</b>

### List of tables

<b>Table 1.1: Overview of evaluation methodology .....</b>	<b>9</b>
<b>Table 2.1: BGPaH GPs, length of time as a GP.....</b>	<b>41</b>
<b>Table 2.2: BGPaH GPs and General Medical Practitioners Headcount by gender .....</b>	<b>42</b>
<b>Table 2.3: BGPaH GPs Headcount by age and gender .....</b>	<b>42</b>
<b>Table 2.4: BGPaH GPs, General Medical Practitioners Headcount by age band .....</b>	<b>42</b>
<b>Table 2.5: BGPaH GPs, work location and gender .....</b>	<b>43</b>
<b>Table 2.6: BGPaH GPs, working patterns .....</b>	<b>43</b>
<b>Table 2.7: BGPaH GPs' Shift Type Headcount by gender .....</b>	<b>44</b>
<b>Table 3.1: Experience of GP at hand patients across a range of survey measures .....</b>	<b>50</b>
<b>Table 3.2: Ten CCGs with the largest number of residents registering with BGPaH, Feb 2019 .....</b>	<b>83</b>

### Table of acronyms

Acronym	Definition
<b>A&amp;E</b>	Accident & Emergency
<b>BMA</b>	British Medical Association
<b>CCG</b>	Clinical Commissioning Group
<b>CQC</b>	Care Quality Commission
<b>GMS</b>	General Medical Services
<b>GPPS</b>	GP Patient Survey
<b>BGPaH</b>	Babylon GP at hand
<b>H&amp;F</b>	Hammersmith and Fulham
<b>IAPT</b>	Improving Access to Psychological Therapies
<b>JSNA</b>	Joint Strategic Needs Assessment
<b>LTC</b>	Long-Term Condition
<b>NHS</b>	National Health Service
<b>YHEC</b>	York Health Economics Consortium

# Executive summary

Ipsos MORI, working in partnership with York Health Economics Consortium (YHEC), and with advisory input from Prof. Chris Salisbury (University of Bristol), were commissioned by NHS Hammersmith and Fulham (H&F) CCG and NHS England (NHSE) in May 2018 to undertake an independent evaluation of the Babylon GP at hand (BGPaH) practice.

BGPaH represents a significant departure from the 'usual' model of care within primary care settings, and could have implications across the health system, given the potential for future national roll-out. The ongoing debate has highlighted a range of potential issues that this evaluation was designed to help unpick. These fall under three broad areas:

- What is the impact of BGPaH on registered patients?
- What is the impact of BGPaH on the wider health system?
- What is the impact of BGPaH on the workforce?

## Evaluation methodology

This report sets out the final results of the evaluation which was based on evidence gathered through five key strands:

- **Patient experience survey:** online survey of BGPaH patients to quantitatively assess their experience. This strand also includes a comparative analysis against GP Patient Survey<sup>1</sup> data to compare their experiences with a similar patient cohort.
- **Qualitative practice-based case studies:** GP practice-based case study at BGPaH, involving in-depth interviews with GPs, current patients and de-registered patients, as well as additional small-scale GP practice-based case studies at two other models of digital primary care (eConsult and Push Doctor).
- **Economic evaluation:** assessment of patient and system-level impact of BGPaH through analysis of routine datasets.
- **Qualitative interviews with wider audiences:** to assess wider evaluation questions related to informing policy and future developments of digital primary care.
- **Analysis of secondary data:** synthesis and analysis of NHS England analytical work using nationally-held routine datasets.

It is important to note that there are some limitations to the evidence collected, the analyses that have been possible and the robustness of the data. This means some evaluation questions cannot be answered as comprehensively as might be desired at this stage. Those limitations relate to the:

- the evolving nature of the BGPaH model;
- the phasing of the evaluation;

---

<sup>1</sup> The GP Patient Survey is an annual independent survey run by Ipsos MORI on behalf of NHS England. The survey is sent out to over two million people across the UK. It assesses patients' experience of healthcare services provided by GP practices. More information can be found here: <https://gp-patient.co.uk/about>.

- the limitations of the data: while the evaluation team worked with the CCG, NHS England and BGPaH to secure access to as much data as possible, there remain some areas where it has not been possible to access the desired level of data;
- the patient survey response: while the survey received a large number of responses that were sufficient for analysis purposes, the overall response rate was low.

Further detail of the evaluation methodology is provided in both Chapter One and in the Annexes to this report.

## The context

BGPaH is a primary care practice that incorporated a 'digital-first' service model into an existing practice in 2017. The practice operates in North West London, commissioned through a General Medical Services (GMS) contract through NHS Hammersmith and Fulham CCG. The practice now offers a 'digital-first' model of primary care, primarily through use of a mobile app and video consultations provided by their subcontractor, Babylon.

## Key findings

*How does the BGPaH model work and how is it used by patients?*

- While patients use a combination of the different elements that the BGPaH service offers, **digital (video or telephone) consultations are by far the most frequently used** aspect of the service, with **face-to-face appointments being used far less frequently**. Although the BGPaH system defaults to a video consultation, a large proportion of patients choose to use telephone consultations. Patients in the qualitative interviews suggested that they preferred telephone consultations for a number of reasons. For example, those with mental health conditions said they sometimes found it beneficial to speak to a GP over the phone rather than over video as it was easier to express their feelings and symptoms this way.
- **Just over half (55%) have used the online symptom checker** as part of the app. Patients in the qualitative interviews did not feel that it replaced the need for a consultation with a GP, and they would seek a second opinion in most cases anyway.
- GPs and patients differed in their assessments of how well the **digital and face-to-face services were integrated** with one another. GPs were positive overall, and felt the support team was efficient in coordinating patient care, and bridging the gap between the digital and face-to-face element of the service. Views from patients were more mixed, and the lack of integration between the appointment systems was a real issue for some.
- The data suggests that BGPaH patients may be **using the service more than would be expected** given their age and health status. Comparison with national data shows that BGPaH patients have a higher rate of consultations per year. However, it is difficult to form any firm conclusions on whether the apparent relatively high use of BGPaH results from the accessibility of the service, and whether this is linked to unmet need or supply-induced demand.

*Patient characteristics*

- Patients registered at BGPaH are **younger and potentially more affluent** than patients at the average practice in London and nationally. The vast majority of BGPaH patients are aged under 45 (94%), and two thirds of BGPaH patients live in areas with high proportions of relatively affluent categories, described by the

ACORN consumer classification<sup>2</sup> as predominantly ‘city sophisticates’ and ‘career climbers’. Reflecting the fact that they are more likely to be young, working full-time, and living in London, they are **less likely to have caring responsibilities** for other people.

- Typically, BGPaH patients are **healthier** than those at other practices in the CCG, even after adjusting for age. The largest disease registers for BGPaH patients are **depression, asthma and obesity**.
- BGPaH patients are historically **higher users of NHS 111 and A&E** than might be expected, given their age. BGPaH patients also want to see or speak to a GP quickly, and are proactive about seeking information and advice.
- Given the profile of those accessing the service, it can be inferred that **the service is not being used by large numbers of older people, or large numbers of people with more complex health needs**. In addition, given the nature of the service, people with no access to a smartphone or who are not comfortable using a smartphone are less likely to use it. This clearly limits the number and type of patients that are likely to use the service, with **potential implications for health inequalities**.<sup>3</sup>
- **Convenience and easier access** to GPs were the main reasons for joining BGPaH regardless of differences in patient demographics. Access to a GP was regarded as more important than all other considerations, and in most cases, this was a result of perceived poor access at their previous practice. NHS England analysis shows that there is a peak in usage of NHS 111 and A&E in the months immediately prior to registering with BGPaH. This suggests that the decision to join may be prompted for some by **a specific health need**, and the **speed of access** is particularly attractive for them.

#### *BGPaH workforce characteristics*

- The BGPaH model is delivered by a relatively **large, flexible workforce**, the majority of whom work **part-time at home**. This is supplemented by a bank of locums in order to flex resource as needed to meet the commitment to provide appointments within two hours.
- Overall, BGPaH GPs tend to be **younger** and are therefore likely to be **less experienced** than the general GP workforce. The majority of GPs work **exclusively remotely** from home one to two days per week, whilst also working somewhere else, often as locum GPs.
- GPs were attracted to the job because it was seen to offer a **better work-life balance** than traditional practice, and for the chance to work in **an innovative service**. They expressed **frustrations about working in traditional general practice**, particularly linked to long hours and increasing workloads.

#### *Patient experience*

- Overall, **users are satisfied with the service**. Although there are some areas of dissatisfaction, patients appear to **‘weigh up’ the advantages and disadvantages** of the service to make an informed and considered choice about using it.
- Satisfaction appears to be driven primarily by the **convenience of the service** for its users and **the ease with which they can book appointments**. However, satisfaction was lower in relation to **face-to-face appointments**, especially in regard to the number of clinic locations, waiting times to book an appointment, and the amount of distance travelled.

---

<sup>2</sup> Acorn is a segmentation tool which categorises the United Kingdom’s population into demographic types: <https://acorn.caci.co.uk/>

<sup>3</sup> An analysis of health inequalities relating to protected characteristics was carried out by BGPaH in August 2018 and is published here: <https://www.hammersmithfulhamccg.nhs.uk/media/135838/PCCC-Item-6A-14-August-2018-BGPAH-EQIA.pdf>

- Patients were also **positive about the quality of care** provided across a range of measures, notably in relation the healthcare professional(s) they had seen. The majority of them thought it was **better than their previous GP practice**. But some patients felt **administrative issues and lack of continuity** decreased their satisfaction with the quality of care.
- Patients of BGPaH were significantly **more positive about** the service than a matched sample of GPPS patients on a number of measures; for example, **BGPaH patients were more likely to state they had a 'good' overall experience compared with GPPS patients** (an 11-percentage point difference), and less likely to state they had a 'poor' overall experience (a three-percentage point difference)<sup>4</sup>.
- In general, users of BGPaH had made an **informed decision to register**, and understood most elements of the service. While the majority of patients understood they would no longer be registered at their previous GP practice, **understanding was lowest in relation to how face-to-face appointments worked**. Where patients did not understand an element of the service at the time of registration, this was linked to lower overall satisfaction with BGPaH.
- For the majority of patients with **LTCs** who are currently using the service, **experiences of the service were good**. However, experiences may be less positive for patients with **more complex needs and/or who require greater support**.
- **Levels of satisfaction varied by type of condition and need**: patients who reported that they had felt isolated from others in the last 12 months, and patients with physical mobility problems tended to be more negative about their experience. However, the majority in both groups still said that the quality of care they have received at BGPaH was better than in their previous practice. Patients with breathing problems, such as asthma and COPD were particularly satisfied with their experiences of the service.
- While there were no differences in patient experience outcome measures in the survey between those with and without mental health conditions, there was some evidence that **the model may suit patients with mental health conditions, at least for mild to moderate conditions**.
- The evaluation has produced some **evidence of an impact on the continuity of care provided**, although this was not raised as a significant issue by most patients themselves. The majority of them have actively chosen access over continuity of care and are satisfied with the choice they have made.

#### *Deregistered patients*

- BGPaH experiences **higher de-registration rates than the London average, with patients most commonly de-registering after two weeks**. One in four (28%) patients have de-registered from the service since July 2017, compared to the London average of one in six over the same period.
- The characteristics of those de-registering appear to broadly match the age profile of the BGPaH patient population, but women are more likely to de-register than men (60% of all de-registrants are women).
- The NHS England cohort analysis<sup>5</sup> showed that around half (47%) of patients who de-register return to their original practice. **Patients who intend to or have stopped using BGPaH were less likely to understand the service at the time of registration**.
- There were three key reasons put forward by these patients for de-registering: **dissatisfaction with the quality of care provided; a desire to be able to book a face-to-face appointment** without having to have

<sup>4</sup> All differences commented upon are statistically significant.

<sup>5</sup> Full details of the cohort analysis approach are contained in the Annexes.



a digital appointment first; **and a change in health needs**. However, the evaluation has not been able to answer the question as to why so many patients leave so quickly after joining the practice.

### *Workforce experience*

- Overall, BGPaH GPs were **highly satisfied working for Babylon** and compared it favourably to working elsewhere. The **work climate**, in particular the autonomy, flexibility and independence offered, compatibility with family life, and the potential for development and career progression, were some of the main factors listed that positively influenced their experience.
- However, while overwhelmingly positive, some participants listed some downsides, namely a **disconnection from the patient population** they were treating because they were not living in that community, and some **technical issues** with video-conferencing.
- BGPaH GPs felt **supported and connected to their colleagues** in spite of working remotely, although some had made the conscious decision to carry on working for 'traditional' GP practices to alleviate any potential feelings of isolation. They were also positive about the systems in place **to monitor and develop their performance**, with weekly quality assurance meetings, regular feedback, annual 'in house' appraisals with audits of consultation recordings, and continuous encouragement to self-audit.
- The evidence collected suggests that the digital-first model provided by BGPaH could have a **positive impact on the recruitment and retention of a group of GPs** who may not remain in or enter into general practice otherwise. However, stakeholders questioned whether that could also make recruiting and retaining GPs in mainstream 'traditional' practices (or the workforce as a whole) more challenging, if this was rolled out more widely.
- BGPaH provides a **comprehensive training programme** that is well regarded by the GPs receiving it. While some questions were raised by GPs and stakeholders about the **potential deskilling** of GPs exclusively carrying out digital consultations, most BGPaH GPs have chosen to continue to work in 'traditional' practices as well.
- The evaluation has not been able to comment on the *productivity* of the BGPaH service because of a lack of data on outcomes and presenting conditions, or to provide conclusions on how a digital first primary care model would impact on total primary care capacity. No data were available from BGPaH on consultation rates by GPs as the data are considered confidential.
- The BGPaH GPs interviewed felt that **their workload was managed more efficiently than in other practices where they worked**. They also felt that they had a head start on complex cases; they found it helpful when having to see a patient with complex needs face-to-face to have a digital appointment first so they know what to focus on.
- The evaluation has collected limited evidence on perceptions of the impact of the model on **indemnity, risk taking and mistakes by GPs**. Interviews with BGPaH GPs, and a number of policy stakeholders suggest that a digital-first model such as BGPaH can pose a number of challenges related to those issues, but there are some features (such as the facility to record consultations) that are positive.

### *BGPaH outcomes*

- The survey results show that nearly half of BGPaH patients (47%) said that they use BGPaH more regularly than their previous GP practice, with only eight per cent saying they use it less regularly. This **increased**

**activity may have both positive and negative implications**, with some patients using it more for minor issues, but in some cases, it may be meeting previously unmet need.

- The analysis suggests that patients registering with the BGPaH practice were **not using more secondary care resource** after registration than similar patients who registered with other practices, though the analysis has limitations relating to the counterfactual group used.
- BGPaH has **low levels of prescribing** in comparison with other CCGs and nationally for antibiotics when data is age and sex standardised. On the whole, BGPaH GPs claimed that the guidelines at BGPaH were more restrictive than other practices, with an in-house pharmacist for advice, which GPs felt prevented over-prescribing.

#### *Impact on the wider system*

- While the evaluation has not been able to explore the cost-effectiveness of the model, it has highlighted some useful considerations about its **affordability and sustainability**, if it were to be mainstreamed. To sustain the enhanced access benefits of the BGPaH model requires considerable numbers of GPs and an embedded IT infrastructure. While the service provides rapid access for patients, certain aspects of primary care, such as care home visits, are not provided through this model, and would need to be provided from elsewhere in the system.
- A national roll-out of digital-first models should be considered within the context of the emerging primary care landscape, including changes in the way patients experience care and supporting new ways of working for staff. In areas where digital-first models are not well established, this may need **fundamental large-scale redesign of primary care services**, which may require substantial changes in the way in which primary care is funded.
- The evidence available suggests that the **Global Sum Allocation Formula may not work well** in establishing the costs of providing GP services for patients who choose to be treated through a digital-first service and, therefore, in providing appropriate funding levels. The evaluation has shown that BGPaH patients have better health than comparable patients using traditional primary care but that they are higher users of primary care.
- BGPaH patients were **previously registered at a large number of CCGs** and other practices. This indicates the impact on any singular practice or CCG would, at present, be minimal if BGPaH patients were subsidising patient care through the Carr-Hill Formula in their old practices.

# 1 Introduction and background

## 1.1 Introduction

Babylon GP at hand (BGPaH) is a general practice that substantially changed its model of care from a traditional practice in November 2017 to operate a 'digital-first' model – extending the geographical spread of registered patients by offering the option of a remote consultation with a GP. NHS Hammersmith and Fulham CCG and NHS England have been undertaking a programme of evaluative activities to understand the impact of the digital-first model provided by the BGPaH practice on patients, staff, the wider health system, and NHS policy and commissioning arrangements. As part of this, the CCG commissioned an evaluation team led by Ipsos MORI to undertake an independent evaluation of BGPaH. The work was carried out in partnership with York Health Economics Consortium (YHEC), with advisory input from Professor Chris Salisbury (Centre for Academic Primary Care, University of Bristol). The evaluation began in June 2018, and this document presents the final report of the evaluation.

This chapter provides an overview of the evaluation methodology, and sets out the context within which the BGPaH practice operates, details of the practice, and the model of care it provides.

## 1.2 Overview of the evaluation

### 1.2.1 Evaluation objectives and scope

As outlined above, this evaluation was commissioned to complement a range of evaluative activities being undertaken to understand the impact of the digital-first model provided by the BGPaH practice.

#### Evaluation objectives

The model represents a significant departure from the 'usual' model of care within primary care settings, and could have implications across the health system, given the potential for future adoption and spread of digital-first models of care, and the commitments made to digitally enabled care across the NHS in the NHS Long Term Plan<sup>6</sup>.

The ongoing debate has highlighted a range of potential issues that this evaluation was designed to help unpick. These fall under three broad areas:

- **What is the impact of BGPaH on registered patients?** Including considering the impacts on experience; cost and efficiency; equity; and as far as possible, safety and effectiveness.
- **What is the impact of BGPaH on the workforce?** To consider the potential effects of BGPaH on staff, including: job satisfaction; pay; training, retention/recruitment/working patterns; workload; the patient/doctor interaction; and the wider primary care workforce.
- **What is the impact of BGPaH on the wider health system?** Building on work being undertaken by NHS England, the evaluation considers impacts on: other practices and their patients; implications for commissioners; referral pathways; overall demand and costs; productivity, efficiency and system value. It primarily focuses on effects relating to the effectiveness and efficiency of the BGPaH practice (e.g. meeting

---

<sup>6</sup> <https://www.longtermplan.nhs.uk/wp-content/uploads/2019/01/nhs-long-term-plan.pdf>

patients' needs and reducing demand on other NHS services), rather than wider system impacts, such as those to do with the rapid expansion of the service and the costs to the host CCG.

It was also important that, in considering the impact of BGPaH, the evaluation did not focus solely on the digital-first nature of the model but also the implications of the way in which this operates under the GP Choice Policy<sup>7</sup>. This meant exploring the various aspects of the BGPaH model, as far as possible within the resource and timeframe of the evaluation, to try to understand each element and its contribution to the outcomes observed, for example:

- the digital-first 'offer' of BGPaH;
- the rapid access to primary care offered by BGPaH (within two hours, 24/7);
- the active marketing of BGPaH; and,
- the employment model and working arrangements for the BGPaH workforce.

The specific evaluation questions can be found in Annexe 1.

### Scope of the evaluation

There are a number of factors that have affected the scope of the evaluation. These include the resource available, the timeframes within which it was necessary to collect and analyse the data, the quality and completeness of the data available, and the fact that this is the first evaluation study of this model of primary care.

In practice, the evaluation design (discussed in more detail in the following section) has attempted to explore as wide a range of the evaluation questions as possible. This is both to generate evidence to answer these questions as part of this report, but also to inform lines of enquiry into further evaluative work across BGPaH and other emerging models of digital-first primary care.

The scope of this evaluation must also be considered alongside the wider evaluative work being undertaken:

- 1. NHS England internal analysis.** Led by NHS England's Analytical Service, this work focuses on understanding the patient population, and BGPaH patients' use of other NHS services. The NHSE analysis has fed into this evaluation and is presented, where relevant, in this report.
- 2. NHS Hammersmith and Fulham CCG analysis.** This work consists of a monitoring dashboard compiled monthly by the CCG's information manager, with general information about the BGPaH service such as: the size of the patients' list, patients' profile by age and gender, their location of residence, their hospital use and costs, as well as prescribing volumes and costs.
- 3. Ongoing clinical assurance.** NHS Hammersmith and Fulham CCG with NHS England (London Region) review any emerging quality or performance issues in an ongoing way, seeking to ensure that the service provided by BGPaH is safe, meeting contractual requirements and is addressing issues raised as part of the initial clinical review.

Considering the role of this independent evaluation, the following limitations to the scope apply:

- The evaluation does not include a comprehensive assessment of the safety and effectiveness of the Babylon symptom checker (or triage tool, also known as the 'chatbot'). It has explored patient use of the tool, perceptions around the quality of advice given, the usefulness of this, and adherence.

---

<sup>7</sup> The Choice of GP Practice scheme was introduced in 2015 to enable patients to choose to register with a participating practice anywhere in the country. This policy was intended to, for example, allow commuters to register near work or to maintain continuity with an existing GP when a person moves house.

- The evaluation has qualitatively explored the safety and effectiveness of the BGPaH service. This independent evaluation is intended to complement the work being undertaken by NHSE through the clinical assurance process.
- The evaluation has explored the types of patients that are using the service, and considered qualitative data on its appropriateness for certain patient types, but has not included a full assessment of its impact on health inequalities.
- In addition, the imminent expansion of the practice to include a physical location in Birmingham is out of scope, as NHSE objections to this were only lifted during the final stages of the evaluation.

## 1.2.2 Evaluation design and methodology

The evaluation has consisted of five key strands, and high-level details of these are provided in Table 1.1 below. Full details of the methodology for each strand, and for the approaches to the analysis used, can be found in the Annexes to this report.

**Table 1.1: Overview of evaluation methodology**

Evaluation strand	Details
<b>Patient experience survey</b>	<ul style="list-style-type: none"> <li>• Online survey of BGPaH patients to quantitatively assess their experience.</li> <li>• The survey covers experience of key aspects of the BGPaH model and includes questions designed to allow a comparison to wider primary care (see below). It also includes wider questions to understand the nature of the BGPaH patient population.</li> <li>• A total of 1,452 completed the survey, a response rate of 6.3%. Data have been weighted by age and gender to the known population profile for patients registered at BGPaH.</li> <li>• Comparative analysis against GP Patient Survey data to compare this experience to that which would be expected from a similar patient cohort.</li> </ul>
<b>Qualitative practice-based case studies</b>	<p>Qualitative practice-based case studies aimed to understand experience, and perceptions of impact on safety, effectiveness and outcomes.</p> <p>1/ GP practice-based case study at BGPaH. This included:</p> <ul style="list-style-type: none"> <li>• a site visit to two locations (one clinic and the GP hub<sup>8</sup>), involving interviews with several key participants (practice manager, staff and patients).</li> <li>• Additional qualitative in-depth interviews with GPs, current patients, de-registered patients.</li> <li>• Additional patient interviews to explore the experience of those with a mental health condition.</li> <li>• In total, the evaluation team spoke to 12 BGPaH GPs, two other members of BGPaH staff, 32 BGPaH patients<sup>9</sup>, and four de-registered patients.</li> </ul>

<sup>8</sup> The hub is intended as a space in which BGPaH GPs can carry out digital consultations. It is located in Soho, in central London.

<sup>9</sup> This included three patients who were thinking, or in the process of deregistering.

	2/ Additional small-scale GP practice-based case studies at two other models of digital primary care (eConsult and Push Doctor), involving a small number of qualitative interviews with patients, GPs, and other practice staff.
<b>Economic evaluation</b>	<ul style="list-style-type: none"> <li>Assessment of patient and system-level impact of BGPaH through analysis of routine datasets.</li> </ul>
<b>Qualitative interviews with wider audiences</b>	<ul style="list-style-type: none"> <li>Qualitative interviews with individuals and organisations to assess wider evaluation questions related to informing policy and future developments of digital primary care.</li> <li>Telephone consultations conducted across five key groups: providers and provider representatives; commissioners and commissioner representatives; technology companies; regulators, national bodies and services; others (e.g. patient representative organisations).</li> </ul>
<b>Analysis of secondary data</b>	<ul style="list-style-type: none"> <li>Synthesis and analysis of NHS England analytical work using nationally-held routine datasets.</li> <li>Analysis of available workforce data to provide contextual information to support case study findings, and understand potential impacts on recruitment and retention of GPs.</li> </ul>

Source: Ipsos MORI

### 1.2.3 Evaluation governance

The evaluation team reported directly to the CCG, and worked closely with analysts at NHS England. Beyond this, wider evaluation governance arrangements are as follows:

- **Evaluation Scrutiny Panel:** It consisted of two experienced health services research academics, and a patient and public involvement representative. The Scrutiny Panel played a role in reviewing and challenging the design and key outputs of the evaluation before submission to the CCG.
- **Evaluation Steering Group:** The evaluation team were ultimately responsible to the Steering Group, chaired by a Lay Member of West London CCG, and composed of representatives from the CCG, NHS England (analytical, policy) and NHS England (London Region Medical Directorate). The Steering Group made all key decisions on the scope and direction of the evaluation. Regular steering group meetings were held throughout the course of the evaluation.

### 1.2.4 Limitations of the evidence

There are some limitations to the evidence collected, the analyses that have been possible and the robustness of the data. Caveats relating to data quality and robustness are detailed where relevant findings are discussed and covered in the Annexes. The key limitations to the evidence overall, which should be borne in mind when considering the findings and conclusions presented in the chapters that follow, are set out below. These limitations mean some evaluation questions cannot be answered as comprehensively as might be desired at this stage.

- **Nature of the BGPaH model:** The model is new, and has been continually developing during the course of the evaluation. This means that new questions have arisen (and existing questions have reduced in prominence) during the evidence collection and analysis, and it has not always been possible to fully explore these within the evaluation timeframes and resources. Emerging questions that we consider important for further research and evaluation are presented in the final chapter of this report.

- **Phasing of the evaluation:** The original preferred design for the evaluation, following the scoping phase, included a phasing of the evidence collection activities. This was intended to allow an iterative approach to evidence collection. This would have facilitated, for example, qualitative work to build on emerging findings, and adaption of qualitative data collection tools and approaches based on review of the first phases of fieldwork. In practice, challenges putting the evaluation design into practice (implementing the patient experience survey, accessing data for the economic evaluation) have meant this was not possible. This has meant that it has not always been possible to use the qualitative research to explore themes arising from the survey or the economic analysis.
- **Limitations of the data:** The evaluation is dependent on data about BGPaH patients and their use of primary and secondary care services. In addition, data about the workforce was required. The evaluation team worked with the CCG, NHS England and BGPaH to secure access to as much data as possible – however, there remain some areas where it has not been possible to access the desired level of data. The economic evaluation sought to consider the impact on individual patient care (using data on primary and secondary care resource use), and the impact on the health system (using data on prescribing and the costs of patients moving between practices). There were limitations in the extent to which these objectives were addressed because it was not possible to obtain a single data set that included primary and secondary care data for BGPaH patients and a relevant control group. This meant that primary and secondary care data had to be analysed separately. While we were able to develop a robust control group for secondary care data, it was not possible to obtain primary care data for a representative control group. An alternative strategy was proposed to obtain primary care data from SystmOne<sup>10</sup> held by the practice but Babylon informed us that these data needed to be combined with additional data held by the company to create a bespoke data set. This is because the company holds additional data on the use of virtual consultations and the triage system that are not recorded by SystmOne. The bespoke dataset was provided by BGPaH but at a very late stage in the evaluation, and because it was derived directly from Babylon, there were no comparative control group data available. BGPaH were unable to provide data on the outcomes of patient consultations in terms of onward referrals, and there were no data on the presenting conditions. In addition, given the nature of the service, information considered by BGPaH to be commercially sensitive cannot inform the published version of the report. In particular, it has not been possible to include data relating to the cost to Babylon of establishing and running the service.
- **Patient survey response:** While the survey received a large number of responses that were sufficient for analysis purposes, the overall response rate was low. This raises concerns about non-response bias, in that the patients that have responded to the survey may be different from those that did not respond. A comparison of the age and gender profile suggested that the overall profile of respondents and the total sample were broadly similar, and data were also weighted to adjust for age and gender. However, the patients that responded to the survey may still differ in unknown characteristics from those that did not respond.

---

<sup>10</sup> SystmOne is a centrally hosted clinical computer system, which is used by healthcare professionals in the UK predominantly in Primary Care. It lets NHS staff record patient information securely onto a computer. This information can then be shared with other clinicians.

### 1.3 Digital health context

A profound digital shift has been underway for some time, particularly since the introduction of the first smartphone and mobile internet. In the past five years, research shows smartphone ownership in Great Britain has risen from 55% to 81%, and owners are increasingly using them to carry out key aspects of daily life (banking, shopping), and not just as communication devices.<sup>11</sup> Whilst there is conflicting information regarding the use of digital technology in relation to particular demographic characteristics, technology can be a great leveller and, contrary to some perceptions, there is increasing use of the internet across all age groups.<sup>12</sup>

Public services in the UK have been a relatively late adopter of technology to support delivery, and the NHS in particular is seen as behind the digital curve. However, recent years have seen a substantial shift emerging, with Government promotion of digital development and a need to make public services digital by default. The Government Transformation Strategy was launched in February 2017, setting out an ambition that by 2020 “*millions of people are able to access online the services they need, whenever they need.*”<sup>13</sup>

This commitment is also evident across the NHS, and several initiatives seek to support this change, including:

- **Paperless 2020:** Driven by NHS Digital and the National Information Board to harness better use of data and technology to:
  - give patients more control over their health and well-being;
  - empower carers;
  - reduce the administrative burden for care professionals; and
  - support the development of new medicines and treatments.
- **Interoperability:** Focusing on developing more effective information sharing (between care settings, organisations and geographies) to support new models of care, including the Local Health and Care Record Exemplar Programme.<sup>14</sup>
- **Global Digital Exemplar Programme:** A large programme focusing on developing leaders of digital health systems to provide clinicians and patients with more timely access to information to support service change which will improve health for all.<sup>15</sup>
- **IAPT Digital Therapy:** NHS England is working with NICE to assess up to 14 digital therapy products for use in NHS Improving Access to Psychological Therapies (IAPT) services by 2020.<sup>16</sup>
- **The NHS smartphone application:** In 2018, the Government announced a new ‘NHS app’, the initial launch of which began in December 2018. The app should eventually allow patients to: access to the GP record;

<sup>11</sup> Ipsos MORI, *Tech Tracker: Quarterly Release (Q1 2018)*. Available online at: <https://www.ipsos.com/en/technology-tracker-q1-2018>

<sup>12</sup> NHS England, *Five Year Forward View, 2014*. Available online at: [www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf](http://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf)

<sup>13</sup> Cabinet Office & Government Digital Service, *Government Transformation Strategy*, February 2017. Available online at: <https://www.gov.uk/government/publications/government-transformation-strategy-2017-to-2020/government-transformation-strategy>

<sup>14</sup> <https://www.england.nhs.uk/digitaltechnology/info-revolution/interoperability/>

<sup>15</sup> <https://www.england.nhs.uk/digitaltechnology/info-revolution/exemplars/>

<sup>16</sup> <https://www.england.nhs.uk/mental-health/adults/iapt/digital-therapy-selection/>



make GP appointments; order repeat prescriptions; manage long-term conditions; and, access 111 online for urgent medical queries.<sup>17</sup>

- **The five-year framework for GP contract reform:** At the end of January 2019, NHS England published a five-year framework for GP services agreed with the British Medical Association (BMA) General Practitioners Committee (GPC) in England and supported by Government. It implements commitments in the NHS Long Term Plan for changes to the GP contract and sets the direction for primary care for the next five years. This included a commitment to support existing practices to deliver digital-first primary care, with the intention that all patients should have access to digital primary care services as rapidly as possible.<sup>18</sup>

NHS England has also been actively encouraging the use of digital technology in general practice through two policies:

- **GP access fund:** Provided £150m funding across 2014/15 and 2015/16 to help improve access to general practice and stimulate innovative ways of providing primary care services.<sup>19</sup>
- **GP online consultations systems fund:** A £45 million fund created to contribute towards the costs for practices to purchase online consultation systems, improve access and make best use of clinicians' time.<sup>20</sup>

Other policies, such as the National GP Patient Choice Scheme, which allows patients to register at a practice away from where they live,<sup>21</sup> have, perhaps inadvertently, supported the rapid growth of some of these services, including BGPaH.

## 1.4 Primary care context

### 1.4.1 Challenges in primary care

Primary care in England faces several challenges, which form an important part of the context within which BGPaH should be understood. The key challenges can be characterised as follows:

- **Rising demand:** Analysis by the King's Fund in 2016 showed that there had been a marked increase in the volume and complexity of work GPs in England deal with. A 15% increase in the number of consultations from 2010/11 to 2014/15 is particularly notable.<sup>22</sup>
- **Financial pressures:** The increase in primary care workload has not, as yet, seen an associated increase in investment in primary care, generating financial pressures for this part of the health system.<sup>23</sup>
- **Workforce pressures:** Perhaps the most notable impact of the two pressures mentioned above is on the recruitment and retention of GPs. This issue is highlighted by Marchand and Peckham (2017).<sup>24</sup> In 2009,

<sup>17</sup> <https://www.gov.uk/government/news/new-nhs-app-will-make-it-quicker-and-easier-to-access-health-services>

<sup>18</sup> <https://www.england.nhs.uk/wp-content/uploads/2019/01/gp-contract-2019.pdf>

<sup>19</sup> <https://www.england.nhs.uk/gp/gp/fv/redesign/improving-access/gp-access-fund/>

<sup>20</sup> <https://www.england.nhs.uk/gp/gp/fv/redesign/gpdp/online-consultations-systems-fund/>

<sup>21</sup> <https://www.nhs.uk/NHSEngland/AboutNHSservices/doctors/Pages/patient-choice-GP-practices.aspx>

<sup>22</sup> King's Fund, *Understanding pressures in general practice*, 2016. Available online at: <https://www.kingsfund.org.uk/publications/pressures-in-general-practice>

<sup>23</sup> Quality Watch, *Primary Care Workforce Pressures* (19 December 2017). Available online at: <http://www.qualitywatch.org.uk/blog/primary-care-workforce-pressures#>

<sup>24</sup> Marchand, C. and Peckham, S. Addressing the crisis of GP recruitment and retention: a systematic review, *Br J Gen Pract* 2017; 67 (657): e227-e237. Accessed online at: <https://bjgp.org/content/67/657/e227>

there were 62 GPs per 100,000 people in England. By 2012, this had fallen to 59.5, and further analysis for this evaluation shows that this had fallen further to 57.3 by September 2018. This has been caused by a combination of GPs leaving the profession (either for other work or to practise abroad), and consistent failure to recruit sufficient number of GP trainees (despite a national target of 3,250 per year the highest single year figures saw 2989 in 2015/16).<sup>25</sup> A recent House of Lords report into health and social care called into question the long-term suitability of the traditional model of general practice employment, calling for consideration of direct employment by the NHS.<sup>26</sup> However, another report has confirmed the commitment to the partnership model.<sup>27</sup>

- **Access:** The findings from the latest GP Patient Survey show that while overall satisfaction with GP practices is very high (83.8%), those responses related to access suggest people are facing challenges with getting a GP appointment when they want one. For example, 29.7% did not find it easy to get through to their practice by phone, only 61.6% of patients were able to get an appointment at a time they wanted or sooner, and 16.9% of patients were dissatisfied with the general practice appointment times available to them.<sup>28</sup>

BGPaH, and other similar models of digital-first primary care have the potential to impact each of these areas, both positively and negatively.

#### 1.4.2 Digital-first primary care

Primary care is one of the areas in which it is anticipated that the wider introduction of digital technology could have profound impacts. Despite national policy which aims to increase its use, alternatives to face-to-face consultation have, until very recently, not been widely used in general practice (with the exception of telephone consulting).<sup>29</sup>

The use of digital technology in primary care has, until relatively recently, been focused on:

- a shift to electronic record keeping;
- allowing patients to access their healthcare records online; and
- allowing online contact, including appointment booking or ordering repeat prescriptions.

However, online consulting services are being rapidly established, with over 34 online providers, mostly developed by private entrepreneurs, inspected by the CQC to provide health services in England as of December 2017.<sup>30</sup>

Broadly, three categories of online models (rather than providers) have emerged over the past few years, with varying combinations of different variables such as the type of technology, the type of service provided (e.g. triage only), the relationship with established general practice and the funding model:

<sup>25</sup> Ibid

<sup>26</sup> House of Lords, *The long-term sustainability of the NHS and adult social care*, (5 April 2017). Available online at: [http://offlinehpl.hpl.co.uk/NewsAttachments/PGH/Lords\\_report\\_NHS\\_sustainability2.PDF](http://offlinehpl.hpl.co.uk/NewsAttachments/PGH/Lords_report_NHS_sustainability2.PDF)

<sup>27</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/770916/gp-partnership-review-final-report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/770916/gp-partnership-review-final-report.pdf)

<sup>28</sup> NHS England, *GP Patient Survey, National report, August 2018 Publication*, (August 2018). Available online at: <https://www.gp-patient.co.uk/SurveysAndReports>

<sup>29</sup> Atherton H, Brant H, Ziebland S, Bikker A, Campbell J, Gibson A, et al. The potential of alternatives to face-to-face consultation in general practice, and the impact on different patient groups: a mixed-methods case study. *Health Serv Deliv Res* 2018;6(20).<https://www.journalslibrary.nihr.ac.uk/hsdr/hsdr06200#/abstract>

<sup>30</sup> Marshall Martin, Shah Robina, Stokes-Lampard Helen. Online consulting in general practice: making the move from disruptive innovation to mainstream service *BMJ* 2018; 360 :k1195

1. Integrated e-consultation systems: systems which are developed by private companies but purchased by NHS providers and **integrated into the electronic medical record systems** of a general practice, with the online consulting service provided by practice staff as part of a comprehensive NHS-funded service (e.g. eConsult or askmyGP);
2. Standalone online consultation systems: systems which offer full clinical services primarily through online consulting by **clinicians who operate separately from established general practice** teams, though they might be working in a business partnership with established practices. The services are funded by the NHS but may only be available to specified low-risk patient groups or may be limited to specific activities, such as prescriptions or fitness to work certificates. Some of these online providers offer follow-up face-to-face consultations when required (e.g. BGPaH);
3. Private online consultations systems: systems which are **privately funded** and offer online consulting on a pay per consultation basis or as an employment benefit (e.g. Babylon's private services or Push Doctor).<sup>31</sup>

### Examples of other models delivering a digital-first service in the primary care sector

The online consultation market in UK general practice is expanding rapidly: in addition to BGPaH, others such as eConsult, Push Doctor, Livi, Docly, askmyGP have been established in recent years. Most of those online models have been developed by private entrepreneurs, with substantial backing from private investors. As general practices become motivated to establish such online services, an increasing number of them have established business partnerships with online service providers.

While the evaluation focuses on the BGPaH service, it has also looked at other models for delivering a digital-first service. It is important to note that the evaluation did not undertake a comprehensive scan for other models. Instead, it focused on two practices – one delivering a **blended-model of digital and face-to-face** primary care (through Push Doctor), and the other one using an **online triage tool** to enhance patient access to its services (through eConsult). These models were included in the evaluation as small case studies to provide additional context and understanding of the different elements of digital-first models. They should not be considered as comparators to BGPaH as they were not evaluated as part of the current evaluation.

#### **What is eConsult?**

*eConsult is a digital platform developed by a group of GPs in London and launched in 2014. It is currently used in 747 NHS practices and is available to over 7 million patients.*

*It delivers a range of online services including symptom checking and self-help information for patients, signposting to services outside the practice, and text-based consultations. It allows patients to consult with their own NHS practice simply by completing a quick 'responsive' online form that seeks information tailored to the patient's demographic and presenting problem. If the patient is identified as in need of immediate medical attention (through identification of red-flag symptoms) while completing the form, they are directed to relevant services.*

*There are no financial charges for patients using the system. The technology bolts onto the practice's existing website and is linked to the patient's medical record, and the consultation service is provided by existing practice staff. E-consultations require a response from the practice by the end of the next working day. However, eConsult has been*

---

<sup>31</sup> Marshall Martin, Shah Robina, Stokes-Lampard Helen. Online consulting in general practice: making the move from disruptive innovation to mainstream service BMJ 2018; 360 :k1195

*designed with red flag sensitivity that alerts the patient to any serious signs of critical illness that require immediate medical intervention, and signposts them accordingly.*

*The eConsult model has already been the focus of a descriptive evaluation (Banks et al, 2018).<sup>32</sup> Whilst the study showed that the system fell short of providing an effective platform for clinicians to consult with patients, it is important to note that it took place during the piloting of system, before its full implementation, and before both patients and GPs had become familiar with it.*

### **What is Push Doctor?**

*Push Doctor is a digital health provider and was the UK's first platform to offer video consultations<sup>33</sup> with patients online and via smartphone. A large team of independent contractor GPs provide their services on the online platform, and between them carry out several thousand consultations per week. Push Doctor also employ a large team of non-clinical staff, including management, administrative, IT and customer experience staff.*

*Push Doctor has been rapidly expanding its reach in the last few years. In addition to launching a corporate healthcare service, it announced in September 2018 that it had acquired an NHS contract to provide free at the point of use online consultations for the Modality Partnership, a GP "super partnership" which covers surgeries in Yorkshire, the Midlands, London and the South East, serves more than 450,000 patients.*

*Push Doctor also announced in January 2019 it had agreed a deal with the Urban Health and 13 primary care networks – covering 13 practices and 88,000 patients.<sup>34</sup>*

### **Existing evidence about the use and impact of online consulting**

As mentioned above, NHS policy encourages alternatives to face-to-face consultation. This is driven by developments in supporting technologies, demand for more convenient and accessible services at a lower cost, and the need to find solutions to GP workload pressures.<sup>35</sup> However, most GP practices have been slow to adopt these services, citing concerns about increased workload and the need to ensure patient safety.<sup>36</sup>

Currently there is limited evidence on the impact of online consulting in primary care from a UK setting, and the relevance of international evidence is debated due to cultural differences in the use of technology.<sup>37</sup> A brief summary of some research carried out in UK general practice settings to date is provided below:

- **Uptake:** Although video consultations are well received, uptake is usually low and suggests patients may prefer face-to-face consultations. This is likely to improve with increasingly intuitive technology.<sup>38 39</sup> It will also remain important to ensure marginalised groups do not experience barriers to using online services (e.g.

<sup>32</sup> Banks J, Farr M, Salisbury C, Bernard E, Northstone K, Edwards H and Horwood J (2017) Use of an electronic consultation system in primary care: a qualitative interview study. *Br J Gen Pract* 68(666):e1-e8. doi: 10.3399/bjgp17X693509

<sup>33</sup> Push Doctor, unlike BGPaH, does not offer telephone consultations

<sup>34</sup> <https://www.pushdoctor.co.uk/blog/push-doctor-urban-health>

<sup>35</sup> Marshall Martin, Shah Robina, Stokes-Lampard Helen. Online consulting in general practice: making the move from disruptive innovation to mainstream service *BMJ* 2018; 360 :k1195

<sup>36</sup> Atherton H, Brant H, Ziebland S, Bikker A, Campbell J, Gibson A, et al. Alternatives to the face-to-face consultation in general practice: focused ethnographic case study. *Br J Gen Pract*. 2018.<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5863684/>

<sup>37</sup> Marshall Martin, Shah Robina, Stokes-Lampard Helen. Online consulting in general practice: making the move from disruptive innovation to mainstream service *BMJ* 2018; 360 :k1195

<sup>38</sup> [https://www.nuffieldtrust.org.uk/files/2017-06/1497259872\\_nt-the-digital-patient-web-corrected-p46-.pdf](https://www.nuffieldtrust.org.uk/files/2017-06/1497259872_nt-the-digital-patient-web-corrected-p46-.pdf)

<sup>39</sup> Edwards HB, Marques E, Hollingworth W, et al. Use of a primary care online consultation system, by whom, when and why: evaluation of a pilot observational study in 36 general practices in South West England. *BMJ Open* 2017;7:e016901.10.1136

those unable to afford smartphones, or access to the internet).<sup>40</sup> However, both barriers are likely to decline in importance over time.

- **Demand on professional time:** General practices are motivated to introduce online consulting as a way of managing demand. However, research shows demand on professional time is dependent on the local context of the practice implementing this. Important factors include the type of patient and problem they need to address, thus evidence to date is inconclusive as to whether remote consultations increase or decrease workload.<sup>41</sup>
- **Patient experience:** Video consultations are generally well received, and they can offer improved convenience and flexibility. They tend to be most valued by those who struggle to access care in person.<sup>42</sup>
- **Health outcomes:** Evidence on health outcomes is inconclusive, but some research has suggested that online consultations are more effective for straightforward problems and less so for complex issues.<sup>43</sup> Although patient safety is often cited as a reason to be wary of introducing alternatives to the face-to-face consultation, there is very little documentation of what these concerns are.<sup>44</sup> Patient privacy and confidentiality are described as being important, but reports of privacy and confidentiality breaches are scarce, and collection of these data is uncommon. Much work needs to be done in identifying potential patient safety issues, and mitigating the risk associated with these.<sup>45</sup>
- **Cost-effectiveness of online consultations:** The rapid review showed very limited evidence from existing studies as to the cost-effectiveness of online consultations in a primary care setting. Studies seeking to explore the cost-effectiveness of broadly comparable interventions (e.g. telehealth<sup>46</sup> and e-consultations<sup>47</sup>) have suggested that these approaches could be cost-increasing rather than cost-saving.

Despite the absence of robust evidence, digital innovations have the potential to improve primary care accessibility for patients. This could benefit patients with long-term conditions and others who find it difficult to access their GP practice in person.<sup>48</sup> Furthermore, to meet the current challenges facing the NHS (e.g. an ageing population, funding shortages and changing public expectations), new clinical delivery models are required.<sup>49</sup>

<sup>40</sup> The Kings Fund. 2018. Innovative models of general practice.

<sup>41</sup> [https://www.nuffieldtrust.org.uk/files/2017-06/1497259872\\_nt-the-digital-patient-web-corrected-p46-.pdf](https://www.nuffieldtrust.org.uk/files/2017-06/1497259872_nt-the-digital-patient-web-corrected-p46-.pdf)

<sup>42</sup> [https://www.nuffieldtrust.org.uk/files/2017-06/1497259872\\_nt-the-digital-patient-web-corrected-p46-.pdf](https://www.nuffieldtrust.org.uk/files/2017-06/1497259872_nt-the-digital-patient-web-corrected-p46-.pdf)

<sup>43</sup> [https://www.nuffieldtrust.org.uk/files/2017-06/1497259872\\_nt-the-digital-patient-web-corrected-p46-.pdf](https://www.nuffieldtrust.org.uk/files/2017-06/1497259872_nt-the-digital-patient-web-corrected-p46-.pdf)

<sup>44</sup> McKinstry B, Hammersley V, Burton C, Pinnock H, Elton R, Dowell J, et al. The quality, safety and content of telephone and face-to-face consultations: a comparative study. *Qual Saf Health Care* 2010;19:298–303.

<sup>45</sup> Atherton H, Brant H, Ziebland S, Bikker A, Campbell J, Gibson A, et al. The potential of alternatives to face-to-face consultation in general practice, and the impact on different patient groups: a mixed-methods case study. *Health Serv Deliv Res* 2018;6(20)

<sup>46</sup> Henderson C, Knapp M, Fernández J-L, Beecham J, Hirani SP, Cartwright M, et al. Cost effectiveness of telehealth for patients with long-term conditions (Whole Systems Demonstrator telehealth questionnaire study): nested economic evaluation in a pragmatic, cluster randomised controlled trial. *BMJ* 2013;346:f1035E.g.

<sup>47</sup> Edwards HB, Marques E, Hollingworth W, Horwood J, Farr M, Bernard E, et al. Use of a primary care online consultation system, by whom, when and why: evaluation of a pilot observational study in 36 general practices in South West England. *Bmj Open*. 2017;7(11):e016901.

<sup>48</sup> The Kings Fund. 2018. Innovative models of general practice.

<sup>49</sup> Ibid.

## 1.5 The local context

The host CCG for BGPaH, NHS Hammersmith and Fulham CCG, is made up of 29 GP practices and served a patient population of 231,004 people as of 1st January 2018.<sup>50</sup> The borough is small, but densely populated, with inequalities existing within small geographic areas. The Joint Strategic Needs Assessment (JSNA) provides a comprehensive local picture of the population health and wellbeing needs, summarising the residents as follows:

- a large proportion of young working age residents and a low proportion of residents aged 65 and over;
- high levels of migration in and out of the borough;
- the fifth lowest number of children of any London Borough; and,
- high ethnic and cultural diversity.

NHS Hammersmith and Fulham CCG and NHS England (London) Medical Directorate undertook an initial Clinical Review of the BGPaH service. Due to the innovative nature of the service, it was not possible to fully assure the clinical model at that stage, with most concerns in relation to the more dispersed nature of the registered population, and the challenges this posed to integration with other services in their local area. However, the panel concluded that the innovative model had the potential to benefit both patients and the wider healthcare system.<sup>51</sup>

NHSE are working to develop an ongoing assurance framework for BGPaH and other similar models of digital-first primary care.<sup>52</sup>

In addition, given the location of patients registering with the service, as we discuss in the following section, the context of primary care provision in London is also important. London CCGs typically have lower satisfaction with primary care services than other CCGs across the country.<sup>53</sup>

Further important local context is driven by the nature of primary care in London, namely through the high level of use of A&E for primary care, mobile commuting, population churn, and the diversity of the population, amongst other things.<sup>54</sup>

## 1.6 Changes to the context

During the evaluation there have been several developments in the wider context, related to primary care, digital primary care specifically, and digital health and social care more widely. This context continues to develop rapidly.

The key developments are summarised below:

- **Wider-adoption of digital primary care using online consultations provided by video:** While BGPaH has been the most high-profile implementation of a digital-first primary care model in England, the number of other providers and models has continued to increase. These include Livi<sup>55</sup> (partnered with the NICS GP

<sup>50</sup> <https://www.hammersmithfulhamccg.nhs.uk/about-us/our-gp-members-and-practices.aspx>

<sup>51</sup> <https://www.hammersmithfulhamccg.nhs.uk/media/120062/PCCC-Item-6-Appendix-C-GP-at-Hand-Clinical-Review.pdf>

<sup>52</sup> <https://www.hammersmithfulhamccg.nhs.uk/media/136419/pccc-item-6b-gp-at-hand-subcontracting-notification-update-final.pdf>

<sup>53</sup> [https://www.kingsfund.org.uk/sites/default/files/field/field\\_publication\\_file/general-practice-in-london-dec12.pdf](https://www.kingsfund.org.uk/sites/default/files/field/field_publication_file/general-practice-in-london-dec12.pdf)

<sup>54</sup> [https://www.kingsfund.org.uk/sites/default/files/field/field\\_publication\\_file/general-practice-in-london-dec12.pdf](https://www.kingsfund.org.uk/sites/default/files/field/field_publication_file/general-practice-in-london-dec12.pdf)

<sup>55</sup> <https://www.livi.co.uk/>

Federation in Surrey), PushDoctor<sup>56</sup> (partnered with the Modality GP ‘super-partnership’) and Docly<sup>57</sup>, and their implementation is at varying levels of maturity.

- **The NHS Long Term Plan:** The follow-up to the Five Year Forward View, the NHS Long Term Plan was launched in January 2019. Two features of the plan are of particular relevance to this evaluation. First of all, reflecting the added focus on digital technology in healthcare generally, the plan contained a commitment that in ten years, the NHS will offer a ‘digital first’ option for most, allowing for longer and richer face-to-face consultations with clinicians where patients want or need it.
- **The Topol Review.** As part of the development of the health and care Workforce Strategy for England to 2027, Health Education England commissioned an independent review into preparing the healthcare workforce to deliver the digital future.<sup>58</sup> The review was led by Dr Eric Topol and delivered a final report to DHSC in December 2018. The review highlighted three principles to support the deployment of digital healthcare technologies in the NHS: (1) patients should be suitably informed about health technologies, with particular focus on vulnerable groups to ensure fair access; (2) the healthcare workforce needs knowledge and guidance to evaluate new technologies; and, (3) the adoption of technology should be used to give healthcare staff more time to care and interact directly with patients.
- **Changes to the GP contract.** Building on the commitments made in the Long-term Plan, and to support delivery of these through primary care, a *five-year framework for GP contract reform*<sup>59</sup> was published in January 2019. The contract, which took effect in April 2019, describes a fundamentally different future for general practice, working with other providers of community based services as Primary Care Networks.<sup>60</sup> These networks will provide more coordinated, holistic care to populations of approximately 30–50,000 patients. Also, as noted earlier, the contract includes a commitment to support existing practices to deliver digital-first primary care, with the intention that all patients should have access to digital primary care services as rapidly as possible, and ensure ‘fair payment for digital-first delivery’, amending the rurality index payment to ‘better reflect costs’, and redefining the London adjustment to apply only to patients **living in London**.

While these changes have not directly impacted upon the evaluation, they are important to consider together with the conclusions, to fully understand the implications of the evaluation findings.

---

<sup>56</sup> <https://www.pushdoctor.co.uk/>

<sup>57</sup> <https://www.docly.uk/about/>

<sup>58</sup> <https://hee.nhs.uk/our-work/topol-review>

<sup>59</sup> <https://www.england.nhs.uk/publication/gp-contract-five-year-framework/>

<sup>60</sup> NHS England has significant ambitions for primary care networks, with the expectation that they will be a key vehicle for delivering many of the commitments in the long-term plan and providing a wider range of services to patients. Primary care networks will eventually be required to deliver a set of seven national service specifications. Five will start by April 2020: structured medication reviews, enhanced health in care homes, anticipatory care (with community services), personalised care and supporting early cancer diagnosis. The remaining two will start by 2021: cardiovascular disease case-finding and locally agreed action to tackle inequalities. For more information:

<https://www.kingsfund.org.uk/publications/primary-care-networks-explained>

## 1.7 Babylon GP at hand

### 1.7.1 Overview

BGPaH is an NHS primary care practice that substantially changed its model of care from a traditional practice in November 2017. The practice operates in North West London, with a General Medical Service (GMS) contract through NHS Hammersmith and Fulham CCG.<sup>61</sup>

Below we set out the key features of the model through which BGPaH provides primary care services. Further details, for example on the patient profile, the service, and the workforce are discussed throughout the report in relation to the relevant evaluation questions:

- The partnership (BGPaH, formerly known as Dr. Jefferies and Partners) has subcontracted the provision of the majority of essential services in person and remotely to patients who want to access them to Babylon.
- The 'offer' is based on an enhanced model following a digital-first service through a Babylon mobile and web application.
- The app includes a triage system based on a symptom-checker. This provides a recommended course of action (e.g. to book an appointment, to go to A&E), but does not provide a suggested diagnosis to the patient.<sup>62</sup> Patients are not required to use the symptom checker, and are able to go directly to booking a consultation if they wish.
- Video (or telephone) consultations are available 24/7, 365 days a year, usually within two hours of request. All consultations are recorded, and are immediately available to patients and their GP via the app. Patients are also asked to provide an immediate 'star rating' on their appointment along with a comment, which are monitored real-time to act on any concerns.<sup>63</sup>
- Patients requiring face-to-face appointments can do so at five locations across London. Patients are generally required to book a digital consultation first, and then are referred for a face-to-face consultation if necessary. For selected services, e.g. cervical smear screening, flu jabs or vaccinations, patients can book a face-to-face appointment directly by calling the support team.
- GPs providing the service are all GMC registered, and may also work at other practices. Clinicians who are employed by Babylon also have to provide consultations to private patients through the Babylon app. GPs can carry out digital consultations from home or from a physical 'hub' location in central London.
- Babylon receives a proportion of the funding that the practice receives through its GMS contract.
- Initially, patients were encouraged to consider their personal circumstances and health needs before registering, particularly those who had certain characteristics e.g. those requiring end of life care. This was to reflect the national GP of Choice policy advice and recommendations made in the clinical review undertaken by NHSE that emphasised clear messaging to support patients in their decision making.<sup>64</sup> This advice has since been removed following further discussion with the NHS Clinical Review team (see later in this chapter).

---

<sup>61</sup> BGPaH is the name of a GMS contract-holding general practice providing Primary Medical Services under the GMS Regulations 2015.

<sup>62</sup> N.B. This is not the same AI tool as included in Babylon Health's private health app, which does give patients a suggested diagnosis following their interaction.

<sup>63</sup> Any free-text comments mentioning clinical issues are immediately flagged to a team responsible for investigating any potential issues.

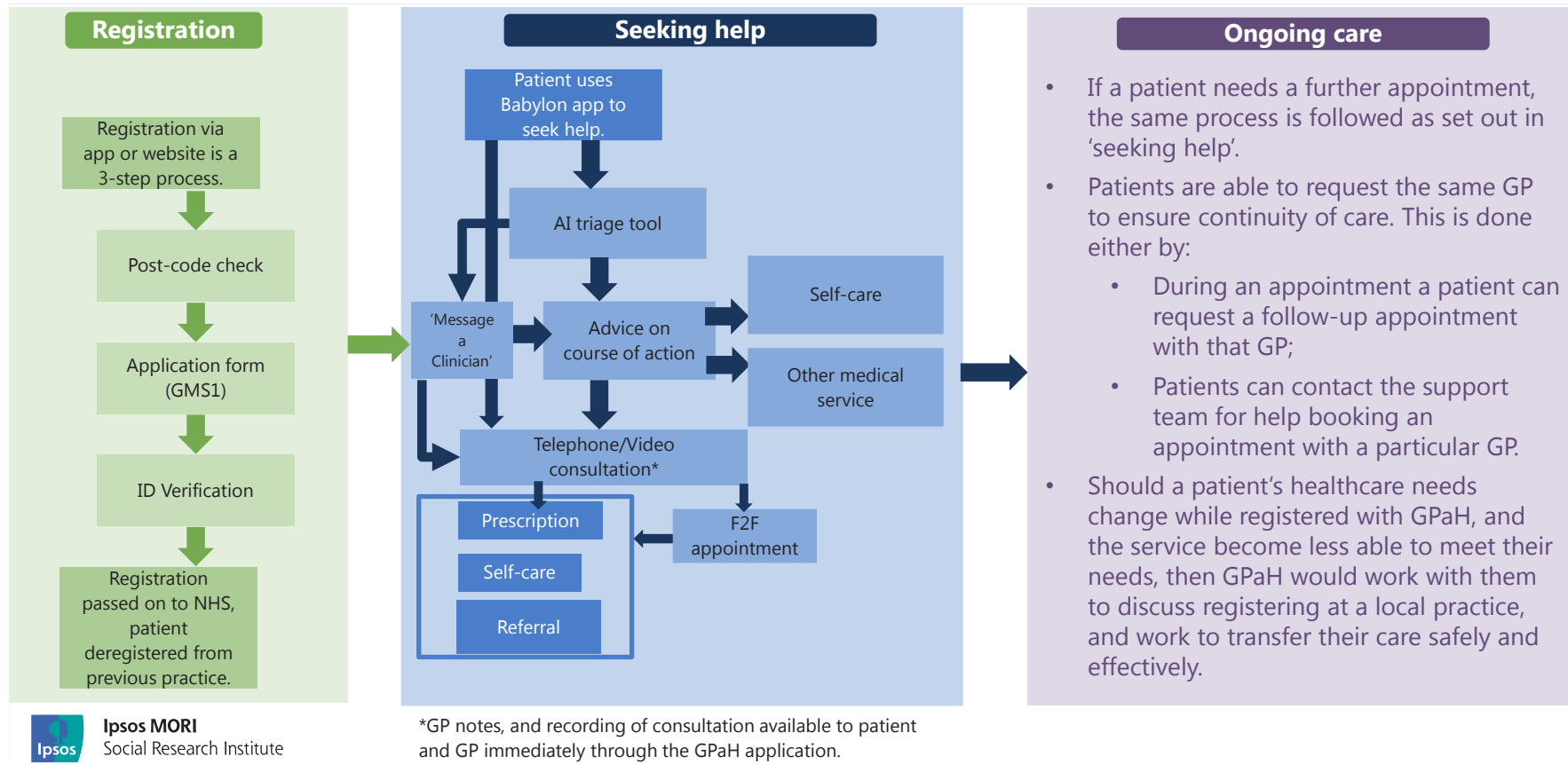
<sup>64</sup> This was based on guidance issued by NHS England following an initial clinical review of BGPaH



- As BGPaH is an NHS practice, new patients registering at the practice are automatically de-registered from their previous practice.
- The Practice Boundary area of the BGPaH practice is south of Talgarth Road and Cromwell Road in Fulham, and north of the River Thames. BGPaH can arrange GP visits to patients living within this geographical area, but does not provide home visits for out of area patients, in accordance with the GP Choice Policy.
- If a patient develops an urgent illness which requires a face-to-face appointment, but is not be able to visit one of the GP clinic locations, BGPaH advises them to call 111 so they can be directed to the most appropriate local service.
- Following an inspection in March 2018, CQC inspectors revisited BGPaH in January 2019, and an updated report and rating of GP at Hand will be published in due course.

Figure 1.1 outlines our understanding of the patient journey, based on discussions with Babylon and BGPaH representatives during the scoping stage of this evaluation.

Figure 1.1: BGPaH patient journey



Source: Ipsos MORI, based on discussions with BGPaH

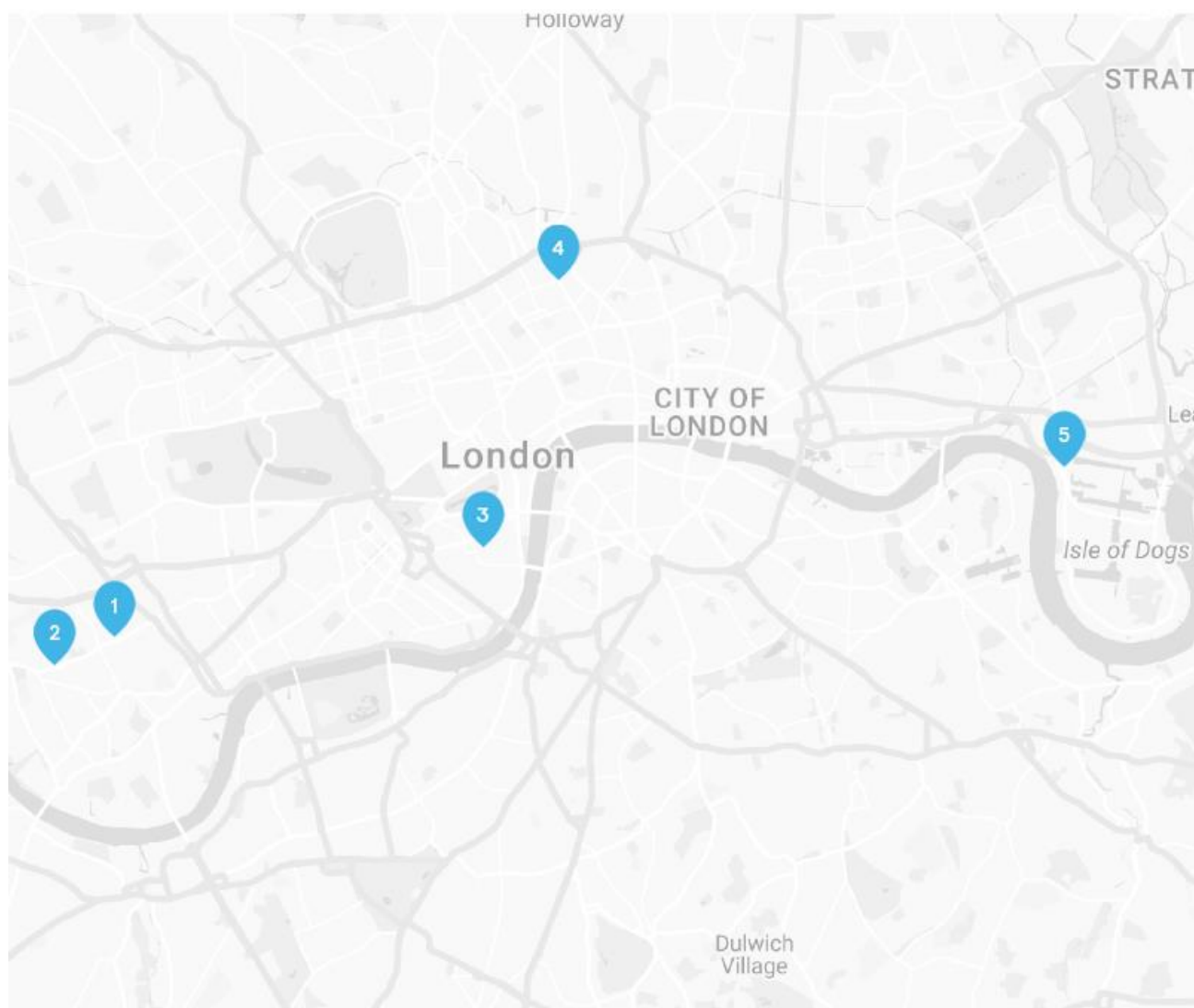
Points of difference between the BGPaH model and 'traditional' general practice models do not relate solely to the digital nature of the service provided to patients, although the technology facilitates many of these points (e.g. the ability for GPs to carry out digital consultations from home). There are wider differences that also have implications for the evaluation and informed the development of the evaluation questions, and the implications considered later:

- **Competition for patients:** The GP Choice Policy effectively created a quasi-marketplace under which there is a greater possibility and stronger incentive for GP practices to compete for patients. Until the launch of BGPaH, there have been few, if any, examples of NHS practices undertaking focused advertising campaigns to attract new patients. BGPaH launched an advertising campaign across London in November 2017.
- **Speed of access:** BGPaH offers speed of access to primary care that is not the case under any other traditional practice model, with an appointment usually within two hours. Understanding how important and beneficial this is to patients, and how feasible and sustainable this level of service might be under other models of digital-first primary care, is important for considering the policy implications of this evaluation.
- **Employment model for the GP workforce:** While BGPaH does involve a partnership, the use of a GP workforce employed via Babylon, operating across private and NHS services, represents a new model of GP employment and subcontracting arrangements above and beyond the remote working aspect. This model of privately employed GPs providing NHS services may have wider implications for the GP workforce (e.g. retention and recruitment).
- **Remote consulting:** The ability to consult with a GP remotely means that patients are no longer using a 'local' GP practice within their geographical area, which is a fundamental difference between the model and traditional general practice. Patients can register with BGPaH if they live or work anywhere within 35 to 40 minutes of one of the clinics.

### Changes during the evaluation

BGPaH remains a rapidly developing, and changing, model. There have been several changes to the practice, or the operating environment for the practice, since the service relaunched and since this evaluation began.

- **Name-change:** Initially known simply as GP at hand, the practice formally changed its name to Babylon GP at hand in November 2018.
- **Clinic locations:** There have been some changes to the clinic locations at which face-to-face services are provided within London during the evaluation. There are five locations; two in Hammersmith and Fulham, with three further clinics: one in Westminster (which replaced the Victoria Medical Centre clinic in April 2018), one in King's Cross (which replaced the South Camden clinic in October 2018), and one in Canary Wharf (which replaced the Poplar clinic in January 2019). See Figure 1.2.

**Figure 1.2: BGPaH clinic locations**

Source: BGPaH

1. **GP at hand Clinic, Lillie Road**- Hours of operation: Monday – Friday: 8am –6.30pm; Saturday: CLOSED; Sunday: CLOSED.
2. **The Medical Centre, Munster Road**- Hours of operation: Monday – Friday: 8am – 8pm; Saturday: 9am – 5pm; Sunday: 9am – 5pm.
3. **South Westminster Centre for Health**- Hours of operation- Monday – Friday: 8.30am – 5pm; Saturday: CLOSED; Sunday: CLOSED.
4. **King’s Cross BUPA Health Centre**- Hours of operation: Monday – Friday: 8am – 6.30pm; Saturday: 8am – 6pm; Sunday: CLOSED.
5. **LycaHealth Canary Wharf**- Hours of operation- Monday to Friday: 8am - 8pm; Saturday: 8am - 1pm; Sunday: CLOSED.

- **Removal of the list of patients for whom the service may be less appropriate:** As part of the initial clinical assurance process undertaken by NHS Hammersmith and Fulham CCG and NHS England (London Region) Medical Directorate in Autumn 2017, it was suggested that the BGPaH service ‘may be less appropriate’ for a range of different patients, particularly those whose needs require effective integration with other local services, multidisciplinary team-working, or very personalised care planning; for example pregnant women, adult safeguarding patients, complex mental health patients, patients with complex physical, psychological and social needs, dementia patients, frail elderly patients, those requiring end of life care, parents of children who are in the ‘Child at risk’ protection register, parents with learning difficulties, and those with drug dependencies.<sup>65</sup> BGPaH chose to display this as a cautionary note for potential patients on its website. Following further clinical assurance and discussion with the CCG, this list was removed in November 2018. The current advice provided on the BGPaH website is that patients who may need to attend face-to-face appointments more frequently must be willing and able to travel to one of the clinics.
- **Advertising Standards Agency ruling:** In October 2018, the Advertising Standards Agency upheld complaints made against BGPaH advertising,<sup>66</sup> finding that the adverts were ‘misleading’ on the basis that they did not make it clear that patients must leave their current GP to register with the service, that the service was only available within a set geographic area, and that it could take up to three weeks to process the registration. This has been rectified in BGPaH’s most recent advertising campaigns.
- **Expansion outside London:** In Summer 2018, BGPaH sought permission to expand the service to Birmingham. This application was initially objected to by Hammersmith and Fulham CCG Primary Care Commissioning Committee, and the decision was ratified by NHS England on the grounds of patient safety and compliance with their GMS contract, specifically in relation to ensuring access to screening services and any necessary follow up through local pathways. NHS England lifted its objection in February 2019,<sup>67</sup> leaving BGPaH free to launch a physical presence in Birmingham.

### 1.7.2 Additional context surrounding BGPaH

As noted earlier, there is a commitment for greater adoption of digital-first options within the NHS, with a recognition of their potential benefits. Digital solutions such as video consultations and triage, email, web chat and web-form based models can provide quick and convenient access to GP services. Digital options can also make better use of clinician time as patients are triaged, with the clinician using their professional judgement to diagnose an issue or arrange a follow-up appointment, further tests or other specialists’ opinions.

However, because the BGPaH model represents an innovative approach to general practice, it also poses several challenges to existing NHS policy and legislation. The inclusive nature of the service with few limitations on who can register, its very wide geographical coverage, and the fast pace of the roll-out of the service mean that there is a risk that there could be unintended effects on both patient care and the wider system.

There have also been criticisms of the model raised in public by various interest groups. These relate mainly to concerns in the following areas:

---

<sup>65</sup> A full list can be found on p.6 of the initial clinical review: <https://www.hammersmithfulhamccg.nhs.uk/media/120062/PCCC-Item-6-Appendix-C-GP-at-Hand-Clinical-Review.pdf>

<sup>66</sup> Namely a poster appearing on the London Underground network, a Facebook post, a website and an app for “GP at hand” services, for Babylon Healthcare Services.

<sup>67</sup> <https://www.hammersmithfulhamccg.nhs.uk/media/150396/GB-12-March-Item-13-NHSE-statement-for-Hammersmith-and-Fulham-CCG-PCCC-12022019.pdf>

- **Safety and clinical effectiveness:** A key focus of public debate has been the question of whether a digital-first consultation model, using a symptom checking system, provides safe and effective care. Other concerns relate to questions around the suitability of the service for patients with certain conditions (e.g. people with mental health problems) and the impact on health inequalities.
- **Impact on the GP workforce:** Concerns have also been expressed that an increase in GPs working for BGPaH and other digital-first providers could lead to increased pressures on the wider primary care workforce.<sup>68</sup>
- **Impact on funding:** Concerns have been raised about the impact of the model given the way that general practice funding is calculated (the Carr-Hill formula)<sup>69</sup>. Some have expressed concern that BGPaH could destabilise other general practices through increasing the concentration of higher users among these practices' populations. This is due to the demographic profile of patients who may be most likely to use the BGPaH service (whether or not through active targeting of these patients). An example of the nature of concern can be seen in the March 2018 article from London Borough of Tower Hamlets GP leaders in Pulse,<sup>70</sup> and in wider publications on the topic<sup>71</sup>.

It should be noted that these concerns represent the opinion of certain groups, and hard evidence as to whether these concerns are being realised is still being collected. NHSE and the health and social care regulators have been exploring the most appropriate and effective way to assure the clinical safety and effectiveness of apps being used within the NHS. New frameworks are being developed on evidence for effectiveness standards, published by a joint working group involving NICE, NHSE, PHE and others. For example, the National Institute for Health and Care Excellence (NICE) published an *Evidence standards framework for digital health technologies*<sup>72</sup> in December 2018.

## 1.8 Structure of this report

The remainder of the report is structured around a series of chapters presenting an assessment of the evidence the evaluation has gathered against each of the key evaluation questions. The focus of these chapters is as follows:

- **Chapter 2: Activities and inputs.** A description of the service delivered and resources required to deliver the BGPaH model.
- **Chapter 3: Outcomes and impact.** Building on the evidence presented in Chapter 2, as well as other evidence and analysis across the strands, to explore early outcomes focused primarily on levels of satisfaction with the service, changes to patients' use of health and care services, workforce issues and financial impacts.
- **Chapter 4: Conclusions and implications.** Focusing on drawing together the evidence collected across the evaluation to provide an overall assessment of the key evaluation questions and understanding the

---

<sup>68</sup> As argued in this Pulse article: <http://www.pulsetoday.co.uk/news/gp-topics/it/200-gps-working-for-Babylon-as-40000-nhs-patients-apply/20036542.article>

<sup>69</sup> The GMS global sum formula (the Carr-Hill formula) distributes the core funding (global sum) to general practices for essential and some additional services. Payments are made according to the needs of a practice's patients and the cost of providing primary care services. The formula takes into account issues such as age and deprivation.

<sup>70</sup> <http://www.pulsetoday.co.uk/news/gp-topics/pay/gp-at-hand-is-destabilising-general-practice/20036387.article>

<sup>71</sup> <https://www.nuffieldtrust.org.uk/news-item/gp-at-hand-destabilising-or-modernising-general-practice>

<sup>72</sup> <https://www.nice.org.uk/about/what-we-do/our-programmes/evidence-standards-framework-for-digital-health-technologies>

implications of these findings – for the BGPaH practice, digital primary care more widely, and for further research and evaluation.

- **Annexes:** Presented separately, this document provides further detail on the evaluation questions, additional methodological detail for each strand of evidence collection and analysis conducted, and full data from the survey of patient experience.

## 2 Activities and inputs

### 2.1 Introduction

This chapter presents evidence collected across the evaluation to understand the delivery of the Babylon GP at hand (BGPaH) service and how patients are using it. The chapter also discusses what is known about the practice's patients to explore concerns about the potential for the model to destabilise other practices, given the patients' demographic profile (as mentioned in Section 1.7). Finally, it considers the characteristics of the BGPaH workforce.

### 2.2 How does the BGPaH model work and how is it used by patients?

This section of the report considers a series of detailed evaluation questions about how patients are using the component elements of the service, the proportion of interactions resolved at each stage, and how rates of usage compare with the 'usual' practice. It draws on data provided by BGPaH about patient interactions, and data from the patient survey and qualitative interviews with patients and GPs. It shows that BGPaH patients may be using the service more than would be expected given their age and health status.

#### 2.2.1 How do patients use BGPaH and its component elements, and how does this vary by patient type?

While patients use a combination of the different elements that the BGPaH service offers, **digital (video or telephone) consultations are by far the most frequently used aspect of the service.**

The rates of digital consultations have remained relatively consistent since the start of the service at between 0.25 and 0.35 consultations per month. Patients have fewer chats (using the online symptom checker) than digital consultations (between 0.1 and 0.15 chats per patient per month in October 2018).<sup>73</sup> This is reflected in the survey data which shows that almost two-thirds of patients have had a video or telephone consultation with a GP (64% and 63% respectively) since registering, and just over half have used the symptom checker or 'chatbot' (55%). Almost two in five patients have had a face-to-face appointment with a GP (38%), while 21% have had a face-to-face appointment with another healthcare professional. This is shown in Figure 2.1.

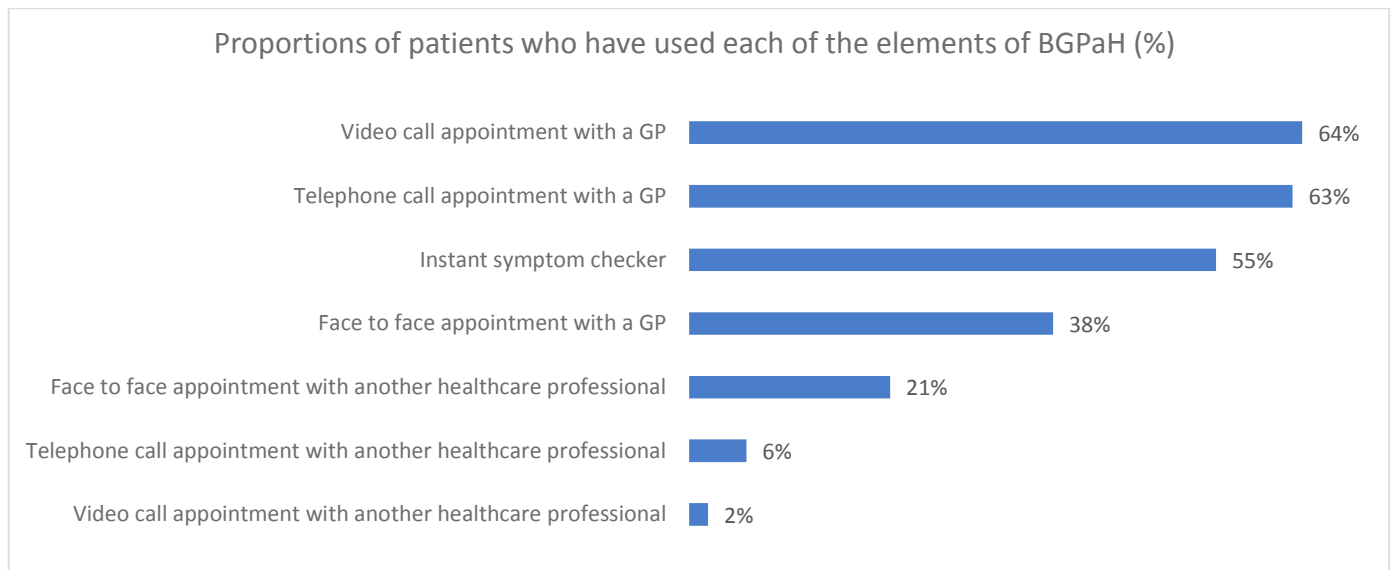
---

<sup>73</sup> Based on data provided by BGPaH; full details of the analysis approach used are contained in the Annexes.



**Figure 2.1: Proportions of patients who have used each of the elements of BGPaH**

Q36. Since you registered at BGPaH, in which of the following ways have you used the service?



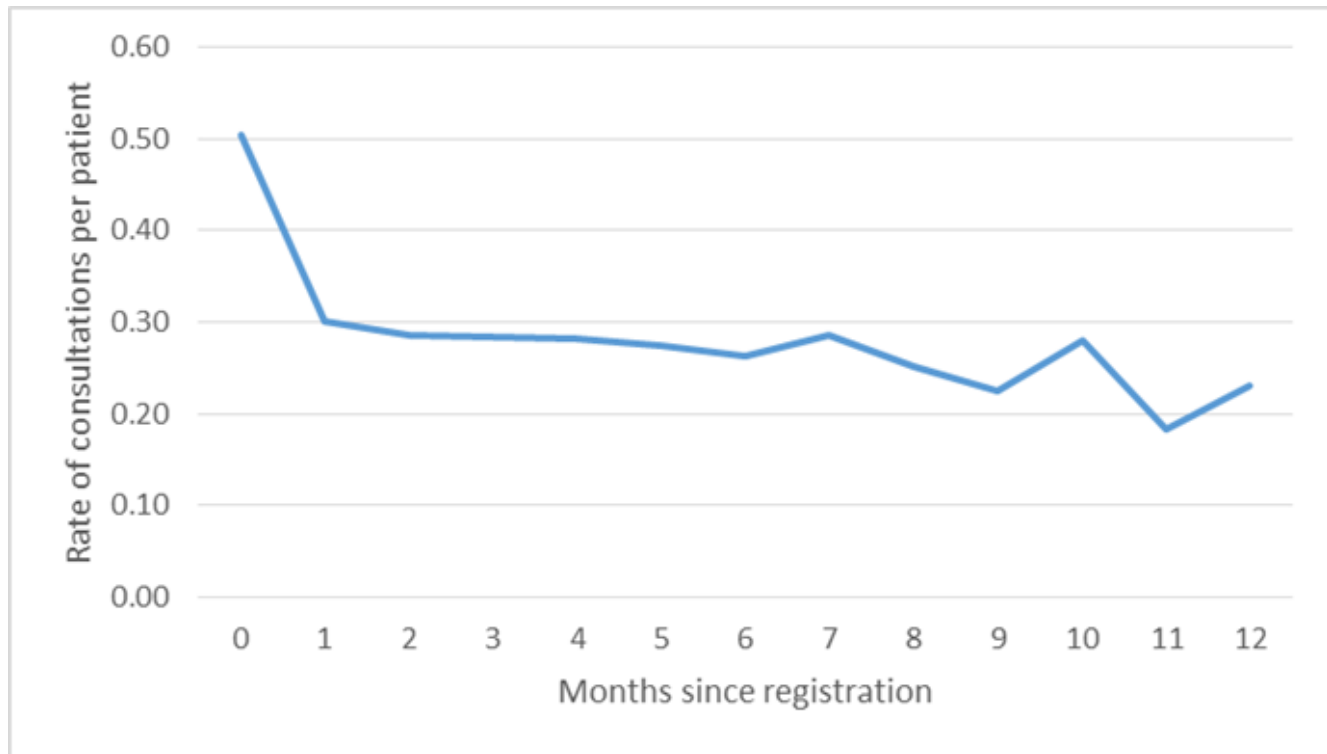
Base: All patients who responded to this question (1452);  
12<sup>th</sup> November 2018 – 4<sup>th</sup> March 2019

Source: Ipsos MORI, based on BGPaH patient survey data

Each of the individual elements of the service is addressed in more detail below.

### **Digital appointments (video and telephone)**

**Patients tend to have more digital appointments in the month immediately after registering, and then their use is lower.** Analysis of digital consultation rates by time since registration show that patients have a higher rate of consultation in their first month (0.5 consultations per patient per month), before settling down to an average rate of consultations of between 0.2 and 0.3 per patient per month.

**Figure 2.2: Monthly virtual consultation rate by months since registration**

Source: BGPaH

On average, between May and October 2018 (the time period for which data was provided), digital appointments accounted for 87% of all appointments. Around 40% of digital appointments were out-of-hours (18:30–08:00 and weekends), reflecting the findings, discussed later in this report, that patients were attracted to the service because of its convenience and access. Women have a consistently higher rate of digital consultations per month than men,<sup>74</sup> but are more likely (based on data from the patient survey) to have had a telephone consultation (76% compared with 54% of men), while men are more likely to have had a video consultation (71% compared with 57% of women).

The BGPaH system defaults to a video consultation, but as can be seen in the data discussed above, a large proportion of patients choose to use telephone consultations. Patients in the qualitative interviews suggested that they preferred telephone consultations for a number of reasons. For example, those with mental health conditions said they sometimes found it beneficial to speak to a GP over the phone rather than over video as it was easier to express their feelings and symptoms this way. The interviews also showed that those without visible symptoms were more likely to want to have a telephone consultation; they largely chose to have a video consultation only where they felt it was really necessary. Sometimes, patients were asked to send a photograph of the symptom/body part to assess through the app, prior to the consultation.

*"Skin problems, I would really want to see a picture of your hands. If they've submitted a picture, you can then have a conversation with them about it on the phone."*

BGPaH GP

### **Face-to-face appointments**

<sup>74</sup> All analysis based on data provided by BGPaH; full details of the analysis approach used are contained in the Annexes.

**As stated above, face-to-face appointments are used far less frequently than digital appointments,** accounting for around 13% of consultations (on average for the time period for which data was provided). While this will be linked to clinical need, it also reflects patients' wishes. The patient survey shows that one in five (18%) said they wanted a face-to-face appointment last time they booked an appointment compared with 69% who wanted a digital appointment. They generally only take place if a patient has been referred following a digital consultation, but they can be booked directly in some situations, for example, for smear tests or blood tests.

*"They would require an examination that can't be done via a digital consultation. So, things like intimate examinations where they'd have to have swabs done, say, or there is a clinical reason why they need to be seen face-to-face or patient requests as well. If a patient says to me 'I really want to see one of the doctors face-to-face,' I don't see there being an argument for me to say that I don't find that acceptable."*

BGPaH GP

Of those that wanted a face-to-face appointment, over one in five (22%) were offered a video call first, and just under a quarter (24%) offered a telephone consultation. However, of those that wanted a face-to-face appointment, 73% were offered one.

**Travel times are relatively low for the majority of patients who require face-to-face consultations.** Half of patients (54%) travelled less than 25 minutes to get to their face-to-face appointment (25% spent less than 10 minutes, and 29% took 10-25 minutes) and 30% took between 25 to 45 minutes. However, 15% took longer than 45 minutes to travel to their appointment.

### **Symptom checker**

**Just over half of BGPaH patients (55%) have used the online symptom checker as part of the app.** It is therefore relatively popular among patients, though less so than a digital consultation. Qualitative interviews with patients showed that patients still favour speaking to a GP over using the symptom checker alone.

The use of the symptom checker has shown a reduction in overall rates of use by time since registration. This was reflected in the qualitative interviews; most patients described how they had used it when they first registered or when they first had a health problem, either out of curiosity or novelty, but would still prefer to speak to a GP rather than use this alone. Often, they were advised to speak to a GP, which they would have done anyway. The symptom checker was regarded less positively than video and telephone appointments. One patient said it was a bit of a 'gimmick', and another said it was 'generic'. There were some differences in the ages of patients making use of it, with two-thirds of those aged 16-24 having used it (66% compared with 55% overall).

*"I find a lot of the very younger patients use that more, but often, like, the more 30s onwards patients would prefer to book the appointment."*

BGPaH GP

Patients in the qualitative interviews suggested that they had used it at first out of curiosity and to test it out, and had not used it regularly since. They did not feel that it replaced the need for a consultation with a GP, and they would seek a second opinion in most cases anyway. GPs noted this point too, suggesting that a minority of patients they spoke to had used it, and if they had, they wanted to test out the advice provided.

*"I'm not getting the impression that everyone uses the symptom checker, I can put it that way, in a nutshell, and I think part of that is because the access to speak to a GP is quite good. If that was not so great then maybe more people would use it."*

BGPaH GP

GPs will see the conversation that the patient has had with the 'chatbot', and see that they have done what they have been advised to do (book an appointment). The tool itself follows up the following day with a "How are your symptoms today?" If the user taps the "Same" or "Worse", then it asks "Would you like to book an appointment?", and takes the user to the in-app booking screen if they wish to do so.

*"Most of the people have been directed to have a consultation, so they then book in, so, yes, they've done what they've been advised to do."*

BGPaH GP

*"Yes, I can see that patients have been to the AI and it might have said something but they're still consulting me shortly afterwards."*

BGPaH GP

## 2.2.2 How are digital services integrated with face-to-face services as part of the model?<sup>75</sup>

As outlined in Section 2.2.1 the majority of interactions with the service are digital consultations, with one outcome being a recommendation that the patient is seen face-to-face.<sup>76</sup> The face-to-face appointment will likely not be with the GP that provided the digital consultation.

GPs and patients differed in their assessments of how well the digital and face-to-face services were integrated with one another.

GPs were positive overall. They felt the support team was efficient in coordinating patient care, and bridging the gap between the digital and face-to-face element of the service. It is worth noting that, when accessing a patient's records, BGPaH GPs can also see their latest interactions with the service if they wish to, whether these are consultation notes or interactions with the symptom checker. However, views were mixed on whether being able to read those was helpful or not (both consultation notes or interactions with the symptom checker).

*"I don't find it particularly useful. I'd rather just take the history myself. (...) A lot of the time, it's like the 111 service. It's just algorithms. You don't really get a particular feel for a patient's history and their symptoms. I don't rely on it. I'd rather come to my own conclusions rather than being swayed by the app."*

BGPaH GP

*"It's quite useful, because you've already got some of the answers in front of you without having to work hard for it."*

BGPaH GP

Views from patients were more mixed, and the lack of integration between the appointment systems was a real issue for some. The fact that digital appointments are booked via the app whereas face-to-face appointments are booked by calling the support team was perceived by some as cumbersome. Certain patients also complained about the inability to book face-to-face appointments without having a digital appointment first in most cases. In addition, some patients contrasted the ease of booking a digital appointment with their experience of booking a

<sup>75</sup> This question is designed to explore how 'joined-up' the service is and what that means for patients (e.g. ease of booking a face-to-face consultation after a digital one) and GPs (e.g. ease with which GPs can access notes/details of video consultations when conducting a face-to-face consultation).

<sup>76</sup> Patients can also book these appointments directly by calling the support team in certain circumstances and do not need to have had a digital consultation first.

face-to-face appointment, noting that it was becoming increasingly difficult to access the support team or schedule an appointment, particularly if they wanted to see a specific GP or attend a specific clinic.

While patients agreed that face-to-face appointments felt pretty similar to what they experienced in their former GP practice, GPs felt they were more focused and productive as they didn't have to collect the full patient's medical history and could focus on finding a diagnosis.

### 2.2.3 What proportion of interactions are resolved at each stage of the process, and how does this vary by patient type?

Descriptive data on the outcomes of 'chats' with the online symptom checker show that the most popular outcomes were provision of an advice leaflet and referral to a GP. There were smaller numbers of outcomes where it was suggested that the patient should 'message a clinician', self-manage or go to hospital. No data were provided on the outcomes of any consultations. The qualitative interviews show that most patients were happy with the outcomes of their appointments, both digital and physical. Patients usually found that their health problem could be resolved via a digital appointment, and this was the case for different types of patients with different health problems, reflecting the particular demographic characteristics and clinical conditions common in this cohort (see below).

### 2.2.4 What are the overall patterns of use for BGPaH, and how do these compare to 'usual' general practice?

**The evidence suggests that BGPaH patients may be using the service more than would be expected given their age and health status.** Only very limited data were available on physical consultations, but when taken with virtual consultations, these indicate an overall rate of around 4.3 consultations per patient per year.<sup>77</sup> Comparison with national data shows that BGPaH patients have a higher rate of consultations per year than other similarly aged patients. A paper by Hobbs et al (2016)<sup>78</sup> reported national average consultation rates of 4.0 per patient per year for patients aged 25-44 year olds, and 3.26 for 15-24 year olds. This is to be expected to some extent because some patients will have registered with the service precisely because they had an active health problem for which they needed to seek care. Longer-term data would be needed to understand this further.

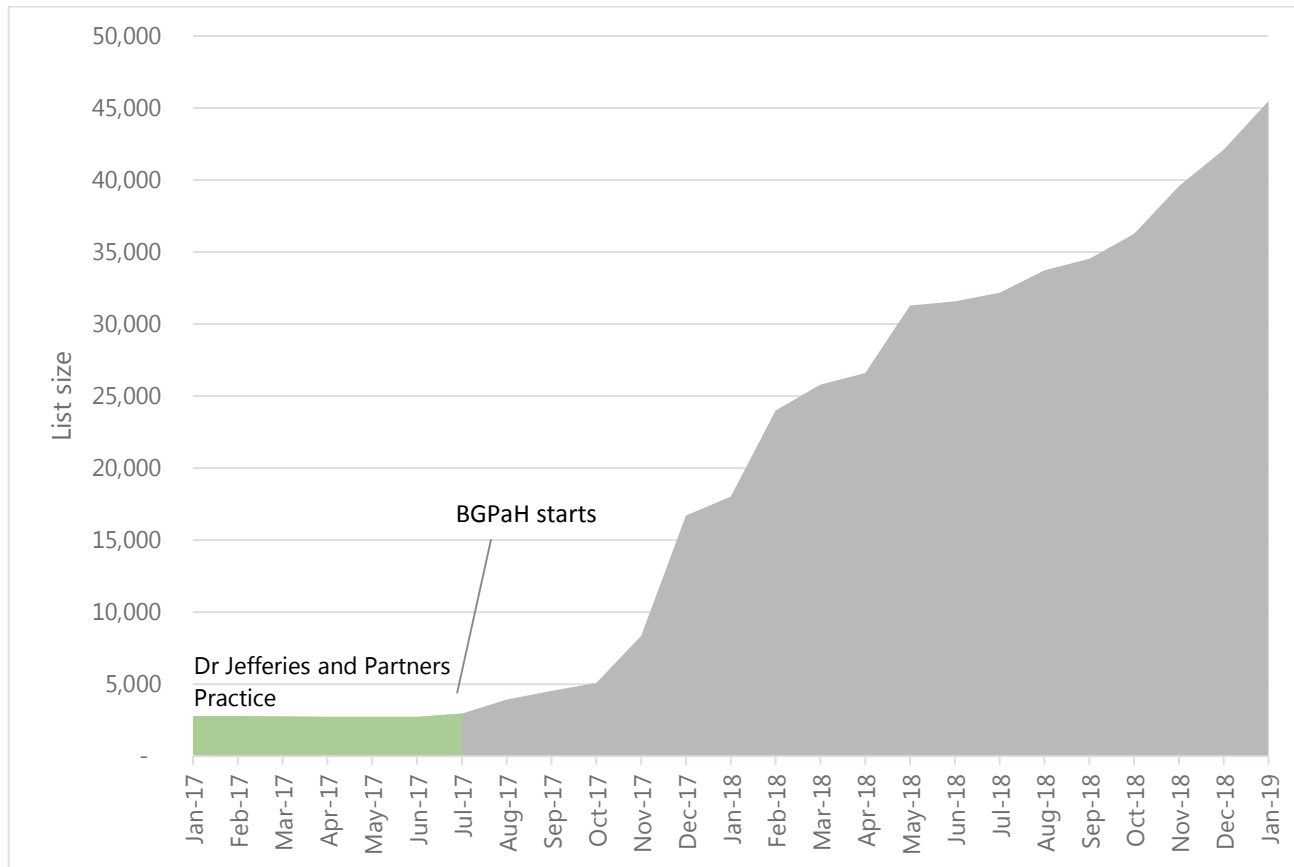
## 2.3 Patient characteristics

As shown in Figure 2.3, the number of people registering with BGPaH has grown rapidly since July 2017, with numbers reaching nearly 49,000 in April 2019. Around 500 - 1,000 patients have been registering a week over the recent months. Growth has been much more consistent, following periods of significant spikes in registration, linked in part to marketing activity. The rapid growth in list size is sustained despite high de-registration rates (which are discussed in more detail in Section 3.3).

---

<sup>77</sup> The consultation rate was estimated by taking the average monthly virtual consultation rate (0.30 per patient) for the 12 months of data received from Babylon and adding the monthly rate per patient for physical consultations (0.06 per patient) but this was only based on one month of data (October 2018). The monthly rate of 0.36 was extrapolated to a full year, giving an annual consultation rate of 4.32 per patient per year.

<sup>78</sup> Hobbs R et al. Clinical workload in UK primary care: a retrospective analysis of 100 million consultations in England, 2007-14. *Lancet* 2016; 387: 2023-30

**Figure 2.3: BGPaH list growth (July 2017 – January 2019)**

Source: NHS England

This section of the report explores the type of people that choose to register with BGPaH, how this differs from a 'usual' practice, and their reasons for joining. It draws on analysis from NHS England (using SystemOne data) and the patient survey. Where relevant, to understand how patients differ from a 'usual practice', data is compared with the patient population of Hammersmith and Fulham CCG, while survey results are compared with national results from the 2018 GP Patient Survey.

It shows that the profile of people accessing the service is comparatively young, affluent and healthy. They are people who are likely to actively seek help in relation to health issues. They have chosen to use the service for reasons of convenience, and they want access more quickly than they were receiving at their previous practices.

### 2.3.2 What are the characteristics of BGPaH patients, and how does this differ from a 'usual' practice?

#### Characteristics of BGPaH Patients: Demographics

**Patients registered with BGPaH are younger, and potentially more affluent than patients at the average practice in London and nationally.** The vast majority of BGPaH patients are aged under 45 (94%), with 81% of patients aged 20-39 years (compared with a London average of 35% aged 20-39). Just over half (52%) of patients are male, compared with 46% for the rest of the CCG. ACORN<sup>79</sup> geo-demographic categories show around two thirds of BGPaH patients live in areas with high proportions of relatively affluent categories, predominantly 'city

<sup>79</sup> Acorn is a segmentation tool which categorises the United Kingdom's population into demographic types: <https://acorn.caci.co.uk/>

sophisticates’ and ‘career climbers’. The patient survey results reflect this; those registered with BGPaH are likely to be educated to at least college level (86%), and are much more likely to be in full-time paid work (84%) than those registered at GP practices nationally (44%) – however this may be in part because of age differences.

Reflecting the fact that they are more likely to be young, working full-time, and living in London, **they are less likely to have caring responsibilities for other people**. For example, they are less likely to be a parent of a child under 16 living with them (eight per cent compared with 25% nationally). Those registered with BGPaH are also less likely to look after, or give help or support, to family, friends, neighbours or others (95% do not give support to others, compared with 83% nationally who do not give support).

### Characteristics of BGPaH Patients: Health

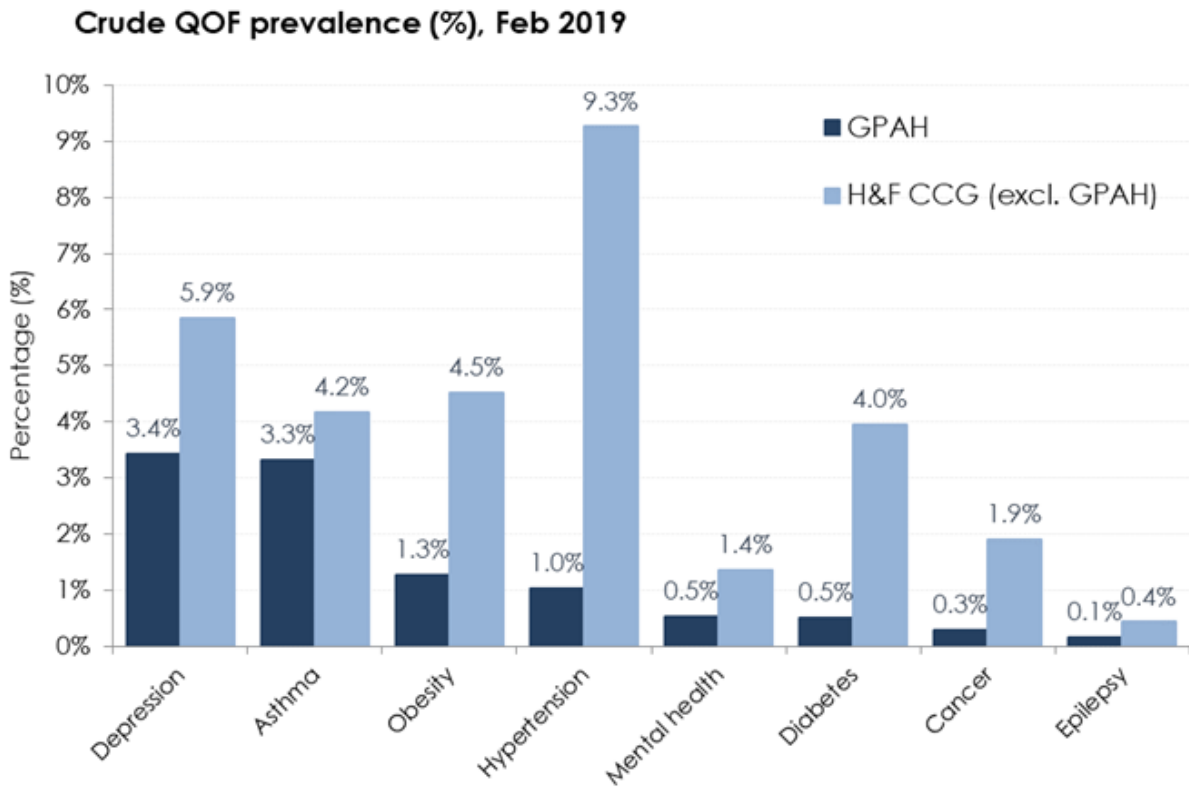
**Typically, BGPaH patients are healthier than those at other practices in the CCG, even after adjusting for age.** At the end of February 2019, 10% of BGPaH patients (registered since July 2017) aged 15 years and over were on at least one QOF disease register. This compares with an average of 23% patients on a disease register for other practices in Hammersmith and Fulham CCG.<sup>80</sup> The largest disease registers for BGPaH patients are depression, asthma and obesity. As would be expected, given the younger demographic of BGPaH patients, the percentage of patients on each of these registers is lower than London and England averages, and compared with other practices in the CCG, most notably for hypertension (as shown in Figure 2.4 below). After adjusting for age and sex, QOF prevalence rates remain below CCG averages, except for asthma which is higher than expected (as shown in Figure 2.4 below).<sup>81</sup>

---

<sup>80</sup> [https://www.lbhf.gov.uk/sites/default/files/section\\_attachments/borough-profile-2018.pdf](https://www.lbhf.gov.uk/sites/default/files/section_attachments/borough-profile-2018.pdf)

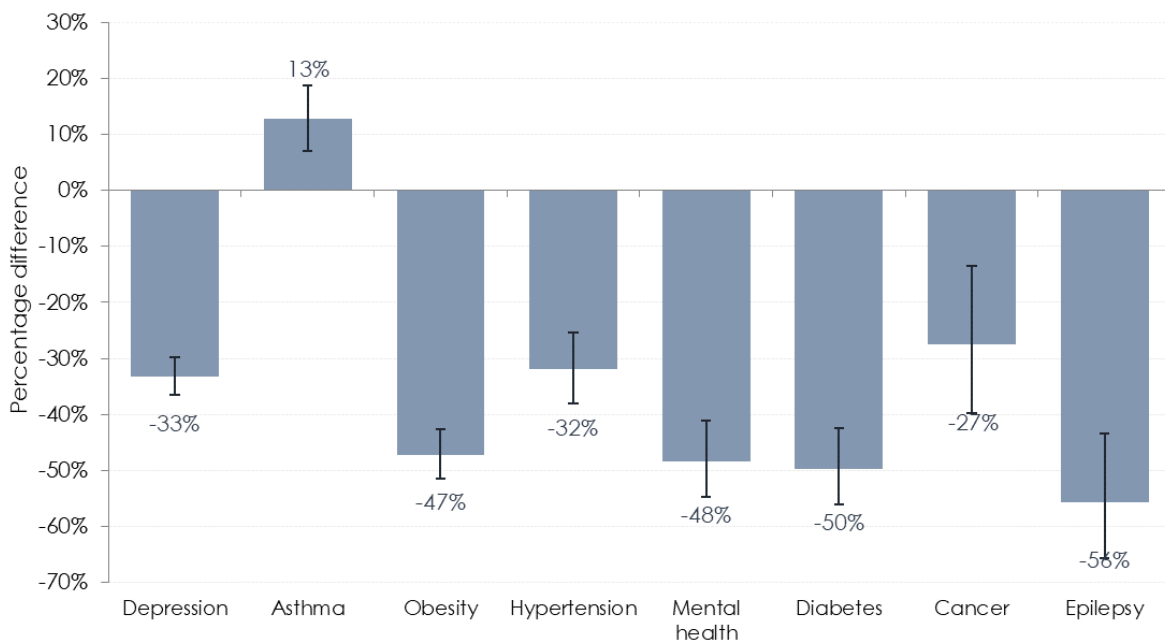
<sup>81</sup> All based on analysis by NHS England provided to the evaluation.

Figure 2.4: Crude QOF prevalence (%)



Source: NHS England

Figure 2.5: Actual versus expected QOF disease prevalence\* (with 95% confidence intervals)



\*adjusted for age and sex

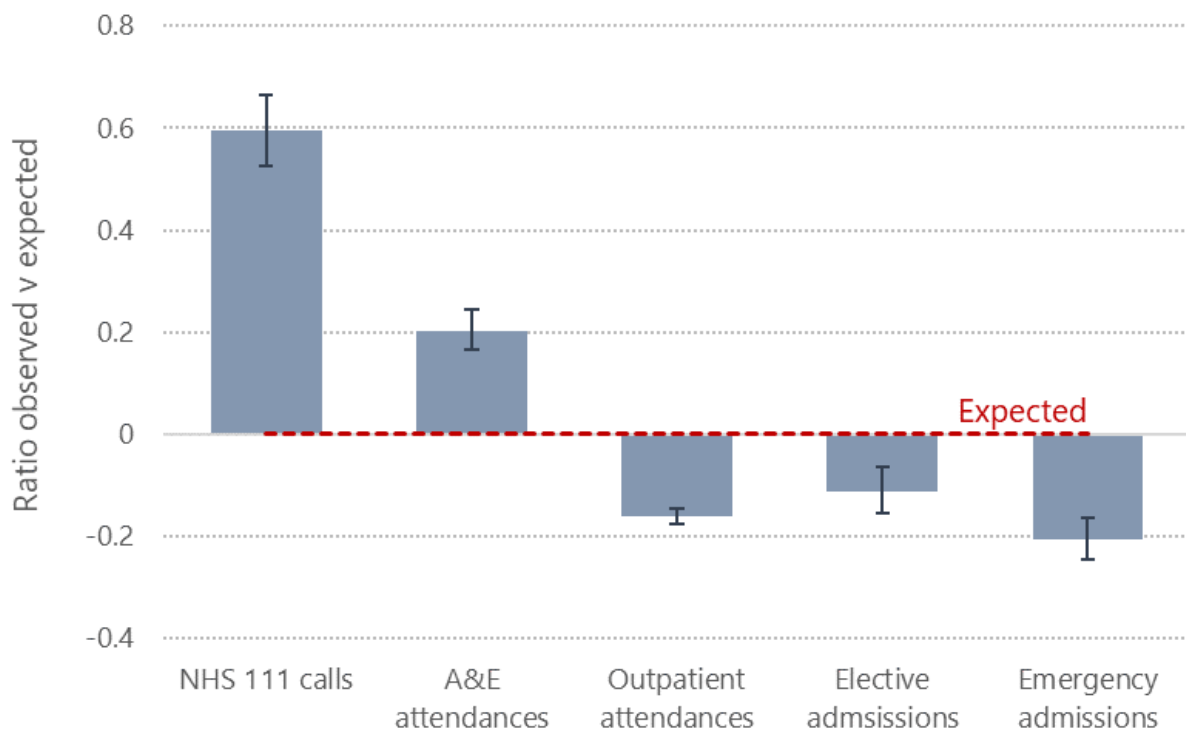
Source: NHS England



### Characteristics of GP at hand patients: Use of NHS services

**BGPaH patients are historically higher users of NHS 111 and A&E than might be expected.** NHS England used a cohort analysis approach to measure patients' use of NHS services 12 months before and after their registration with BGPaH.<sup>82</sup> In the year before registering with BGPaH, patients had a higher use of NHS 111 and A&E than might be expected given their age and health. This suggests that those registering with BGPaH are more likely to access health advice over the phone and seek prompt health treatment than a similar population of patients registering with other London GP practices. Before registering with the practice, BGPaH patients had a lower rate of outpatient appointments and hospital admissions than a similar London population, indicating a relatively healthy population with lower rates of serious illness or long-term health conditions than patients registering with other London practices (as shown in Figure 2.6).

**Figure 2.6: Actual versus expected use of NHS 111 and hospital services for 12 months before joining BGPaH**



\*adjusted for age and sex

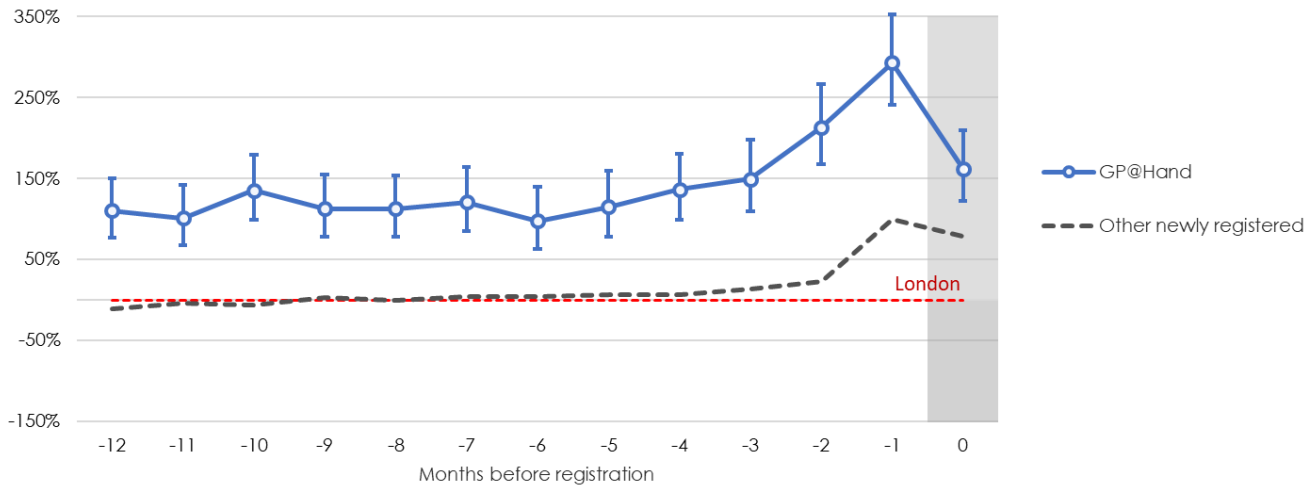
Source: NHS England

Comparing BGPaH patients' use of NHS 111 and A&E against average London rates (rather than a population of newly registered patients) highlights that rates increase just before registering with the practice. This suggests BGPaH registrations are, at least in part, prompted by a health need. This spike in health service activity is not unique to BGPaH as increases are also seen for patients registering with other London GP practices. See Figures 2.7 and 2.8. Understanding this increase in health service activity around the time of registration highlights the

<sup>82</sup> The cohort time series approach tracked BGPaH patients' use of NHS 111 and hospital services for the 12 months before and after registering with BGPaH. For each month, age and sex standardised comparisons of health service activity rates were made between BGPaH patients' and a similar population of newly registered patients in London. Further details on methodology and results are shown in the Annexes

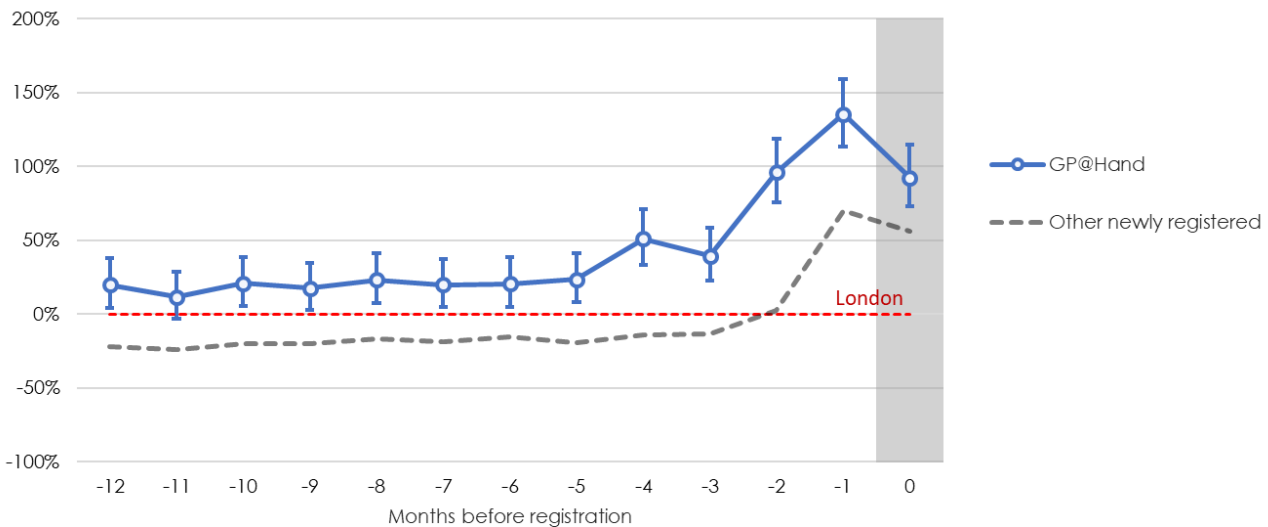
importance of using an appropriate comparator population when assessing trends in NHS 111 and A&E use post-registration.

**Figure 2.7: BGPaH NHS 111 call rates compared to London average pre-registration**



Source: NHS England

**Figure 2.8: BGPaH A&E attendance rates compared to London average pre-registration**



Source: NHS England

**BGPaH patients also want to see or speak to a GP quickly, and are proactive about seeking information and advice.** The patient survey shows that almost three quarters of patients (72%) wanted an appointment on the same day as contacting their practice, compared with less than half of patients (43%) nationally. They are also more likely to seek information and advice elsewhere before booking an appointment. For example, nearly two thirds of BGPaH patients (63%) said that they looked for help online before they booked an appointment. This compares with only 33% of patients nationally who looked online first for help. Only one in five of BGPaH patients (18%) said they didn't do anything before booking an appointment, compared with almost two in five of patients (36%) nationally.

### 2.3.3 Who is not accessing the BGPaH service? Why? Are there potential implications for health inequalities and health inequities?

Given the profile of those accessing the service, it can be inferred that **the service is not being used by large numbers of older people, or people with more complex health needs**. In addition, given the nature of the service, people with no access to a smartphone or who are not comfortable using a smartphone are less likely to use it.

The low numbers of patients with complex needs is likely to be linked in part to the cautionary note for potential patients which was removed from the BGPaH website in November 2018, and the current advice that patients who may need to attend face-to-face appointments more frequently must be willing and able to travel to one of the clinics. It is clear that patients with complex needs are not yet using the service in great numbers. GPs taking part in the qualitative interviews explained that patients with very severe health conditions may potentially be advised to de-register from the practice. Some GPs said that they had discussed the suitability of the service with their patients.

Patients may be less likely to use the service if they need regular face-to-face appointments, either choosing not to register, or subsequently de-registering. The qualitative interviews with GPs at BGPaH strongly supported this; they noted that patients needing regular face-to-face appointments may even need to attend different clinics on different days, due to the limited number of appointments available at each one.

*"Sometimes I hear it's because they physically want someone near to them, and with us, you know, it's no secret. Like, they're told from the beginning that the system is geared towards accessibility rather than continuity, and geographically there are only five clinics face-to-face if you need that service. So, some patients, you know, if they're very, very complex say, 'Actually, no. I need to have that face-to-face. I need them to be near to me. I don't want to have to travel.' So, they de-register for that reason."*

BGPaH GP

*" [Talking about a patient who was advised to de-register from BGPaH] He'd had an operation. Part of the recovery for that was that he needed daily dressings. So, I mean, we could offer him nurse dressings but it was not going to be very convenient to him, so he would have had to go to five different clinics on different days to get dressings done. So, it was suggested to him that he might be best suited temporarily to go to a local GP. Yes. I would think he'd probably be back to us after that."*

BGPaH GP

### 2.3.4 What are the reasons for patients registering with BGPaH (including how they became aware of BGPaH), and how does this differ across patient types (conditions/demographics)?

Patients were motivated to register for BGPaH for reasons of **convenience and access**, having seen adverts for it (most frequently on public transport). For example, the patient survey showed that the top reasons for joining BGPaH were:

- they wanted to speak to a GP more quickly than they could at other practices (79%);
- they wanted to be able to speak to a GP without taking time off work (75%); and
- they wanted to be able to speak to a GP whenever it suited them, without having to visit a practice (66%).

The qualitative interviews supported this. Many of the patients said they had **difficulty accessing** a GP appointment at their previous GP practice. Some found the experience of sitting in a GP waiting room unpleasant

and preferred speaking to a GP in the comfort of their own home. Others also preferred the idea of not having to actually see a GP face-to-face, and felt more comfortable discussing their health issues over the telephone.

*"Poor service got from GP before, the wait times annoying, difficult to get appointments, travel up and down country a lot access a GP from anywhere, so it was a simple decision."*

BGPaH Patient

Access to a GP was regarded as more important than all other considerations, and in most cases, this was a result of perceived poor access at their previous practice. This was particularly the case for patients who felt they wouldn't need many face-to-face appointments. One patient went as far as to say they would accept a lower quality of care if it meant easier access to a GP.

*"I thought [it would] still be easier even if [the] quality [was] not as great, at least [I would] get some help."*

BGPaH Patient

Convenience and easier access to GPs were the main reasons for joining BGPaH **regardless of differences in patient demographics**. However, those with breathing conditions such as asthma were more likely to want to have access straight away compared with those with other types of long-term conditions. For example, 84% of those with breathing conditions wanted to speak to a GP more quickly than they could by making a face-to-face appointment, compared with 78% of those with other types of conditions.

As noted earlier, NHS England analysis shows that there is a peak in usage of NHS 111 and A&E in the months immediately prior to registering with BGPaH. This suggests that the decision to join may be prompted for some by a specific health need, and the speed of access is particularly attractive for them.

### How patients heard about the service

The main way that patients heard about BGPaH was through advertisements on London public transport (46%). Other ways were through Facebook, and by being recommended by others (20%). The qualitative interviews also reflected this. Many patients said that they had noticed advertisements mainly on the London tube and on Facebook and/or Instagram. Some patients mentioned that they had been recommended by a friend, and that their friends had told them that they were able to get an appointment quickly and they would have not had to 'waste time' going to the actual GP.

On seeing the service advertised, or having heard about it from a friend, patients explained that it did not take long to research further into what BGPaH was, and that once they had the information they needed it was a very easy decision for them to register. One patient said that when they saw it advertised they thought it seemed well designed to meet the needs of people in London.

*"I can only get doctors' appointments on weekdays during office hours so I couldn't register with the doctors. So I thought this was the best idea I've ever seen."*

BGPaH Patient

## 2.4 BGPaH workforce characteristics

This section of the report addresses evaluation questions about the structure of the BGPaH workforce, their experience and working practices and what attracted them to the job. It draws on data provided by BGPaH, and qualitative interviews with BGPaH staff.

It shows that the model is delivered by a relatively large, flexible workforce, the majority of whom work part-time for BGPaH at home. This is supplemented by a bank of locums in order to flex resource as needed so that appointments can usually be provided within two hours. GPs were attracted to the job because it was seen to offer a better work-life balance than traditional practice, and for the chance to work in an innovative service.

#### 2.4.1 How is the GP at hand workforce structured? What is the breakdown of different professions? What is their level of experience? Where did they work previously? Do BGPaH GPs work at other practices at the same time?

As of February 2019, the workforce consisted of 124 'active' GPs, with nurses, pharmacists and support staff also employed in the service. Overall, BGPaH GPs tend to be younger and are therefore likely to be less experienced than the general GP workforce. The majority of GPs work exclusively remotely from home one to two days per week, whilst also working somewhere else, often as locum GPs.

**Workforce structure:** Management information provided to the evaluation shows that as of February 2019, BGPaH employed 124 'active' GPs (i.e. GPs who had worked at least one shift in last three months and were not on extended leave). BGPaH also employs nurses and pharmacists, although their exact numbers haven't been provided to the evaluation. While the majority of appointments are with GPs (87% of patients said their last appointment was with a GP), the use of nurses in face-to-face appointments appears to be increasing over time; Babylon data shows that 34% of all physical appointments were with a nurse in Oct 2018. The patient survey shows that eight per cent of patients saw or spoke to a nurse at their last appointment, while the proportion was one per cent each for a pharmacist, mental health professional and other professional. BGPaH are also in the process of recruiting Healthcare Support Workers/Healthcare Assistants.

**Length of time as a GP:** As shown in Table 2.1, a third of GPs (34%) employed by Babylon have worked for less than five years as a GP, less than two thirds (61%) between five and 15 years, and only five per cent more than 15 years.

**Table 2.1: BGPaH GPs, length of time as a GP**

Length of time as GP	N	%
< 5 years	42	34%
5 – 15 years	76	61%
> 15 years	6	5%
<b>Total</b>	<b>124</b>	<b>100%</b>

Base: 124

Source: BGPaH workforce data

**Age and Gender:** The BGPaH GP workforce is predominantly female – more than two thirds of GPs are women (see Table 2.2). Over two in five (44%) of BGPaH's GPs are women aged between 30 and 39.

**Table 2.2: BGPaH GPs and General Medical Practitioners Headcount by gender**

Gender	BGPaH GP workforce*	All GPs**
Male	31%	49%
Female	69%	51%

\*Base: 119 (February 2019)

\*\*Base: 44,396 (December 2018)

\*Source: BGPaH workforce data

\*\*Source: NHS Digital (General Practice Workforce England)

**Table 2.3: BGPaH GPs Headcount by age and gender**

Age	Female		Male		Total	
Under 35	16	13%	9	8%	25	21%
35 - 39	32	27%	18	15%	50	42%
40 - 44	20	17%	5	4%	25	21%
45 - 49	10	8%	3	3%	13	11%
50 and over	5	4%	1	1%	6	5%
<b>Total</b>	<b>83</b>	<b>70%</b>	<b>36</b>	<b>30%</b>	<b>119</b>	<b>100%</b>

Base: 119 (February 2019)

Source: BGPaH workforce data

Overall, BGPaH GPs tend to be younger, and therefore may be less experienced than the general GP workforce (see Table 2.4). Evidence would be needed to explore whether this has any impact on the quality of care provided and/or the training and development needs for models with this profile of workforce.

**Table 2.4: BGPaH GPs, General Medical Practitioners Headcount by age band**

Age	BGPaH GP workforce*		All GPs**	
Under 35	25	21%	9,320	21%
35 – 39	50	42%	7,249	17%
40 – 44	25	21%	6,875	16%
45 – 49	13	11%	5,932	14%
50 and over	6	5%	13,775	32%
<b>Total</b>	<b>119</b>	<b>100%</b>	<b>43,151</b>	<b>100%</b>

\*Base: 119 (February 2019)

\*\* Base: 43,151 (December 2018)

\*Source: BGPaH workforce data

\*\*Source: NHS digital (General Practice Workforce England)

**Work Location:** GPs carrying out digital consultations can work from home (anywhere in the country) or from a physical hub location in central London. Currently, as shown in Table 2.5, six GPs use the hub to review cases and conduct digital consultations. A total of 14 GPs conduct face-to-face consultations at one of the BGPaH five clinics, while also carrying out digital consultations at home or from the hub. The majority of GPs employed by BGPaH only work remotely (89%).

**Table 2.5: BGPaH GPs, work location and gender**

Work location	Female		Male		Total	
<b>Hub / Remote / Clinic</b>	4	3%	2	2%	6	<b>5%</b>
<b>Remote</b>	79	64%	31	25%	110	<b>89%</b>
<b>Remote / Clinic</b>	4	3%	4	3%	8	<b>6%</b>
<b>Total</b>	<b>87</b>	<b>70%</b>	<b>37</b>	<b>30%</b>	<b>124</b>	<b>100%</b>

Base: 124 (February 2019)

Source: BGPaH workforce data

**Working patterns and shift type:** BGPaH GPs are not required to tell Babylon about work they do at other practices. However, anecdotally, it is thought that a very high proportion of the remote GPs do work elsewhere as well. All but one of the GPs that took part in the qualitative interviews worked elsewhere, and were keen to maintain a 'portfolio' career.

BGPaH GPs are employed by Babylon, and consult Babylon private patients as well as BGPaH patients within the same shift, though the GPs interviewed noted that these private consultations account for only a small proportion of their total workload. This arrangement (along with the funding model) makes it difficult to assess the resource implications of the model. A breakdown of BGPaH GPs' working patterns are shown in Table 2.6 below.

**Table 2.6: BGPaH GPs, working patterns**

Working pattern (hours)	Number of GPs	Percentage
<b>Less than 8</b>	5	4%
<b>8 to 16</b>	73	59%
<b>16 to 24</b>	9	7%
<b>24 to 50</b>	9	7%
<b>Unknown</b>	28	23%
<b>Total</b>	124	100%

Base: 124 (February 2019)

Source: BGPaH workforce data

The majority of GPs employed by Babylon only work remotely (89%), and tend to work part-time for them, with most of them working between 8 and 16 hours per week. Hub and clinic GPs are more likely to be full time or have Babylon as a sole employer.

Nearly half of BGPaH GPs only work core hours (as shown in Table 2.7 below).

**Table 2.7: BGPaH GPs, shift type headcount by gender**

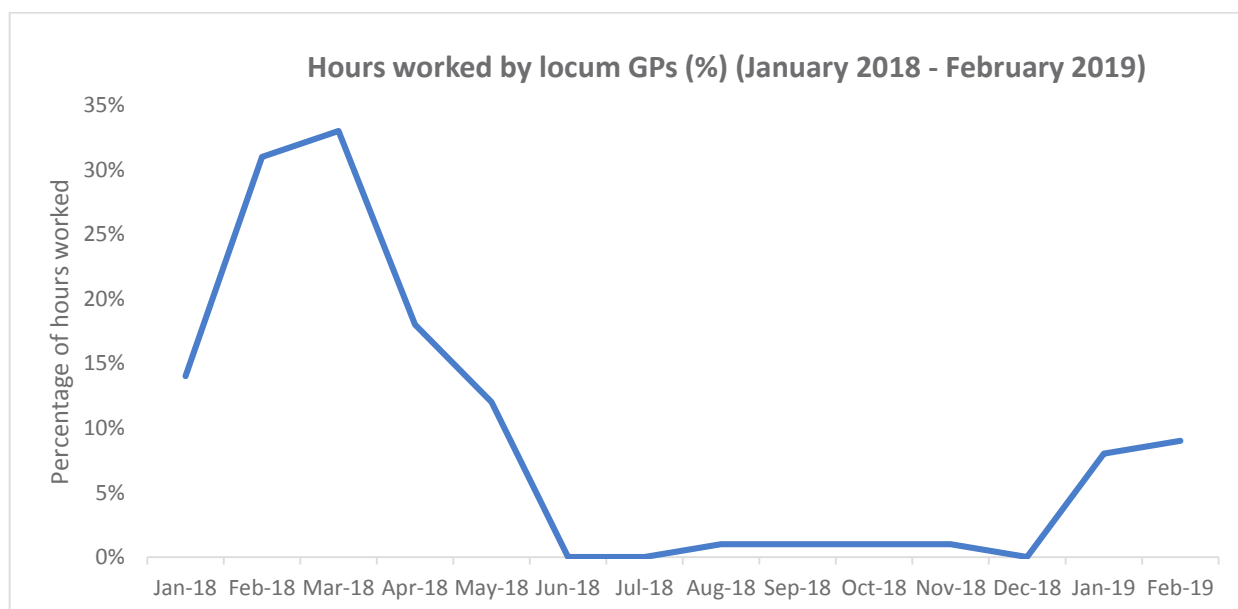
Shift type	Female		Male		Total	
<b>Core hours only</b>	34	27%	12	10%	46	37%
<b>Mix in / out of hours</b>	25	20%	11	9%	36	29%
<b>Out of hours</b>	11	9%	4	3%	15	12%
<b>Unknown</b>	17	14%	10	8%	27	22%
<b>Total</b>	87	70%	37	30%	124	100%

Base: 124 (February 2019)

Source: BGPaH workforce data

**Use of locums:** Babylon have recently moved from a significant proportion of GPs being locums to the vast majority of appointments being carried out by salaried Babylon GPs (see Figure 2.9). It is too soon to have annual turnover data (to remove seasonality effects), but they have confirmed they have seen a substantial reduction in overall turnover as a result.

A year ago, locums worked approximately a third of the total doctor hours, but this figure steadily declined to 0-1% of total hours at the end of 2018. Babylon retains a bank of locum GPs to manage unexpected demand or capacity fluctuations and so ensure the very short time to appointment that their members expect. An example of this is in the 8-9% locum proportion at the start of 2019. As the BGPaH patient list grows, notably outside of London with the service expanding to Birmingham, this may have implications for Babylon's use of locum GPs.

**Figure 2.9: Percentage of hours worked by locum GPs between January 2018 and February 2019**

Source: BGPaH workforce data

#### 2.4.2 What attracted GPs to BGPaH? How does this differ to the wider primary care workforce?

There were two main factors that attracted GPs to working at BGPaH:



- a belief that they would achieve a **better work-life balance** through flexible working (including working at home) and lighter workloads, without management and financial responsibilities; and
- the opportunity to work in an **innovative service**.

**BGPaH GPs expressed frustrations about working in traditional general practice, particularly linked to long hours and increasing workloads.** The poor work-life balance they experienced in their former role(s) was often at the core of their decision to join the BGPaH service. Most of the BGPaH GPs interviewed were not actively looking for another job. They heard about Babylon through word of mouth from colleagues, or came across the company on Facebook, then decided to apply. However, a few were actively looking, and mentioned Babylon's recruitment efforts through showcase events, and use of recruitment agencies.

When prompted on what attracted them to apply for their current role, BGPaH GPs listed a range of push and pull factors. Participants were especially keen to talk about the difficulties of working as a GP full-time, and questioned whether the traditional partnership model of general practice provision was sustainable in the long-term. Some GPs talked at length about their increasing workloads which they thought unmanageable, and how they had to work long hours with no break. Overall, they felt that working for Babylon, thanks to its flexible working policy, could lead to a better work-life balance.

*"I was dissatisfied with my practice that I'd been at. I'd been there three and a half years (...) I felt underappreciated. I felt overworked and under-remunerated for the services that I gave in my own time, whereas all of those things were a bit different. The ethos here is very, very different."*

BGPaH GP

*"I was previously a full-time GP in a traditional practice, and because of the pressures on the NHS, the job was getting harder and harder, and so I just wanted to alter slightly my work-life balance. When I work in my own practice, I work from 7:30 until about 8:30, 9:30 at night. So, I was looking for something that would give me, you know, more home life."*

BGPaH GP

GPs working remotely said that one of the main attractions of working for Babylon was the possibility to be based at home, and avoid a long commute to work. This was especially important for GPs doing locum shifts, which often involved travelling long distances.

Working for Babylon also appeared as an attractive alternative option to working as a partner GP, as the role is primarily devoid of management and financial responsibilities.

*"I'm in a practice where my partner is retiring. We've been advertising for two and a half years for someone to come and join. Nobody is joining (...) if I'm the last man standing, I'm responsible for 32 members of staff who work for me, and they may lose their jobs. You know, can you imagine what that must feel like? I don't have that with Babylon and GP at hand. I have none of that to worry about."*

BGPaH GP

Other reasons for joining included wanting to work for a new, innovative and 'exciting' service. Some also applied because they sought to work in different roles, fulfilling their need for variety that typically attracted them into general practice in the first place.

*"I felt also that it was nice to be part of the service that's quite new, and some of the experience that I had from a management and academic perspective I thought could be quite helpful in terms of seeing how the service develops, how is it being evaluated."*

BGPaH GP

*"I thought it'd help to break up the week in terms of it's a different consulting style and a different experience with patients."*

BGPaH GP

Linked to the point above, being able to work both for BGPaH and for other more 'traditional' practices (as discussed in Section 2.5) also meant participants felt they had a varied workload – a key determinant of job satisfaction.<sup>83</sup>

When explicitly asked about whether the benefits package offered by Babylon was a driver to choosing to work for them, BGPaH GPs were keen to stress that this was far from being the most important factor.

---

<sup>83</sup> Gibson J, Sutton M, Spooner S, Checkland K. Ninth National GP Worklife Survey 2017. PRUComm.

## 3 Outcomes and impacts

### 3.1 Introduction

This chapter explores the outcomes and impacts of the model, such as patient and workforce experience, Babylon GP at hand (BGPaH)'s outcomes, and wider financial impacts. The evaluation is testing a set of basic outcomes that may be causally linked. For example, it has considered the extent to which it is meeting the needs of patients, particularly focusing on a suggestion that it may be more or less appropriate for some patient types. There have also been questions raised about the impact of the model on the workforce, particularly around recruitment and retention, and the ways in which it might affect their working relationships. Finally, there have been a number of claims raised about the potential financial impact of the model on the wider health system.

### 3.2 Patient experience

This section of the report addresses detailed evaluation questions about user satisfaction with BGPaH and how that compares with patients of other practices. First, it draws on evidence from the patient SURVEY and qualitative interviews as part of the case study to discuss overall satisfaction and drivers of satisfaction. It then moves on to make comparisons with a matched sample from the GP Patient Survey (GPPS). This involved selecting individuals from the GPPS sample who were most similar to individuals in the BGPaH sample, based on the demographic characteristics of the respondents. The result was a sample of GPPS respondents with a demographic profile that matched that of the BGPaH sample.<sup>84</sup>

Overall, users were satisfied with the service, and more satisfied than other patients were with their own practices. Although there were some areas of dissatisfaction, patients appeared to 'weigh up' the advantages and disadvantages of the service to make an informed and considered choice about using it.

#### 3.2.1 What are the levels of satisfaction of users of BGPaH?

**The majority of patients were positive about their overall experience of BGPaH, with 85% rating their overall experience as 'good' (58% 'very good').** Satisfaction appeared to be driven primarily by the convenience of the service for its users, and the ease with which they can book appointments. However, satisfaction was lower in relation to face-to-face appointments. Patients were also positive about the quality of care provided across a range of measures, though again were less positive about face-to-face appointments.

#### Convenience and access

**Patients particularly valued the convenience that BGPaH offers.** When asked to think about the main advantages of using BGPaH, patients most frequently mentioned its convenience in one form or another. For example, 16% of patients in the survey simply stated that it was convenient for them, while 15% pointed to the fact that they don't need to take time off work for an appointment, and 11% that there is no need to travel to an appointment. These themes were echoed in qualitative interviews, and patients noted that the ease of access to appointments gave them 'peace of mind' as they knew they would be able to speak to a healthcare professional if they needed to.

---

<sup>84</sup> Full details of the analysis approach are contained in the Annexes.

Patients also referred to negative experiences of booking appointments in their previous practices (10% mentioned this in the survey). In qualitative interviews, patients talked about no longer needing to sit in a waiting room, call the GP practice at specific times to try to book an appointment, or have long waiting times to speak to a GP.

*“As an office worker, I would have had to take time off to see a GP. With BGPaH, this saves me time because I can be seen and advised any time. Also, most of the time I would just have a simple question regarding some symptoms that were probably not very serious, thus didn't quite 'justify' the time spent travelling to the GP, waiting at the GP, and being seen by the GP.”*

BGPaH Patient

*“I thought there was a need on my part to seek support. I would never have made an effort to see a GP - too much effort to leave work, make appointment and plan around it. Having phone consultations makes things a lot easier - convenience, evening weekends, not having to miss work or having to trek to where GP is.”*

BGPaH Patient

Similarly, patients were positive about their experience of making an appointment. Almost nine in ten patients stated their experience of making an appointment was 'good' (89%), with 66% stating it was 'very good'. When asked about the main advantages of the service, 25% of patients valued that appointments were available quickly, and 14% valued that appointments were available on the same day or at short notice.

**However, patients were less positive about the convenience of, and access to, face-to-face appointments.**

When asked to think about the main disadvantage of using BGPaH, 15% of patients felt there were too few clinic locations and that they needed to travel too far for a face-to-face appointment as a result. Qualitative interviews revealed that this inconvenience was preventing some patients from attending face-to-face appointments (as noted in Section 2.3.2). On the other hand, some patients understood this at the time of registering, but felt they would not require a physical appointment very often. They 'weighed up' the advantages and disadvantages of this, and felt that BGPaH provided a service that fit their own needs.

*“When I joined, the consideration of face-to-face was not as much of a priority. I understood I may have to travel up to 45 mins, and knew it would be further than my current GP but the trade-off was in my favour.”*

BGPaH Patient

In addition to dissatisfaction with travelling to face-to-face appointments, patients were less satisfied with their experience of booking a face-to-face appointment, compared with those booking a digital appointment (82% stated the experience was 'good' compared to 92%). Similarly, when asked about the main disadvantages of the BGPaH service, 11% mentioned the difficulty of getting a face-to-face appointment.

This perception was echoed in qualitative interviews. Of those who were dissatisfied with booking face-to-face appointments this was typically related to speed of access, to both the support team and the appointment itself. Other reasons included the inability to book face-to-face appointments without having a digital appointment first, and the lack of integration between the appointment systems. For example, digital appointments are booked via the app whereas face-to-face appointments are booked by calling the support team.

*“App experience great for arranging telephone or video consultation but when referred for a face-to-face examination it was a nightmare getting an appointment! No convenient times outside of working hours during the week. Had to wait ages to get something that would work for me.”*

BGPaH Patient

Many patients were dissatisfied with waiting times at their previous GP practice, and some acknowledged that waiting times for physical appointments at BGPaH were similar. Other patients noted that it was previously easy to book face-to-face appointments, but it was becoming increasingly difficult to access the support team or schedule an appointment, particularly if they wanted to see a specific GP or attend a specific clinic.

## Perceptions of access and convenience in other digital-first models

**Anecdotal evidence shows that both eConsult and Push Doctor patients highly rate the quick access to medical advice, and convenience provided by both services. Similarly to BGPaH patients, the patients interviewed were keen to talk about the flexibility provided by the models.**

**Patients strongly felt that the system fitted around their lifestyles. The asynchronous nature of the eConsult service, where patients and GPs can send and respond to messages in their own time rather than needing to 'attend' a specific appointment time, allowed them to fill the form wherever and whenever they wanted.**

## Quality of care

**Patients were satisfied with the quality of care experienced, and the majority thought it was better than their previous GP practice.** Nine in ten patients thought the healthcare professional was 'good' at treating them with care and concern (87%), with 61% stating they were 'very good'. In addition, 93% had confidence and trust in the healthcare professional. These measures did not differ significantly by appointment type. Seven in ten patients said the quality of care they receive at BGPaH was better than their previous GP practice (72%), with 52% saying it was much better. This result will be explained to some extent by the fact that some patients joined BGPaH because they were dissatisfied with their previous practice. It is also important to note that BGPaH patients are likely comparing their experience with traditional practice (as in qualitative interviews the majority said their previous GP didn't offer video or telephone services).

Almost nine in ten patients felt the healthcare professional was 'good' at giving them enough time (88%), with 61% stating 'very good'. This was also reflected in qualitative interviews, with patients noting that the GPs seemed less 'stressed' and had more time to speak to them. Interviews with BGPaH healthcare professionals echoed this sentiment, with GPs appreciating the time they were given between sessions to complete administrative work, meaning appointments felt less rushed (discussed further in Section 3.4.5).

*"The couple of times I have been to a GP surgery, I really got the feeling they couldn't get you out fast enough, and weren't really interested in whatever it was that you were trying to explain to them, and that was my experience with proper orthodox GP surgeries. But that's not the case with BGPaH, the doctors you speak to seem actually quite interested in helping and don't seem under any pressure to get rid of you."*

BGPaH Patient

Some GPs noted the fact that they tended to only deal with one presenting complaint in a consultation, contrasting this with their consultations in other practices where they deal with other issues at the same time (e.g. multiple health issues, reviewing prescriptions, or giving advice on a healthy lifestyle). They suggested this could be due to the easier access provided by the service, which meant that patients were less likely to 'store up' issues. This may lead the patient to feel that they are receiving more time from the GP within each appointment.

In addition, 90% of patients felt the healthcare professional was 'good' at listening to them, with 63% stating 'very good'. In qualitative interviews, patients thought it was easier to talk about some issues over the phone, primarily because it feels less personal but also because they were in the comfort of their own home.

*“There are certain things I'd feel more comfortable talking about on the phone because it's not so personal.”*

#### BGPaH Patient

However, satisfaction differed for the type of appointment, with 82% saying the healthcare professional was ‘good’ at giving them enough time during face-to-face appointments compared with 90% of digital appointments (i.e. telephone or video appointments). Similarly, 85% of patients stated the healthcare professional was good at listening to them for face-to-face appointments, compared with 92% for digital appointments. In qualitative interviews with GPs, some mentioned that digital appointments provide an opportunity to take clinical notes without appearing ‘rude’. Patients may perceive this as being more attentive in digital appointments, which may explain the difference in satisfaction. One GP noted that digital appointments provided an opportunity to give full attention to patients, as using just one sense meant it was possible to ‘really listen’.

**Table 3.1: Experience of BGPaH patients across a range of survey measures**

	% very good	% fairly good	% neither good nor poor	% fairly poor	% very poor
A. Overall	58	27	6	5	3
B. Making an appointment	66	23	5	4	3
	% very good	% good	% neither good nor poor	% poor	% very poor
C. Listening to them	63	26	5	3	1
D. Giving them enough time	61	27	7	2	2
E. Treating them with care and concern	61	26	8	3	2

Base: All patients who responded to this question: A (1,452). All participants who have tried to make an appointment at BGPaH and responded to this question: B (1,348). All participants who had a general practice appointment and responded to this question: C, D, E (1,277). 12<sup>th</sup> November 2018 – 4<sup>th</sup> March 2019

Source: Ipsos MORI, based on BGPaH patient survey data

**Some patients felt administrative issues and lack of continuity decreased their satisfaction with the quality of care.** Around one in ten patients felt the quality of care at BGPaH was worse than their previous GP practice (11%). Possible reasons for this were explored in qualitative interviews. Some patients mentioned the quality of care was lower when it came to referrals, tests or prescriptions, due to administrative issues; for example, not being able to provide urine samples easily following a digital appointment,<sup>85</sup> chasing up prescriptions with pharmacies, referrals not being processed or sent to the correct hospitals. Patients felt these issues decreased their overall satisfaction with the service, but they valued the convenience of digital appointments and felt this advantage outweighed administrative problems. It is also worth noting that poor administration was only raised as a disadvantage by five per cent of patients in the survey, and problems with prescriptions were mentioned by five per cent of them; it is not clear to what extent this is a bigger issue than in any other practice.

<sup>85</sup> Patients can be sent urine sample bottles in the post following a digital appointment, and then drop it in to a BGPaH clinic, or they can book a face-to-face appointment.

*“In the part that worked, getting an appointment to see someone, it was much better. But after that much worse. With my local GP I would get a referral letter or blood test there and then, and things would happen quite quickly. Whereas with this process it was initially quick and after that nothing has worked.”*

BGPaH Patient

In the survey, 16% of patients mentioned the lack of continuity of care as a disadvantage (discussed further in Section 3.2.5). This was also raised in qualitative interviews, where patients felt the lack of consistency meant they had to repeat themselves, and that GPs could be better prepared by reading their notes in advance of the appointment.

*“The lack of consistency between the GPs is not ideal as you have to keep on repeating your symptoms to them and they all record them differently. It would be helpful if GPs could be better prepared.”*

BGPaH Patient

In qualitative interviews with GPs, there were some contrasting views on this. One GP noted that consultations are reliant on the quality of notes taken in the previous appointment, and if the notes are poor this can create an issue for the patient as they will need to repeat themselves.

### **3.2.2 How do levels of satisfaction compare to non-users of BGPaH (defined as patients using other practices)?**

**Patients of BGPaH were more satisfied with the service than a matched sample of GPPS patients on a number of measures;** for example, BGPaH patients were:

- more likely to state they had a ‘good’ overall experience compared to GPPS patients (an 11-percentage point difference), and less likely to state they had a ‘poor’ overall experience (a three-percentage point difference).
- more likely to state they had a ‘good’ overall experience of making an appointment (a 26-percentage point difference), and less likely to state they had a ‘poor’ overall experience (a 13-percentage point difference).
- more likely to state the GP was ‘good’ at giving them enough time (an 11-percentage point difference), and less likely to state the GP was ‘poor’ (a three-percentage point difference).
- more likely to state the GP was ‘good’ at listening to them (a nine-percentage point difference), and less likely to state the GP was ‘poor’ (a three-percentage point difference).
- more likely to state the GP was ‘good’ at treating them with care and concern (an 11-percentage point difference), and less likely to state the GP was ‘poor’ (a four-percentage point difference).

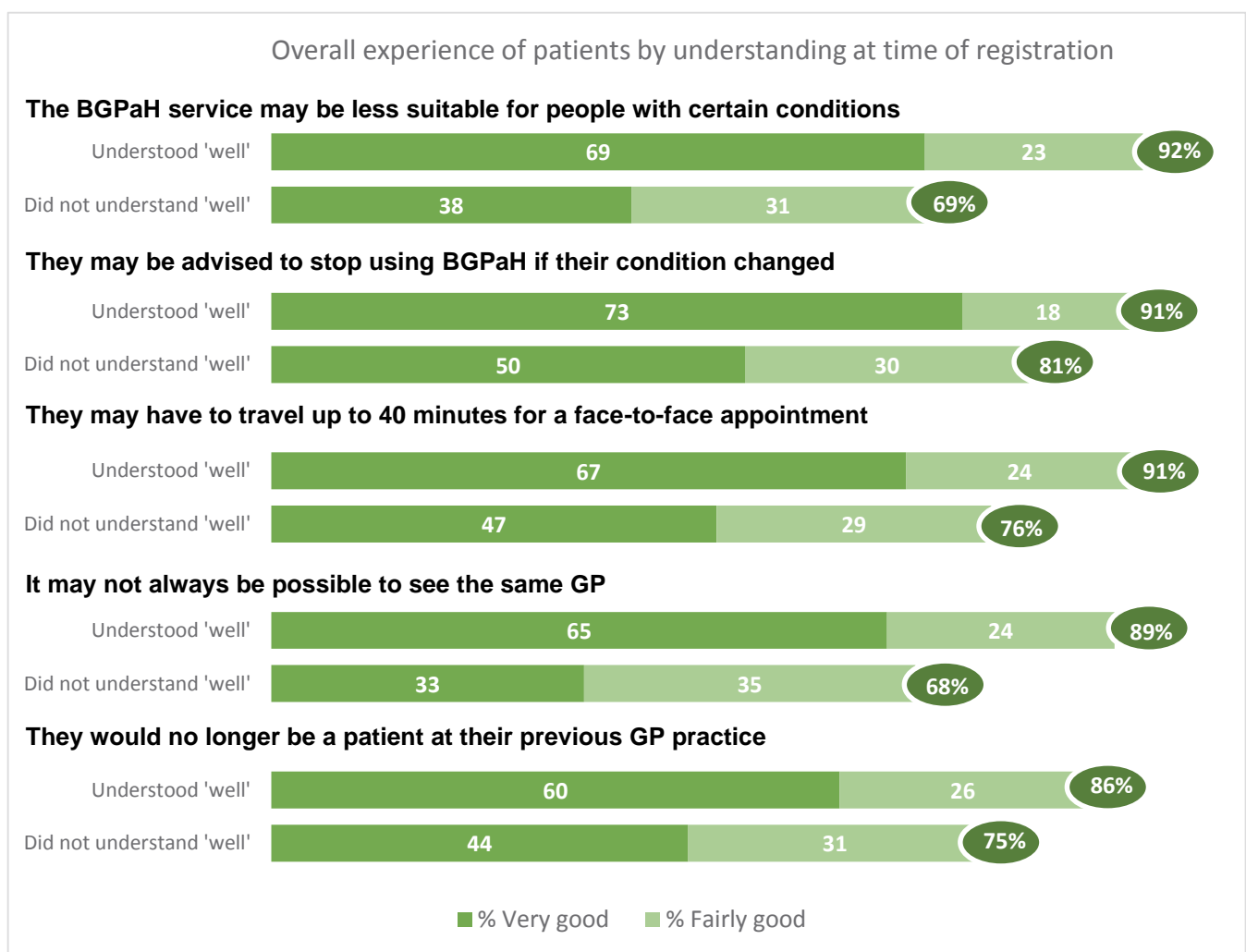
**The differences seen in satisfaction appear to be related specifically to the service they are receiving.** The patient survey also included questions from GPPS about satisfaction with dentistry services to provide further understanding of this group and how different they were from a matched sample from GPPS. The original hypothesis was that if there were no fundamental differences between the samples, then there would be no differences in their responses to dentistry questions. This would suggest that any observed differences in responses about GP services would not be because of the differences in the samples. However, the results showed that BGPaH patients were less satisfied with dentistry services than the comparator group from GPPS both before and after matching. This suggests that these BGPaH patients are not just more positive about services in general. It may be possible that the type of patients who choose to register with BGPaH are patients whose needs are not being met by traditional health services, particularly in relation to access and the convenience of appointments.

### 3.2.3 To what extent do users understand the service, and its implications?

This section of the report addresses evaluation questions about whether users understood specific elements of the BGPaH service. Given the substantially different model of care that BGPaH has pursued, it is important to test whether users fully understood what they were signing up to, and wider implications for future care. It draws on evidence from the patient survey and qualitative interviews.

In general, users of BGPaH had made an informed decision to register, and understood most elements of the service. Understanding was lowest in relation to how face-to-face appointments worked. Where patients did not understand an element of the service at the time of registration, this was linked to lower overall satisfaction with BGPaH, underlining the importance of these points for patients (as shown in Figure 3.1).

**Figure 3.1: Proportions of patients who had a good overall experience (%) by understanding at time of registration**



Base: All patients who responded to these questions (1025);  
12<sup>th</sup> November 2018 – 4<sup>th</sup> March 2019

Source: Ipsos MORI, based on BGPaH patient survey data



### Do patients using BGPaH fully understand what de-registering with a GP means?

**The majority of patients understood they would no longer be registered at their previous GP practice, and made an informed and considered decision to register.** When patients initially registered with BGPaH, 88% understood 'well' that they would no longer be registered at their previous GP practice. This was reflected in qualitative findings, where patients commented they were happy to be de-registered as they believed BGPaH would be more suitable for them, primarily for convenience reasons. Some patients also commented that they understood this element, but it did not apply as they were not registered elsewhere at the time. This was also reflected in the survey, with nine per cent of patients stating they were not previously registered with a GP.

Where patients did not understand this point, the qualitative interviews showed that it was often linked to wider misunderstanding of the service, for example thinking it was a symptom checker rather than a digital GP, or not knowing that there would often be a need to be seen in person at clinics that are far away. These patients expressed a wish for BGPaH to have made it clearer that they would be de-registered from their previous GP.

### Do patients using BGPaH fully understand they'll have to travel up to 40 mins for a face-to-face appointment?

**Patients were less clear in their understanding of various elements of face-to-face appointments, reflected in their lower satisfaction with face-to-face appointments.** A significant minority of patients (40%) did not understand 'well' that they may need to travel up to 40 minutes for a face-to-face appointment. This was reflected in qualitative interviews, where patients discussed not understanding the face-to-face appointments at the time of registration, and often this confusion remained after registration. Some patients stated that this would have influenced their decision to register if they had known it at the time.

Other areas of uncertainty relating to face-to-face appointments included not knowing they would need a digital appointment first in order to book face-to-face, not knowing it wouldn't be possible to book face-to-face appointments through the app, and not knowing if it was possible to choose which clinic they would attend. In a few instances, patients didn't understand there was a face-to-face element to the service. For some this was a 'pleasant surprise', and for others the appeal of the service was that it is digital and that face-to-face appointments wouldn't be always required.

*"My impression was all issues could have been taken care of over [the] phone or video call [and I] didn't need to go to the clinic, but if did it's only [a] 10-minute bus ride away, there's one in King's Cross closest 10 min bus ride, very happy with that."*

BGPaH Patient

**However, the majority of patients understood that they may need to travel for a face-to-face appointment, and made an informed decision to register** (57% understood this 'well'). In qualitative interviews, where patients understood this at the time of registration, they discussed making a considered choice to register despite the potential inconvenience. Their expectations of service use were primarily digital, and the benefit of digital convenience outweighed the potential negative of having to travel further distances if a face-to-face appointment was required. Other patients understood they may be required to travel, but did not think this was a problem, and commented that travelling 30-40 minutes to reach somewhere in London is 'typical'. For some patients, the concern did not apply, as they actively researched clinic locations and decided to register for BGPaH with the understanding that a clinic was nearby to their place of work or home.

*“I understood I may have to travel up to 45 minutes, and knew it would be further than current GP but the trade-off was in my favour. At my previous GP it was difficult, I might call up on [the] day and get an appointment, [but I] might not, I couldn't book in advance and would have to take the whole day off work.”*

BGPaH Patient

**The inconvenience of face-to-face appointments for some patients could prevent them attending appointments.** On the whole, patients hadn't considered what they would do if they were too unwell to travel for a face-to-face appointment, and had anticipated using the service for 'simple' health problems as they did not have complex needs. When prompted, patients could think of several situations where they would be unable to travel to a face-to-face appointment. In a few instances, patients mentioned they were 'put off' face-to-face appointments or tests because the journey was too disruptive, suggesting this is a potential barrier to accessing care for certain health needs.

*“I work in London but do not live in London anymore, there are a few occasions where I have needed to see someone in person and would have had to travel to Fulham to do so and as I was at home ill in Hertfordshire this was not possible so ended up going to walk in GP at local hospital in Herts.”*

BGPaH Patient

This may explain results from the survey that show that the majority of participants were not travelling long distances for face-to-face appointments. When asked how long it took people to travel to their last face-to-face appointment, just 15% said it was more than 45 minutes (see Section 2.2.1 for full details). While some users will have made an informed decision and only registered if there was a clinic nearby or convenient to them, the qualitative data suggests that some were unwilling to attend an appointment if they needed to travel substantial distances. This raises questions about whether this will stop people seeking help when they need it or result in them presenting elsewhere (e.g. at a walk-in centre or A&E).

### **Do patients using BGPaH read, and fully understand the implications for how their data is used?**

Patients did not spontaneously raise concerns about how their data would be used. When prompted specifically on the role of Babylon in relation to the use of their data, most patients had not considered this, and those that had felt this had little influence on their decision to register with BGPaH. One patient noted that Babylon's association with the NHS meant it seemed trustworthy, and that was enough.

When talking about the role of Babylon more widely, qualitative interviews suggested that most patients understood Babylon was involved in the BGPaH service, largely due to their logo being included on advertisements (which is primarily where users found out about the service with 66% being through some form of advertisement). However, the vast majority of patients did not have an understanding of Babylon as a private service.

### **3.2.4 Which 'type' of patients is this model most appropriate for? Is there any evidence to suggest whether different types of patients achieve different outcomes through BGPaH?**

As part of the initial clinical assurance process undertaken in Autumn 2017, it was suggested that the BGPaH service 'may be less appropriate' for a range of different patients, including those with particular needs. Following further clinical assurance, the warning guidance was removed in November 2018, and replaced with advice that patients who may need to attend face-to-face appointments more frequently must be willing and able to travel to one of the clinics.

Following on from this, the evaluation has sought to understand the experiences of different types of patients through:

- including questions in the survey to identify patients with long-term conditions and particular health needs; and
- conducting eight interviews with patients with specific conditions as part of the BGPaH case study.

However, it is difficult for the evaluation to provide evidence as to whether the model is appropriate for patients with complex needs (including those listed within the restrictions imposed by the clinical review), or whether they achieve different outcomes, due to the relatively small numbers of relevant patients registering and using the service at this point (linked potentially to the fact that the guidance has only recently been removed from the BGPaH website).

While the patient survey shows that 29% reported having at least one long-term condition (LTC), compared with 51% in the GPPS survey, the data available suggests that very few have complex needs. For example, only four per cent of the sample said they take five or more medications on a regular basis (compared with 19% in GPPS), and only 14% of those with LTCs said they were not confident in managing their condition (compared with 16% in GPPS). The most frequently occurring conditions amongst the survey sample were mental health conditions (17%) and breathing conditions (eight per cent).

**For the majority of patients with LTCs who are currently using the service, experiences of the service were good.** Aspects of the service that were valued by patients as a whole (as discussed in the previous chapter), were particularly valued by patients with LTCs; for example the ease and speed of access. As such, patients with LTCs were equally positive about the service. They reported satisfaction levels in line with other patients across a range of measures in the patient survey. For example, 87% of patients with a long-term condition rated their overall experience as 'good', compared with 86% of those with no long-term condition. There was only one measure where results were significantly worse; five per cent of patients with a long-term condition said the health professional at their last appointment was 'poor' at listening to them (compared with two per cent of those without a long-term condition).

**Experiences may be less positive for patients with more complex needs and/or who require greater support.** Patients with multiple LTCs interviewed qualitatively were more likely to raise issues about how well the model was able to meet their needs, and felt they had to be quite proactive in looking after themselves. One GP echoed this, saying that the model was less suitable for those with high levels of need and low levels of activation. For example, one patient talked about the fact that their consultant would write to BGPaH with specific requests, but the GPs (or Support Team) had not followed up on these.

*"I'm able to chase this up myself but for vulnerable people with more long-term conditions, they may not receive the same level of care for that reason."*

BGPaH Patient, LTC

*"You click a button and get an appointment in 10 minutes, that's their selling point, but there's nothing for long-term health management."*

BGPaH Patient, LTC

Other patients raised issues around face-to-face appointments, linked to the distance they had to travel, the waiting time for an appointment and difficulties caused by the fact that they weren't able to book directly – adding to the time before they could see someone face-to-face. For the patients taking part in the interviews, these were inconveniences rather than serious concerns about the quality of care they were receiving. However, one GP did note this as an issue, particularly for patients that need regular physical check-ups. They expressed concern that some patients wouldn't be able to travel to the clinics and so would not seek help or would present elsewhere.

**Levels of satisfaction varied by type of condition and need.** The survey showed that patients who reported that they had felt isolated from others in the last 12 months tended to be more negative about their experience. For example, 48% said that their needs were ‘definitely met’, compared with 64% of those with no such problems, and 80% said that the health professional was good at giving them enough time (compared with 89%).

Patients reporting physical mobility problems were also more negative on some measures; for example, 51% said that their needs were ‘definitely met’, compared with 62% of those with no physical mobility problems. The lower levels of satisfaction amongst these two groups of patients may be explained by the fact that both were less confident in managing any issues arising from their condition(s), and so have greater needs from their GP service. Around a quarter said they were not confident (25% of those who have felt isolated, 24% of those with physical mobility issues, and this compares with 14% of all patients with long-term conditions). However, for both groups, while they expressed lower satisfaction than the BGPaH patient population as a whole, the majority still said that the quality of care they have received at BGPaH was better than in their previous practice (66% of those with feelings of isolation and 70% of those with physical mobility problems).

In contrast, patients with breathing problems, such as asthma and COPD were particularly satisfied with their experiences of the service. These patients were significantly more positive (compared with patients with no such problems) across a range of measures in the survey. For example:

- The health professional was good at giving you enough time (96% vs 87%)
- The health professional was good at listening to you (95% vs 90%)
- The health professional was good at treating you with care and concern (96% vs 86%)
- You had confidence and trust in the healthcare professional (84% vs 69%)
- Your overall experience was good (96% vs 85%)

Similarly, there is some evidence that the model may suit patients with a mental health condition, at least as well as other patients. There were no differences in patient experience outcome measures in the survey between those with and without mental health conditions. They were equally likely to say their overall experience was good (84% vs 86%), while 72% said that the quality of care provided is better than their previous GP. The majority of patients who reported a mental health condition, and that it was relevant to their last appointment, said that the health professional definitely recognised and/or understood their mental health needs (84%).

The patient interviews explored this further. In these interviews, patients frequently referred to the benefits of the enhanced access that BGPaH offered. For example, they talked about easier and quicker access to appointments, a reduced need for travel and the greater anonymity afforded by BGPaH. Several patients said that they seek help earlier and more frequently for their mental health issues than they had previously because of the ease of access. One patient credited this with improvements in his health.

*“I’m in much better health because of using BGPaH.”*

BGPaH Patient, LTC

GPs echoed these sorts of comments, and firmly believed that the BGPaH model could work better than traditional general practice for patients with mental health conditions, at least for mild to moderate conditions.

*“So, I think for the things that we would normally manage in primary care, mild to moderate depression and anxiety, I think it’s quite helpful because a lot of people find that actual barrier of going to see their doctor in the first place. Also, the ease of follow up at Babylon. So, they can sometimes will have a consultation every month for maybe the*

*first six months of their illness which is often very tricky in traditional general practice. So, I think that's helpful for them."*

BGPaH GP

However, some patients and GPs highlighted serious concerns about the suitability of the model for patients with more severe mental health problems, largely linked to the lack of face-to-face contact and loss of subtle visual cues. One patient also expressed concern about being left on his own while the GP had to hang up to call the crisis team.

## Other digital first models and different types of patients

Indicative evidence collected from patients, GPs and some stakeholders suggests that asynchronous messaging models such as eConsult can be particularly efficient for certain conditions and certain types of patients:

- It can give patients and GPs great flexibility because the data collection happens before the appointment. For instance, one stakeholder talked about how the text-based format is particularly suited to conditions requiring routine appointments such as asthma. Because routine asthma reviews can be hard to manage in ten minutes, models like eConsult, involving data collection before a physical consultation takes place, mean that an appointment could be more focused.
- It can increase patients' ability to articulate their concerns with less fear or embarrassment. Those taking part in the interviews thought that it was particularly suited to mental health conditions such as mild depression, stress and anxiety.

The possibility to collect information before face-to-face consultations took place meant those could be carried out more effectively. As such, GPs could have a head start on complex cases, or any issue requiring in-depth collection of information.

### 3.2.5 What happens when individuals develop illnesses that need longer-term care or continuity of care?

BGPaH has established a multidisciplinary Complex Care Team to provide continuity and care coordination for those patients that need it. The team is led by a full-time Complex Care Coordinator, with input from a team of four GPs, a Nurse and administrative support staff.<sup>86</sup> At the time of the research, BGPaH actively managed 51 patients by this team. Patients are identified for this service by GPs, notes summarisers, and patients themselves. This is a small proportion of the total patient population of BGPaH, but depends on definitions. For example, the recently finished enhanced service (ES) for patients at risk of hospital admission required GPs to make care plans for two per cent of their population.<sup>87</sup>

As such, there is provision for patients that need longer-term or continuity of care. However, **perhaps inevitably in a model that prioritises access, the evaluation has produced some evidence of an impact on the continuity of care provided.**<sup>88</sup> This was not raised as a significant issue by most patients themselves when asked about it though. For the majority of patients, they had actively chosen access over continuity of care and were satisfied with

<sup>86</sup> <https://assets-production.Babylongpathand.co.uk/icons/GP-at-hands-approach-to-addressing-Complex-Patient-Needs.pdf>

<sup>87</sup> <https://digital.nhs.uk/services/general-practice-gp-collections/service-information/avoiding-unplanned-admissions-components-2-and-3>

<sup>88</sup> The evaluation has looked at continuity of care in terms of seeing or speaking to the same GP at different appointments.

the choice they made. For the small number who wanted to see the same doctor, they had managed to do this, and were making the system work for them.

Given the patient population currently served by BGPaH, only a minority said that they have a preferred GP (seven per cent for all appointments and 15% for some appointments and not others). This compares with 27% and 26% respectively in GPPS. Those with LTCs were more likely than those without to say that they do have (10% and 19%). Of the patients that had tried to see or speak to their preferred GP, 12% had been able to do so always or almost always, 12% a lot of the time, 36% some of the time, while 39% had never been able to do so. This compares unfavourably with national GPPS results where 50% of patients who had tried to see or speak to their preferred GP managed to do so always, almost always, or a lot of the time. Not being able to see the same doctor each time was also spontaneously given as one of the main disadvantages of using the service (16%, which rises to 20% amongst those with a LTC).

However, the patients that took part in qualitative interviews did not raise this as a particular issue. Most indicated that they would like better continuity of care in an ideal world but were happy with their choice to prioritise access over continuity, while others valued it and had taken steps to ensure they saw the same GP when they wanted to. This caused them some inconvenience (such as having to ring up to make an appointment), but it was something they were willing to do.

### **3.2.6 What evidence can the evaluation provide regarding the clinical safety, effectiveness and triage accuracy of the service?**

As noted above, the evaluation draws only on participants' perceptions of these issues. Generally, both patients and GPs expressed confidence in the service provided. None of the participants raised overt concerns about its clinical safety, effectiveness or triage accuracy.

There were a small number of issues raised that may prompt questions about the safety and effectiveness of the service, and are worthy of further investigation:

- the suitability of the service for patient with complex needs, particularly where they are not proactive or confident in managing their condition(s), or where they need regular physical check-ups;
- the loss of continuity of care – the evaluation has shown that there is lower continuity of care in the BGPaH service (defined as seeing or speaking to a preferred GP) than seen in the national GPPS results, which may be of concern given emergent evidence that continuity of care in general practice can produce better outcomes.<sup>89</sup>

To investigate this further data would be needed on patient outcomes relative to their presenting complaints. These could be examined in a longitudinal study, in comparison with a suitable control group, to consider whether clinical safety and effectiveness measures are incrementally different in BGPaH patients.

## **3.3 De-registered patients**

This section of the report addresses evaluation questions about the characteristics of those de-registering from BGPaH, their destinations and their reasons. It draws on data from qualitative interviews with registered and de-registered patients, and a cohort analysis carried out by NHS England. It was not possible to invite de-registered patients to take part in the patient survey but a very small number had de-registered between the survey being

---

<sup>89</sup> Barker J, Steventon A, Deeny SR, 'Association between continuity of care in general practice and hospital admissions for ambulatory care sensitive conditions: cross sectional study of routinely collected, person level data', *BMJ* 2017; 356.

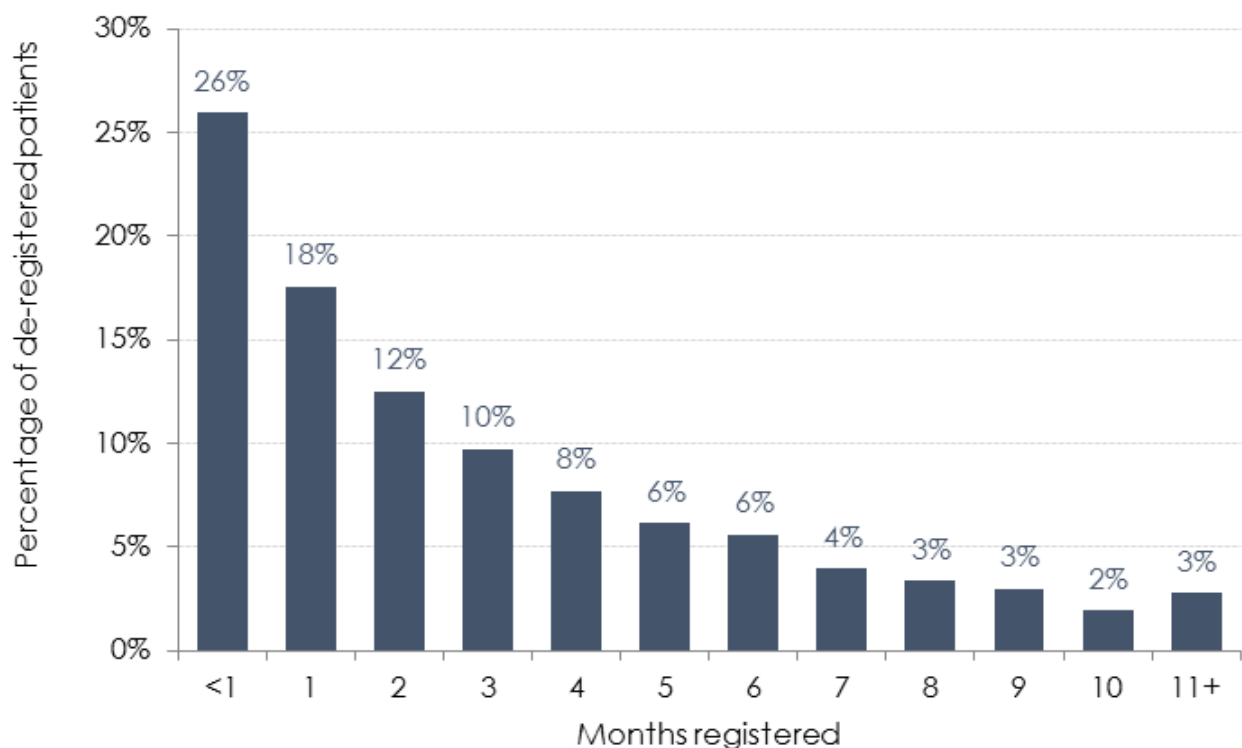
sent out and the patient responding. In addition, the survey included a question about patients' perceived likelihood of remaining registered with BGPaH in 12 months' time. This question produced a group of patients (nine per cent, n=131) who said they were likely to de-register, and this group is considered in the following sections.

### 3.3.1 What are the characteristics of patients de-registering from BGPaH?

**BGPaH experiences higher de-registration rates than the London average, with patients most commonly de-registering after two weeks.** NHS England analysis has shown that BGPaH experiences a higher de-registration rate than the London average; one in four (28%) of patients have de-registered from the service since July 2017, compared to the London average of one in six. Of individuals who have signed up in the first four months, over one in three have de-registered.

This analysis also shows that 44% of those who de-registered did so within two months of signing up, with patients most commonly de-registering after two weeks.

**Figure 3.2: Percentage of de-registered patients by months registered (at end of November 2018)**



Source: NHS England

The characteristics of those de-registering appear to broadly match the age profile of the BGPaH patient population, but women are more likely to de-register than men (60% of all de-registrants are women). Women aged 21-40 account for half of all de-registrations.

The NHS England cohort analysis<sup>90</sup> showed that around half (47%) of patients who de-register return to their original practice. For some patients in qualitative interviews, this was linked to a lack of understanding that they would be de-registered from their previous practice at the time of registration.

<sup>90</sup> Full details of the cohort analysis approach are contained in the Annexes.

### 3.3.2 What are the reasons for patients de-registering from BGPaH?

As noted above, the patient survey data relates primarily to patients who indicated they were intending to de-register within the next 12 months, who may be qualitatively different from the large number of patients that de-register shortly after registering.

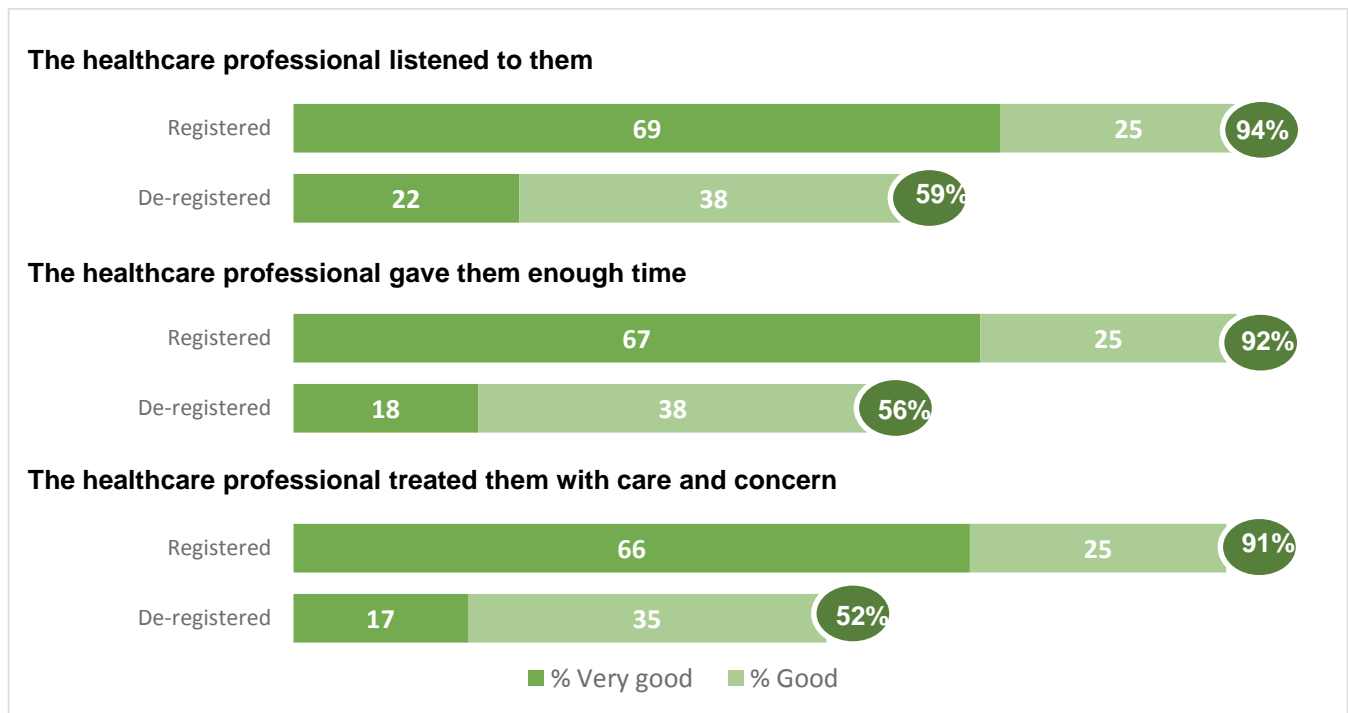
There were three key reasons put forward by these patients for de-registering:

- dissatisfaction with the quality of care provided;
- a desire to be able to book a face-to-face appointment without having to have a digital appointment first; and
- a change in their health needs.

Analysis also shows that patients who had de-registered (or were intending to) were less likely to have understood elements of the service at the time they registered, suggesting that some subsequently discovered that the service did not meet their needs.

**The most frequent reason for de-registering or intending to de-register from BGPaH was that patients were unhappy with the quality of care.** Around half of patients (51%) had de-registered or intended to de-register from BGPaH as they were unhappy with the quality of care. This is supported by analysis which shows that patients who have de-registered or will likely de-register were less satisfied with their overall experience of BGPaH (20% stated their experience was ‘good’ compared to 93% of those who intend to stay registered). In addition, patients who have de-registered or will likely de-register within 12 months were less satisfied with their experience across a range of other measures (as outlined in Figure 3.3).

**Figure 3.3: Comparison of patient experience of quality of care for those intending to de-register versus those intending to stay registered.**



Base: All participants who had a general practice appointment and responded to this question: de-registered (105), registered (1,144). 12<sup>th</sup> November 2018 – 4<sup>th</sup> March 2019

Source: Ipsos MORI, based on BGPaH patient survey data



In qualitative interviews, where patients discussed the poor quality of care, this was not linked to the healthcare professional, but to various administration issues related to processing referrals or prescription requests. However, these types of issues are likely to be raised by patients at any given practice, so it is difficult to know if these are a particular problem for BGPaH.

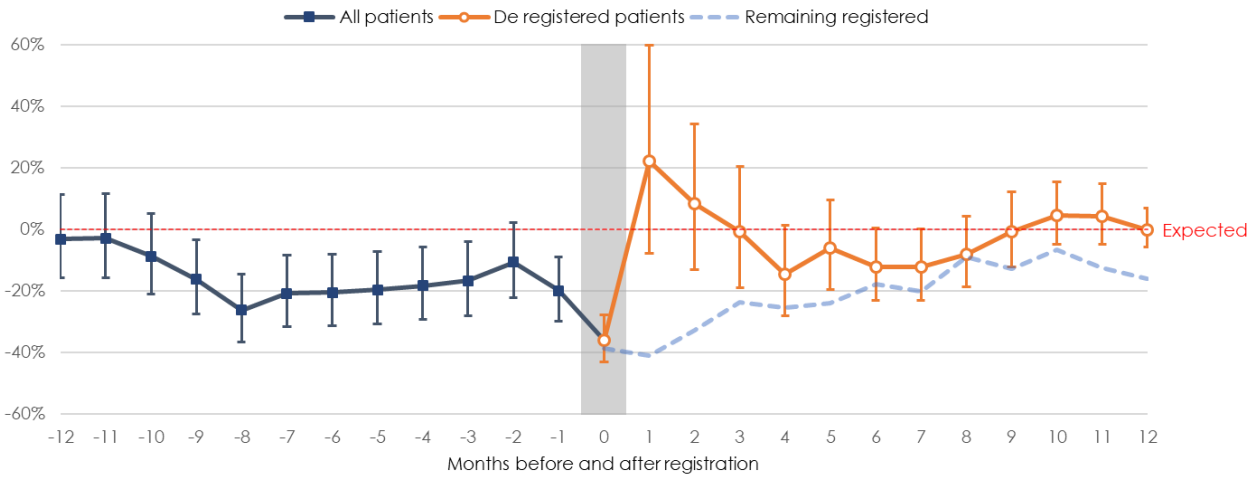
*"I have had two tests (bloods, ultrasound) — [the] blood test results were not communicated to me until chased and ultrasound results were lost. I am in the process of finding a new GP."*

BGPaH Patient

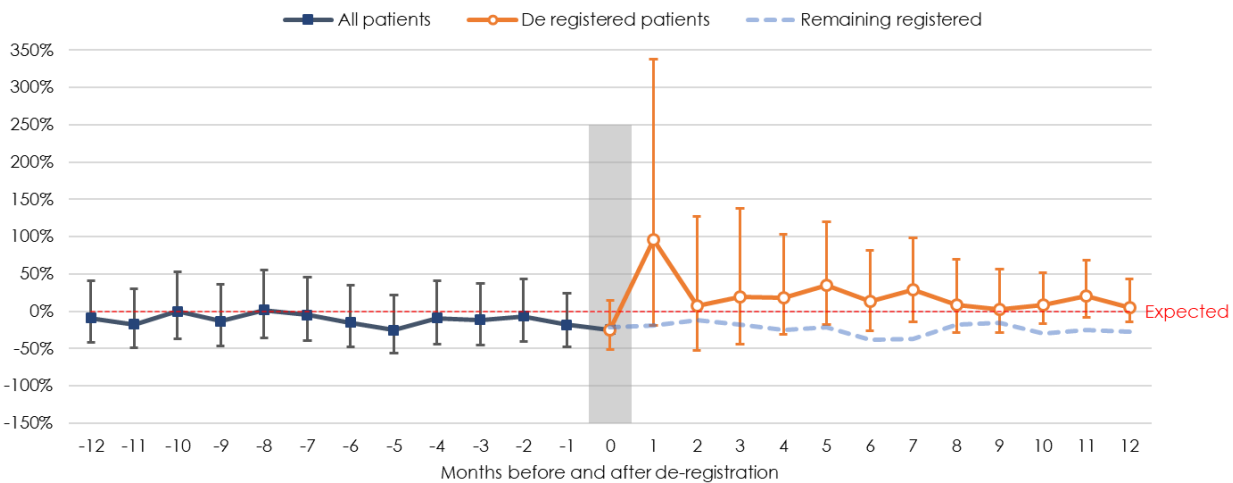
**Patients who would likely de-register were also less positive about their experience of making a face-to-face appointment.** Generally, these patients had a less positive experience of making an appointment overall: 51% said their experience was 'good' compared to 94% of patients who intended to stay registered. When patients who were intending to de-register were asked to provide a reason, a quarter (25%) stated it was because they wanted to be able to see a GP face-to-face without having a video call first, which is an area of dissatisfaction and uncertainty for patients (as noted earlier). In qualitative interviews, de-registered patients or patients who were in the process of de-registering, often referred to dissatisfaction with elements of face-to-face appointments. For example, the difficulty booking a face-to-face appointment, the long distances they needed to travel to attend appointments, and the inability to book face-to-face without a prior digital appointment. This was sometimes linked to not understanding these elements at the time of registration.

In qualitative interviews with patients, some alluded to BGPaH being perfect for them at that point in their life. However, if their **health needs changed**, for example becoming pregnant or developing a long-term condition, then it may no longer be appropriate. This was reflected in patient survey data, where seven per cent of patients intended to stop using BGPaH because their health needs had changed and it was no longer suitable. NHS England analysis also provides further supporting evidence here. BGPaH patients' have low outpatient and hospital admission rates (both emergency and elective) in the year before registering with the practice compared with other patients registering with a new practice. Rates remain lower than expected following registration with the practice, but increase for those patients that de-register from BGPaH, most notably for those leaving the practice within the first month. Figures 3.4 and 3.5 highlight the increase in outpatient first attendances and elective admissions following de-registration from the practice. This suggests patients are leaving BGPaH at a time when they have a health diagnosis requiring hospital care.

**Figure 3.4: BGPaH outpatient first attendance rate compared to the expected rate for newly registered patients in London**



**Figure 3.5: BGPaH elective admission rate compared to the expected rate for newly registered patients in London**



*“If something were to happen that meant I needed on-going care from a GP it is a slightly less personal service than visiting the same doctor who would be responsible for my care. Currently, however, it is a great service for me and a model that fits well in modern society with the technology we have available.”*

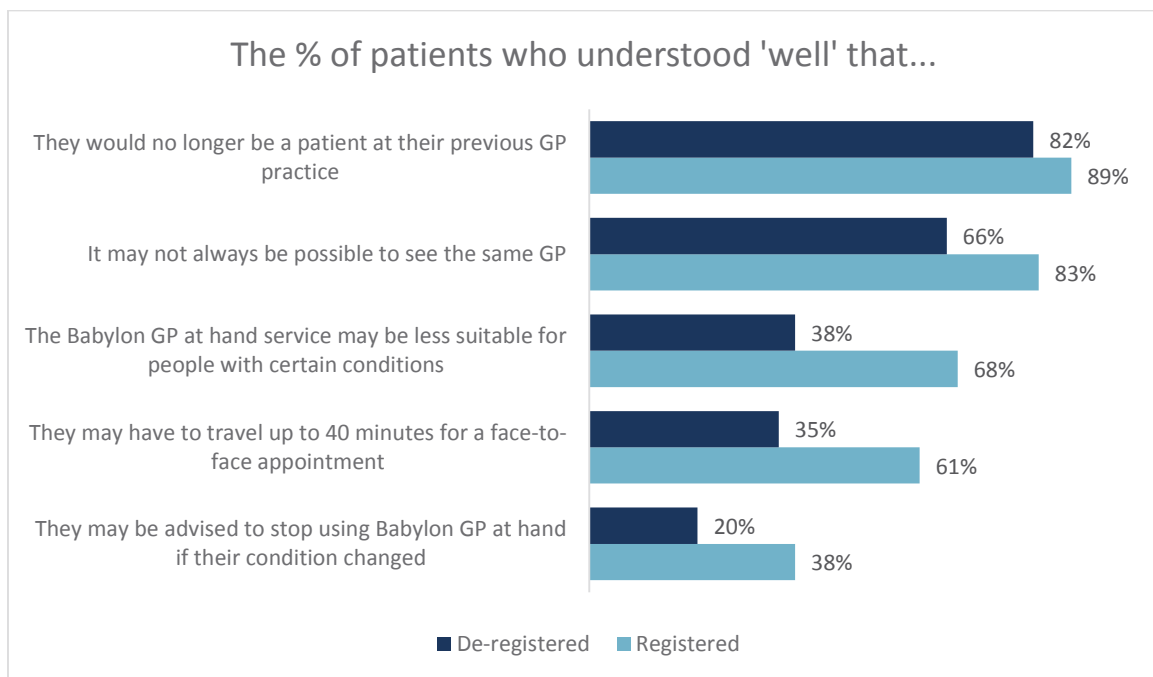
BGPaH Patient

**Patients who intend to or have stopped using BGPaH were less likely to understand the service at the time of registration.** This applied to all elements of the service asked about in the patient survey. For example, 66% of patients who intended to or had de-registered understood ‘well’ that it may not always be possible to see the same

GP, compared with 83% of those who intend to stay registered. When patients in the survey were asked why they intended to de-register, this was reflected again, and 18% stated they wanted to see the same GP at each appointment. In addition, fewer patients who intended to de-register understood that they may have to travel up to 40 minutes for a face-to-face appointment. These patients were also less likely to want digital appointments (48%) compared to those who intended to stay registered (71%), and more likely to want a face-to-face appointment.

**Figure 3.6: Comparison of understanding of BGPaH at the time of registration between patients who intend to de-register and those who intend to remain registered.**

When you first registered with BGPaH, how well did you understand that: (A) You would no longer be a patient at your previous GP practice? (B) It may not always be possible to see the same GP? (C) The BGPaH service may be less suitable for people with certain conditions? (D) You may have to travel up to 40 minutes for a face-to-face appointment? (E) You may be advised to stop using BGPaH if your condition changed?



Base: All participants who responded to these questions: de-registered (99), registered (899). 12<sup>th</sup> November 2018 – 4<sup>th</sup> March 2019

Source: Ipsos MORI, based on BGPaH patient survey data

It is important to note that the analysis discussed in this section does not satisfactorily address the question as to why so many patients de-register so soon after joining the practice. The findings above show that low levels of understanding about how the service works may play a part. However, another hypothesis is that patients register for BGPaH for a short-term health need (supported by the increase in NHS 111 calls and A&E attendances immediately prior to registration discussed in Section 2.3.3), and then leave/return to their own practice once the issue has been dealt with. It is also likely that some patients de-register because of a change in their health needs (suggested by the increase in outpatient activity after de-registration). However, further work with a larger sample of de-registered patients would be required to explore this in detail.

### 3.4 Workforce experience

This section of the report explores the impact the BGPaH model has had on BGPaH primary care staff. In doing so, it explores the evidence collected through a number of qualitative interviews conducted with BGPaH GPs and policy stakeholders.

Primary care in England currently faces a number of challenges including workforce pressures, linked to the recruitment and retention of GPs. The evidence collected for the evaluation shows that BGPaH, like other similar models of 'digital-first' primary care, provides an attractive working environment for some GPs by giving them greater flexibility around how and where they deliver care. However, if rolled out widely, this in turn has implications for the size of the GP workforce available to work in traditional practices.

#### 3.4.1 What are the levels of satisfaction of BGPaH GPs and what are the levels of satisfaction of other GPs?

**Overall, the BGPaH GPs taking part in qualitative interviews were highly satisfied working for Babylon and compared it favourably to working elsewhere.** The work climate, in particular the autonomy, flexibility and independence offered, compatibility with family life, and the potential for development and career progression, were some of the main factors listed that positively influenced their experience.

The unprecedented pressures faced by general practice across England have been well-documented. The main factors affecting job satisfaction for GPs were reported as work pressures, too much stress, and too high a workload.<sup>91</sup> Most BGPaH GPs interviewed contrasted their current role with other roles in 'traditional' practices.

*"I'm a lot happier than I was before, I think. General practice has suffered a lot in the last ten years, and it's really hard for GPs to do the job they want to do as best as they can. Most GPs love their jobs, but really struggle in the community. This has really given me a new, like, proper passion for it. Like, I was doing two years in different salaried jobs and, you know, I'm being honest, it was really hard and I didn't feel valued, didn't feel like I was delivering what I wanted to for patients. Actually, this was the first time as a GP I've actually felt like I can do that, I can deliver the care."*

BGPaH GP

*"There is no comparison. My other practice, the only job satisfaction I get now is actually individually with the patients. The rest of it is I'm working very long hours, we're very understaffed. I've got a huge amount of stress in terms of running the practice. The admin, the finances, all the government stuff that's coming. So, it's a completely different ball game."*

BGPaH GP

Linked to some of the reasons which motivated people to apply for Babylon (as discussed in Section 2.4.2), the most important determinants of job satisfaction were often intrinsic and idiosyncratic factors, such as work-life balance, rather than extrinsic factors, such as income/benefits. Lifestyle issues such as flexibility or work-life balance were perceived as key, and probably the most important factors to positively influence job satisfaction, especially among BGPaH GPs working remotely. Parenthood, for both some of the male and female doctors, had a major influence when considering career choices.

---

<sup>91</sup> Hobbs F, Bankhead C, Mukhtar T. et al on behalf of the National Institute for Health Research School for Primary Care Research. Clinical workload in UK primary care: a retrospective analysis of 100 million consultations in England, 2007–14. *Lancet* 2016;387(10035):2323-30.)

Overall, the BGPaH GPs interviewed felt they had found a better work-life balance compared to their previous job, not only because they were able to work part-time, but also because of the convenience of working from home.

*"When I'm working for Babylon and I hit a break, I can nip into the kitchen, make a cup of tea, say hello to the kids and feel more in touch with life in general. It all adds to my feeling of satisfaction."*

BGPaH GP

In addition, GPs were positive about the way in which workload is managed differently from other general practices where they had worked. This resulted in them having to do less paperwork in their day-to-day job. Importantly, it was acknowledged by some that the overall day-to-day job was often 'easier' because it involved only dealing with a limited number of complex cases.

*"Yes, because sometimes you get the simpler patients, that's nice for a change because that has, kind of, gone out of my normal practice. All of my patients [at my other practice] now are very complex."*

BGPaH GP

**Babylon was thought to be committed to development and offered a supportive environment as an employer.** There were mentions of the head office, the support team, and the Slack channel (a team messaging app) which they could refer to if they had any clinical query.

*"I find that the GP at hand Babylon, they're very supportive. There are a lot more people I can ask, places to go for advice or support. There's a lot more knowledge-base. So, I just feel generally more supported as well."*

BGPaH GP

**However, while overwhelmingly positive, some participants listed some downsides and identified areas for improvement.** Some GPs thought that their relationship with their patients had suffered due to the loss of rapport and continuity of care. They also felt disconnected from the patient population they were treating because they were not living in that community. They suggested that hypothetically it would be helpful to understand a community in order to provide better care but did not highlight specific, concrete concerns about the quality of care they were able to provide. However, some said that their relationships with patients were better than in other practices because they have more time in each appointment to interact with the patient (through reduced administrative tasks, and dealing with fewer presenting problems in each consultation).

A few GPs complained about having experienced some technical issues with video-conferencing. Another GP noted that the service didn't provide a single-point resource about London services, and how this could be an issue for GPs working remotely. However, as noted earlier, other GPs pointed to the range of support offered, particularly, the support team, which helped to address this issue.

## Other digital-first models and job satisfaction

Similarly to BGPaH GPs, most eConsult Push Doctor GPs tend to work at other practices as well. Reasons for joining the company are also broadly similar to the ones mentioned by BGPaH GPs, namely flexibility, and the ability to work remotely.

There was a strong perception of both services as a 'helping hand' to the NHS, with one Push Doctor GP explaining how he got great satisfaction from feeling he was helping practices cope with work pressures and unmet demand.

### 3.4.2 What is the impact of the model on ways in which GPs work (e.g. team working, development, mentoring)?

GPs taking part in the qualitative interviews felt that their relationships with colleagues were affected by the BGPaH model but on balance were positive about its impact. **Participants felt supported and connected to their colleagues in spite of working remotely**, although some had made the conscious decision to carry on working for 'traditional' GP practices to alleviate any potential feelings of isolation. **They were also positive about the systems in place to monitor and develop their performance.**

#### Team working

Good information sharing and effective personal relationships across different services are crucial to the success of general practice. Some BGPaH GPs who worked remotely missed the regular interaction, informal learning, and knowledge sharing that they got in traditional practices. This reason, among others, is why many remote BGPaH GPs work elsewhere as well as at Babylon (as discussed in Section 2.4.1). One remote GP who only worked for Babylon admitted that this could be somewhat isolating. He therefore made an active effort to interact with other GPs through other avenues such as Continuing Professional Development (CPD) activities.

*"I mean there is of course the risk of professional isolation. I'm fortunate enough to have regular CPD events locally. Twice a month. I've got the possibility to meet up with other doctors even though they're not work colleagues, and the occasional liaising with clinical colleagues is about as far as I get. It's, kind of, satisfactory as far as I feel at the moment is a good balance for me and it works."*

BGPaH GP

Some of the policy stakeholders also believed the lack of face-to-face interaction and 'quick corridor conversations' would reduce opportunities to build trust and respect between colleagues. However, most BGPaH GPs didn't see this as an issue for two reasons. First, most of them also worked in other practices. Second, the support mechanisms put in place by Babylon helped alleviate any feelings of isolation. In particular, the Slack Channel was highly valued for the way it facilitates informal knowledge sharing and overall quicker, more effective communication between colleagues.

*"I feel quite supported in terms of, even though it's quite a disparate group of remote GPs, we connect quite well in terms of using technology and we can share cases."*

BGPaH GP

GPs working at the hub were particularly keen to talk about how beneficial the office environment was. They felt it helped strengthen relationships between colleagues due to the office layout (i.e. open-plan) which meant they could interact more easily, and seek advice from each other.

*"You're learning through hearing each other's consultation styles and tips and tricks, which never happens when you're isolated in a standard GP room. Similarly, you have that opportunity, so if something stressed you out or something was really, kind of, done well or badly or things need to be improved or you need to ask how I could feed that back to the wider organisation, you can do that there and then. You've got this sounding board of, again, high-calibre GPs that are doing the job on the ground. So, yes. It feels much more-, there's a sense of community and feedback that you don't get being this siloed GP in a room on your own."*

BGPaH GP

## Development

As noted in section 2.4.1, the BGPaH workforce is likely to be less experienced than the workforce as a whole. The model itself also has implications for informal learning and development. As such, strong processes to develop clinicians are instrumental in ensuring the quality of patient care.

In addition to weekly quality assurance meetings aiming to assess performance across a range of inputs (patient and peer feedback, notes quality, prescribing etc), BGPaH GPs are actively encouraged to self-audit. They also get regular feedback on their performance as their consultations get reviewed every three months. Hub GPs have dedicated slots of time to carry out this role: they have slightly enhanced IT access so they can see and review their colleagues' consultations recordings and notes. Annual 'in house' appraisals with audits of consultation recordings are also carried out with the Medical Director and Associate Medical Director (in addition to GPs' own appraisal with the NHS as part of their revalidation process).

*"I mean, the governance here is astounding, you know, the fact that every quarter there's an audit of practice, and, you know, are we doing the right checks?"*

BGPaH GP

GPs tended to be very positive about Babylon's appraisal system and felt that the company's constant encouragement for professional development had a positive impact on patient care.

*"Those types of things that I think the corporate sector does a bit better than the NHS sector, and that's my experience from multiple corporate organisations versus NHS, rather than just Babylon, but Babylon does do it very well, as well. So, I think people who come, appreciate those types of things, because we never got it elsewhere."*

BGPaH GP

GPs also pointed to the facility to record consultations as being beneficial for reflective learning.

*"I always think with these consultations, because it's always a learning process, so the ability to listen back to your consultations and review what you've done, and actually improve what you're delivering, actually makes you a better consultant going forward. I've never had that in general practice, to actually self-reflect and then learn more, to be better."*

BGPaH GP

### 3.4.3 What effect is there on recruitment and retention of GPs (both at BGPaH and ‘usual’ GPs)?

The general practice workforce in England has been recognised as being at crisis point for several years.<sup>92</sup> There has been limited progress towards the government-set 2020 target to recruit 5,000 more GPs, with an acknowledgement by government ministers that the target date may be postponed.<sup>93</sup> The most recent data suggest numbers of GPs are actually declining, with the latest National GP Worklife Survey reporting that two in five GPs intend to quit in the next five years.<sup>94</sup> This survey also found that 39% were likely to leave ‘direct patient care’ by 2022, compared with 19.4% in 2005.

The digital-first model provided by BGPaH could have a positive impact on the recruitment and retention of a group of GPs who may not remain or enter into general practice otherwise. As discussed earlier, the GPs who took part in the qualitative interviews were very positive about working for Babylon. They intended to carry on working there, with several talking about how they plan to increase the numbers of hours they work for the service – although only a few mentioned stopping locum or salaried work in ‘traditional’ GP practices altogether.

However, stakeholders questioned whether that could also make recruiting and retaining GPs in mainstream ‘traditional’ practices (or the workforce as a whole) more challenging, if this was rolled out more widely.

“

*It's quite challenging at the moment in terms of the recruitment of GPs, and so if they are offering more favourable terms and conditions, and pay rates, and if those GPs are seeing relatively easy patients as part of the consultation, then it may be that they're choosing to work for digital providers rather than working for more mainstream practices. So, that then puts pressure on other practices who can't recruit as a result of that.*

Stakeholder

It is also clear that the role of a GP providing digital-first primary care is very different to that of traditional general practice, both in the ways of working and challenges faced. This may have implications for the number and type of people choosing it as a career. However, it is not possible for the evaluation to conclude on the net impact of the model on the recruitment and retention of GPs. In order to do this, quantitative data would be needed on current GPs' working patterns in both models and the career intentions of trainees. However, it will also be important to understand how cost-effective any shift might be. This would require data on the workforce over time, showing numbers of GPs working in digital-first and traditional models, and linked to patient consultations and outcomes data for both models.

### 3.4.4 What effect is there on training of new GPs?

Linked to the discussion in the previous section, the introduction (and potential wider roll out of a digital-first model such as BGPaH) may have implications for the overall capacity of general practice to train sufficient numbers

<sup>92</sup> Baird B. Is general practice in crisis?: The\_Kings\_Fund. 2017 <https://www.kingsfund.org.uk/publications/articles/big-election-questions-gp-crisis>

<sup>93</sup> Wickware C. Health secretary in talks to delay 2020 target for recruiting 5,000 extra GPs. Pulse, 5 October 2018 ([www.pulsetoday.co.uk/news/gp-topics/employment/health-secretary-in-talks-to-delay-2020-target-forrecruiting-5000-extra-gps/20037548.article](http://www.pulsetoday.co.uk/news/gp-topics/employment/health-secretary-in-talks-to-delay-2020-target-forrecruiting-5000-extra-gps/20037548.article))

<sup>94</sup> Gibson J, Sutton M, Spooner S, Checkland K. Ninth National GP Worklife Survey 2017. PRUComm. <http://blogs.lshmt.ac.uk/prucomm/files/2018/05/Ninth-National-GP-Worklife-Survey.pdf>



of GPs effectively. No data was available to the evaluation to do this, but it is an area that should be considered further.

The data collected for the evaluation focused on the specific needs of GPs working in a digital-first model such as BGPaH. Digital (video) consulting requires a set of skills that the current General Practice training addresses to some extent.<sup>95</sup> While these will be similar to the skills needed for other forms of remote consultation (such as telephone), the GPs thought that there were additional requirements that the BGPaH training programme met.

Some participating GPs talked at length about the comprehensive training they received on joining Babylon on a range of aspects of the service. The training includes two to three training sessions to learn how to use the Babylon portal, as well as an extensive training session on how to carry out video consultations which covers a range of topics:

- the **practical details** of the video consultation: camera position, where to look, how to dress, where to sit and lighting of the room, how to introduce oneself;
- how to carry out **privacy checks** (i.e. GPs are required to ask patients for three identifiers and whether they are in a private location);
- **the flow of a consultation**, and more precisely what needs to be covered during a digital appointment. For instance, because there is often a bit more time than there might be in a traditional context, GPs are advised to try to gather additional information about the patient such as current medications, allergies etc.
- **How to do any examination** (i.e. examining a patients' throat), including an intimate examination.

The GPs taking part in the interviews recognised that digital-first models require additional and specific training so they can be used to the greatest effect and clinical safety can be ensured. Overall, they agreed that training provided by Babylon was sufficient for them to confidently carry out video consultations:

*"I mean, one of the things that I would say is coming on as a salaried GP for Babylon is that their training is really good. You know, and I think it has even improved significantly since I did it. Compared to the amount of training that I got when I started my salaried job, it was quite significant difference. Well, the fact that you have any at all which is not, honestly, it's not a common thing when you start a new job to have a period of paid training. Then, they have, sort of, videos that they use to help you work through their portal and how to use it. There is also written information that comes with that. They have quite a lot of written protocols which, again, you don't see a lot of in traditional general practice. So, there is a, sort of, guideline there to back you up and to, you know."*

BGPaH GP

However, reflecting on why she still wanted to carry out doing locum shifts in the future, one GP worried about the deskilling of GPs only consulting remotely:

*"I think, if you were just to work for Babylon, you'd get quite deskilled in terms of your actual, physical examination skills. So, I can't see myself ever just remote working."*

BGPaH GP

Babylon does not currently require its GPs to carry on doing face-to-face consultations. This was a concern among some stakeholders who felt it is crucial they do so, especially as part of the career development of early career GPs.

---

<sup>95</sup> Telephone consultation is embedded in GP training and now part of the MRCGP examination, but is not compulsory. Videos and guidance on how to carry out telephone consultations are also available.

Overall, stakeholders believed that GPs only working remotely could not only lose their ability to carry out physical examinations or deal with emergencies, but also the ability to treat the breadth and complexity of patients beyond those who would seek a digital consultation. Most BGPaH GPs have chosen to continue to work in 'traditional' practices as well, so this concern may be largely unfounded. However, the evaluation did not explore whether this portfolio of work is providing the breadth of experience required to develop and maintain effective generalist skills.

Furthermore, stakeholders identified a number of training needs which they think Babylon and other digital models need to take into consideration.

- As patients booking digital consultations tend to present earlier, sometimes within hours of an illness, GPs will have to retrain to identify very early symptoms and signs of an illness.
- Training on digital consulting needs to be comprehensive and adequate. GPs need to feel fully confident in their ability to consult remotely so they do not overcompensate by sending patients to be seen face-to-face when they don't need to or by spending more time than necessary with them.

*"We need to give them [the right training] so that they feel more confident to say, 'Okay, I diagnose you,' for example, 'You have tonsillitis. I felt confident making sure that you had to open your mouth properly and I could see your tonsils, even though it was through a phone, and therefore I could diagnose you effectively as I would have done in a face-to-face consultation.' So, people overcompensate that time and therefore they spend a little bit longer, and therefore the efficiency gained that might have been understood through the virtual consultation might not be realised."*

Stakeholder

Talking about the wider general practice workforce, stakeholders agreed that while GPs already do a lot of training around consultation skills and simulated consultations, their assessment and examination might need to be revised to cover video consultations going forward.

### Training and development in other digital-first models

**eConsult provide a central team off-site, able to process online consultations across a group of practices. Unlike with BGPaH, all the GPs working at the hub are also encouraged to carry on doing physical consultations.**

*"We don't appoint anyone that doesn't do face-to-face work because we still want people to be up-to-date with their clinical skills. So, we're quite clear on that, and all of the eHub GPs do other work." (eConsult GP)*

#### 3.4.5 What effect is there on primary care productivity (e.g. GP/other time per patient)?

Productivity is a measure of the ratio of outputs to inputs and in healthcare this includes the quantity and quality of care for patients and inputs including staff, equipment and capital resources.<sup>96</sup> It is not possible to comment on the

<sup>96</sup> Eurostat 2001, Handbook on price and volume measures in national accounts, Luxembourg Publications Office of the European Union; Eurostat 2016, Handbook on prices and volume measures in national accounts, Luxembourg Publications Office of the European Union; SNA, System of National Accounts 1993 & 2008.

Castelli A, Street A, Verzulli R, Ward, P. Examining variations in hospital productivity in the English NHS. *Eur J Health Econ* (2015) 16:243–254.

productivity of the BGPaH service, as data on clinical outcomes or outputs for patients were not made available to the evaluation. No data were available from BGPaH on consultation rates by GP as the data are considered confidential but the practice operates on a maximum consultation rate of 4.5 per hour. Around 30% of work carried out by GPs employed by BGPaH is private rather than NHS work.

As noted earlier, GPs taking part in the interviews talked about the fact that their workload was lower than in their other practices because of scheduled administrative breaks and the fact that they did not have managerial responsibilities. This was a key contributing factor to their job satisfaction. As such this raises important questions as to the sustainability of this particular model and cost of the higher levels of satisfaction seen amongst GPs and patients. In order to be able to address questions about the productivity of the model, it would be necessary to incorporate data on clinical outcomes and case mix into the analysis to ensure outcomes were at least equivalent.

**Overall, the BGPaH GPs interviewed felt that their workload was managed more efficiently.** BGPaH GPs consulting remotely are required to work a minimum of two shifts per week. Each shift lasts four hours, with nine to 12 consultations. After three consultations, the GP is required to take a 10-minute administrative break. In addition, some of the administrative tasks (such as looking at the blood results, dealing with prescription queries, etc.) are absorbed by some of the hub GPs, which mean BGPaH GPs working remotely tend to spend little time on paperwork.

Some GPs also felt that digital appointments provide an opportunity to take clinical notes without appearing 'rude'. Furthermore, it was felt that being able to consult with a patient digitally first, and then face-to-face, increases the productivity of the face-to-face consultation:

- GPs found it easier to organise their workload; for instance, a GP explained how a patient booked a 10-minute face-to-face appointment because he needed some health-related information to fill a form, and completing the whole form would have taken 30 minutes. The GP was able to do a physical assessment and asked the patient to book another 20-minute follow-up digital appointment with him for all as the remaining information that was needed could be collected over the phone:

*"From my point of view, it doesn't, kind of, back up the whole clinic and it uses what's useful for the face-to-face point, as well as what's useful from a digital point."*

BGPaH GP

- GPs felt that they had a head start on complex cases; they found it helpful when having to see a patient with complex needs face-to-face to have a digital appointment first so they know what to focus on:

*"They've spoken to a doctor, an initial history is taken, maybe an initial management plan, and then part of that plan is to see someone face-to-face. So, when I see that patient in clinic I already have some information about what's discussed, what's the issue. So, for me, that's quite helpful, so it decreases the amount of time I may need to start taking a history comprehensively again, if that makes sense. So, having had that first triage is quite helpful in clinic, because you know what issue is, know what needs to be done, and so you've already got that little head start which, again, in traditional general practice someone walks in the door you don't know what's going on and you've got ten minutes, and it can be difficult if it's complex and you don't know some of the background."*

BGPaH GP

### Impact of other digital-first models on workload

It is possible that both models increase the workload of practices' administrative teams. Receptionists play a pivotal role in raising awareness among patients, and assessing whether they require a digital or face-to-face appointment.

However, similarly to BGPaH, the GPs taking part in the qualitative interviews felt both models had a positive impact on their efficiency because it allowed them to manage their workload more flexibly.

#### 3.4.6 Given changes in recruitment/retention, training of new GPs, and primary care productivity what is the potential effect on total primary care capacity?

Given the lack of data available on consultation rates and patient outcomes, it is not possible to comment on the specific productivity or efficiency of BGPaH relative to traditional primary care practices or its potential effect on primary care capacity. BGPaH productivity is a reflection of the BGPaH employment model whereby they may have an excess of staff to meet projected future demand with appointments per hour per GP increasing in the future as patient numbers increase.

Evidence on recruitment and retention and training is also limited, with suggestions that for current GPs working for BGPaH it has provided flexibility and reduced levels of stress that may have resulted in some GPs not continuing to practice. However, the evaluation could not find evidence on the long-term recruitment implications of the NHS moving to a digital first primary care model where GPs will largely be physically remote from their patients but with potentially a more flexible work life balance.

Evidence from the evaluation is therefore too limited to provide conclusions on how a digital first primary care model would impact on total primary care capacity. To understand this question fully, evidence is required on:

- long term data on consultation rates per hour by digital first GPs;
- how many appointments patients with the same conditions have with a digital first GP compared to traditional GP in supporting that condition;
- how moving to a digital first model would influence the number of newly qualified doctors who choose to enter primary care.

#### 3.4.7 What is the impact of the model on indemnity, risk taking, and mistakes by GPs?

The evaluation has collected limited evidence on perceptions of the impact of the model on indemnity, risk taking and mistakes by GPs. Interviews with BGPaH doctors, and a number of policy stakeholders suggest that **a digital-first model such as BGPaH can pose a number of challenges related to those issues, but there are some features (such as the facility to record consultations) that are positive.**

##### Indemnity

Stakeholders raised concerns about the potential impact of the model on indemnity. They thought that the loss of personal relationships between patients and GPs could potentially lead to an increased risk of complaints. It could

lead to an increase of misdiagnosis and subsequent legal claims for compensation if a physical examination or appropriate investigations have not been carried out. However, the BGPaH GPs were more positive about the impact of the model on indemnity. Given that their consultations are recorded and can be replayed anytime, they felt somewhat 'protected'. This provided them reassurance that conversations could not be 'twisted'.

*"All of the consultations, as well, are recorded, and so that's good for the patient, but also it's good for us from an appropriate action from a clinician point of view. So, we've had guidance on what to do from a chaperone point of view, if you need to do an intimate examination point of view, if you need immediate help, like calling the police, those types of things, what to do in that context."*

BGPaH GP

### Risk-taking

Some stakeholders wondered whether the digital-first model would lead to GPs being more risk-averse, and an associated increase in referrals and prescription rates. The evidence available to the evaluation suggests that this is not the case, with prescription rates for antibiotics generally lower than in other practices when age and sex standardised<sup>97</sup> (see Section 3.5.3), and BGPaH GPs feeling confident in their digital consulting skills.

Overall, GPs felt positive about their ability to consult patients remotely, and were clear about when a patient needed to be seen face-to-face. Some talked about how digital consulting is not suitable for everybody, especially more risk-averse GPs.

*"I think, for people like myself, we feel confident in making choices that are decisive, and so are, you know, the GPs that we recruit. They take ownership of their decisions, and it's going to be fine."*

BGPaH GP

As discussed above, some stakeholders discussed the importance of adequate training to prepare inexperienced GPs to deliver digital consultations.

*"I think there's a bit of education that needs to go in that space, and I think we need to really upskill the workforce, because there's a danger when we see somebody virtually, and you're not trained to do that, that you over-ask and you overcompensate because you want to protect yourself."*

Stakeholder

### Mistakes

GPs acknowledged there were inherent risks in a digital-first model, but were confident in their skills. They felt that undertaking any clinical assessment of a patient is difficult and that doing it safely when one cannot see or examine the patient is even more demanding. However, they felt confident in their skills due to the training they had received, as well as the ability they had developed over time to adapt their communication and consultation skills to this model. It was acknowledged that this consultation mode wasn't suited to every GP, and it required not only experience of this particular type of consultation but also confidence.

---

<sup>97</sup> The antibiotics prescribing data is from OpenPrescribing.net and based on STAR\_PUs which standardise as far as possible for demographic differences in practice lists.

*“If you're not confident and you're not competent then you should not be entering that. Not all GPs are cut out for this. In digital consulting, if you do not have the skills and you are not accessing the resources for guidance in terms of medicines or up-to-date guidelines, then you are prone to risk.”*

BGPaH GP

As such, the GPs suggested that the potential for mistakes was greater in a digital-first model, but believed that the necessary safeguards were in place in BGPaH. As discussed earlier, this included what they classed as good clinical support. However, it is worth noting that some patients might find it harder to provide adequate information and their medical history during a digital appointment, and this could have an impact on the number of mistakes made by GPs. While GPs felt confident they could take a comprehensive medical history and pick up a number of cues over the phone, they agreed it took some practice, and was also sometimes dependent on the articulation level of a patient.

### 3.5 BGPaH outcomes

This section of the report addresses detailed evaluation questions about changes to patients' use of a range of health and social care services, and BGPaH's prescribing of medicines. It also considers the impact of the service on referrals. It draws on analysis of primary care data for BGPaH patients and secondary care data for the whole of London including BGPaH, plus prescribing data of the BGPaH practice obtained from the OpenPrescribing platform.

#### 3.5.1 How does the number (and length) of contacts with GPs change?

As noted in Section 2.2.4, BGPaH patients appear to be using the service more than might be expected given their age and health status. The survey results show that patients reported using BGPaH more regularly than their previous GP practice. Nearly half of GP at hand patients (47%) said that they use GP at hand more regularly than their previous GP practice; a similar proportion (42%) said they use the service with the same regularity, while only eight per cent use GP at hand less regularly than their previous GP practice. The qualitative interviews provided a number of reasons for this, including being unable to obtain an appointment at their previous practice, and not wanting to speak to a GP or healthcare professional in a face-to-face environment (for example, those with mental health conditions).

*“Definitely more. I'm much more inclined to seek help from GP at hand.... Because my previous experiences of going to GP surgeries has been extremely unpleasant and inconvenient. The usual thing, the receptionists are generally unpleasant and unhelpful, and you have to sit in an unpleasant waiting room and with generally sick and not very attractive people, for a long time, and when you get there the doctor, in my experience, displays very little interest in whatever it is and can't wait to get you out... they are not places I want to go to in case it's a real emergency... I would go to a walk-in centre.”*

BGPaH Patient

The qualitative interviews highlighted that this increased activity may have both positive and negative implications. Some patients said that because they find it so much more convenient, they use it more for minor issues that they may not have got an appointment for previously. In some cases, it may be meeting previously unmet need (and potentially preventing more serious or acute problems at a later stage); in others, it may be encouraging patients to use services when self-care may have been sufficient. In addition, it may be replacing use of other services. For example, some patients said they had chosen not to use their GP in the past, preferring to use walk in centres or, on occasion A&E (both as an alternative to their GP, or because they had left something until it became urgent).

### 3.5.2 How does use of NHS 111, A&E and hospital care change?

This section makes use of both NHS England cohort analysis, to understand how BGPaH patients' use of health services changes over time, and analysis from the evaluation team to understand whether BGPaH patients' health service use is more or less than would be expected given their characteristics.

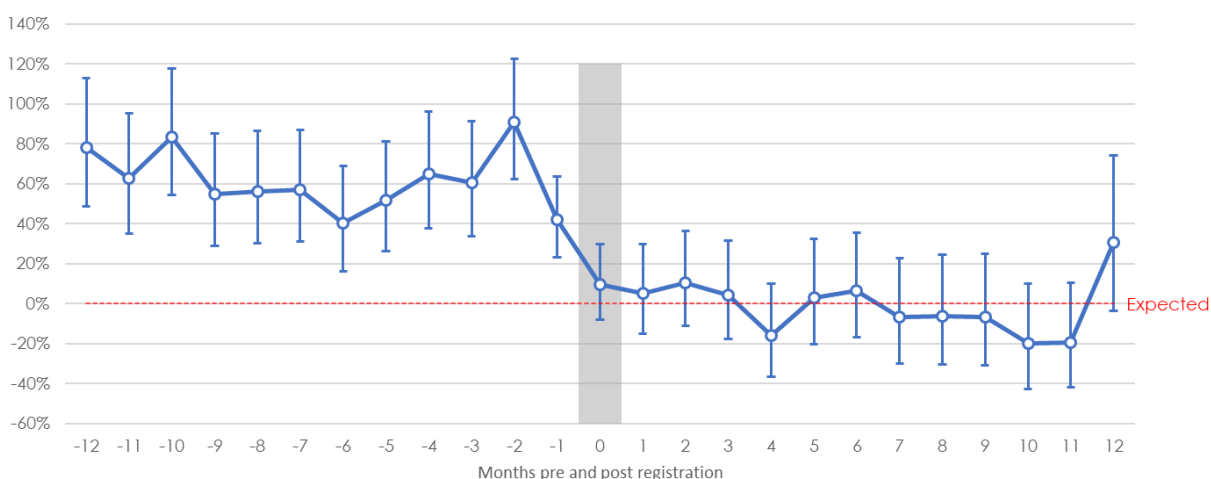
The NHS England cohort analysis tracked on a monthly basis BGPaH patients' use of NHS 111 and hospital services, and compared these activity rates with those for a similar London population. Comparisons were age and sex standardised to account for the demographic characteristics of BGPaH patients.<sup>98</sup>

The evaluation team examined data on hospital use by BGPaH patients and a control group consisting of other newly registered patients in London with similar demographic characteristics, but who were also propensity matched for similar resource use in the period prior to registering with a new GP.<sup>99</sup> Both analyses examined activity for both groups in a period before and after registration with a new GP or BGPaH.

Although these analyses adjusted for demographic differences and employed robust statistical regression to enable comparisons to be made, results should be interpreted with caution. Data linking primary care activity with secondary care use was not available, and primary care data such as presenting condition and whether or not patients were referred following a GP consultation were missing from the data provided for evaluation. Consequently, while there may be statistical significance in some of the results, because we were unable to control for some potential confounding factors, there remains some uncertainty about the cause of any observed results.

As discussed in Section 2.3, BGPaH patients are higher users of some services before joining BGPaH than might be expected given their age and health. However, this reduces after joining, suggesting that the service reduces A&E and NHS 111 use for a population of high users. For example, NHS England's cohort analysis shows that in the year after registering with BGPaH, patients' use of NHS 111 and A&E reduces to around expected rates for a similar population of newly registered patients in London (Figure 3.7). The reduction in the NHS 111 call rate suggests patients are using the BGPaH service instead of NHS 111 to some extent, but the service does not completely replace it.

**Figure 3.7: BGPaH 111 call rate v newly registered London patients (age & sex standardised)**



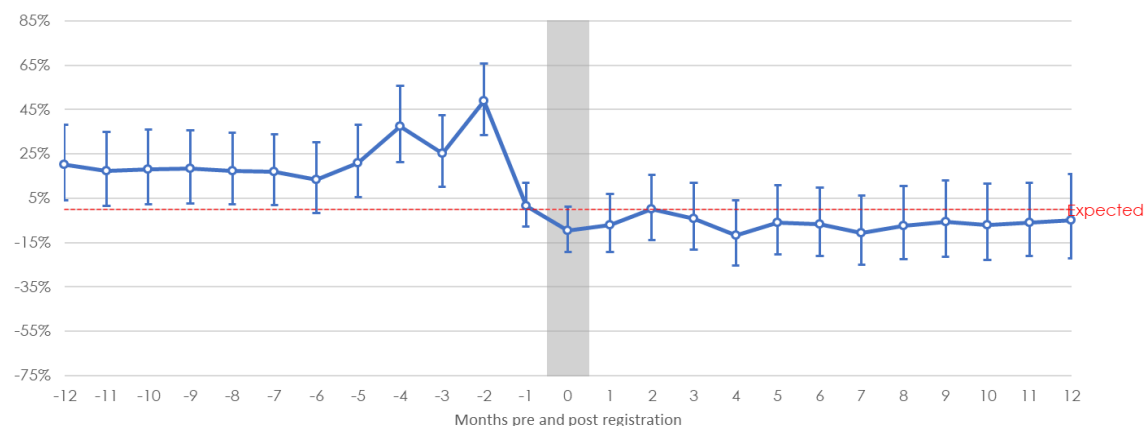
Source: NHS England

<sup>98</sup> Full details of the cohort analysis approach are included in the Annexes.

<sup>99</sup> Full details of the approach used are contained in the Annexes.

Similarly, A&E attendances are higher in the months immediately prior to registration compared with a population of newly registered patients in London. Again, analysis shows a reduction over time following registration (Figure 3.8). Analysis of other secondary care activity highlights that BGPaH patients' use of outpatient appointments before and after registration is lower than that of other newly registered patients. Rates of elective and emergency admissions are also slightly lower before and after registration than rates for similar newly registered patients.

**Figure 3.8: BGPaH A&E attendance rate v newly registered London patients (age & sex standardised)**



Source: NHS England

However, when these patients are compared with other patients with a similar propensity to use services, there are few differences in their use of these services after joining BGPaH. Although some statistically significant differences were observed, the health care resource use differences between the two cohorts were minimal.

For analyses where statistical significance was noted:

- there were five fewer emergency admissions per 1,000 population two months after changing practice for the control group compared with the equivalent time period before changing. In comparison there was only one fewer admission in the BGPaH group over a similar period, a "difference in difference" of four admissions more per 1,000 population (Table 6.16 in the Annexes).
- There was a difference in difference of 101 more bed nights after emergency admission per 1,000 population in the BGPaH group over a six-month period (Table 6.17).
- There was a difference in difference of 19 fewer elective admissions per 1,000 population in the BGPaH group over a six-month period (Table 6.20).
- There was a difference in difference of 38 fewer A&E attendances per 1,000 population in the BGPaH group over a six-month period (Table 6.22).
- There was a difference in difference of 219 fewer outpatient appointments attended per 1,000 population in the BGPaH group over a six-month period (Table 6.24).

There is variability in some of these results. For instance, the A&E attendance analysis showed an increase in attendances in the BGPaH group at the one- and two-month periods, before showing a decrease at six months. The lack of linkage between primary and secondary care data, and the lack of data on presenting conditions and



subsequent referrals mean that we cannot be certain about the extent to which the results can be attributed to the BGPaH service.

It is, therefore, difficult to conclude what the impact would be if the service was rolled out more widely. While even small differences could have a substantial impact at scale, the unique nature of the group of patients currently using the service makes generalising difficult. If the model was mainstreamed, and was used by a wider group of patients with different characteristics, then the findings of this analysis may not hold true.

The analysis of both the evaluation team and NHS England does have limitations, notably around the counterfactual group in both analyses. The counterfactual for the NHS England analysis uses a cohort analysis time series approach involving the analysis of those patients who remain registered with BGPaH compared with other newly registered patients in London age and sex standardised. The analysis of the external evaluation team extended the counterfactual analysis to include propensity matching of the use of secondary care services prior to registering with a new GP. There may be additional confounding factors that are either not present in the dataset (such as time living in the UK), or could never feasibly be collected (such as competence and confidence with using IT).

### 3.5.3 How does use and prescription of medicines (particularly antibiotics and opioids) change?

The evaluation has explored changes in prescribing patterns at the BGPaH practice, to test a number of hypotheses about the way in which a digital-first primary care might influence them, specifically looking at antibiotic stewardship; emergency contraception; antidepressants and anxiolytics; erectile dysfunction; nonsteroidal anti-inflammatory drugs (NSAIDs); and tramadol. This draws on primary care prescribing data via the OpenPrescribing platform,<sup>100,101</sup> and qualitative interviews with GPs and patients.

**The data shows the practice has low levels of prescribing in comparison with other CCGs and nationally for antibiotics when data is age and sex standardised.** The practice also appears to perform well in terms of prescribing of antidepressants and anxiolytics and NSAIDs but the analysis is less robust here. The qualitative interviews with GPs provide some supporting evidence for this. On the whole, GPs claimed that the guidelines at BGPaH were more restrictive than other practices, with an in-house pharmacist for advice, which GPs felt prevented over-prescribing.

*"Babylon and GP at hand have the most restrictive prescribing of anywhere that I've ever worked."*

BGPaH GP

Some GPs also said they self-regulate their prescribing habits because of the nature of the interaction (not knowing the patient as well as they might do, and/or not being prepared to prescribe a particular drug without a face-to-face appointment). They also offered other potential reasons for lower levels of prescribing, such as not feeling pressured to prescribe simply because a patient has travelled a long way to an appointment that they've waited some time for. They felt that patients were happier to accept information and advice, because they knew they can make another appointment if necessary. They further suggested that the facility to record the consultation meant that information provision is more useful.

<sup>100</sup> <https://openprescribing.net/> (OpenPrescribing.net, EBM DataLab, University of Oxford, 2019)

<sup>101</sup> Comparisons were made between the BGPaH practice and other practices within Hammersmith and Fulham CCG. For antibiotic stewardship, comparison can be made using the STAR-PUs for oral antibiotics reflecting the patient mix in each practice. For the other areas of prescribing, comparison can only be made on items prescribed per 1,000 patients and do not account for patient mix, so these analyses should therefore be interpreted with caution. Full details of the analysis approach are contained in the Annexes.

However, one GP talked about getting unusual requests from a demanding population that is very different from their normal practice.

*"We get lots of unusual requests. So, ones particularly are ADHD drugs which are controlled drugs and that's obviously been difficult to negotiate...I would say that the issue is that the population that you see are very intelligent and demanding and can be quite manipulative. So, you do have to be very careful about your prescribing habits because you are getting requested to prescribe things that are unusual and inappropriate."*

BGPaH GP

It is notable that patients in the qualitative interviews frequently mentioned the ease of obtaining repeat prescriptions when talking about the advantages of the service. As stated though, this does not appear to have translated into higher rates of prescribing of medicines, as might have been expected. The evidence relating to each type of medicine, where data is available, is outlined below.

### **Antibiotic prescribing**

It was hypothesised that BGPaH would display higher prescribing of antibiotics (based on STAR-PU), compared with other practices in the CCG or nationally, due to the population served and the digital-first model. However, overall the data suggests that unnecessary use of oral antibiotics is not an issue for the practice relative to other practices within the CCG or nationally.

In December 2018, the practice ranked the 12th highest adjusted antibiotic prescriber out of 29 practices in the CCG. However, the CCG is one of the better performers nationally, so while the BGPaH practice is just above the median in the CCG, nationally the practice was in the bottom 12th percentile for adjusted antibiotic prescribing.

Similarly, the practice performed well during 2018 (below median) relative to GP practices nationally against other antibiotic stewardship measures, specifically 'three-day courses for uncomplicated UTIs', 'co-amoxiclav, cephalosporins and quinolones', and 'prescribing of trimethoprim vs nitrofurantoin'. The exception to this trend was for the NHS England low priority measure of minocycline prescribing, for which BGPaH was in the 79th percentile in December 2018.

### **Emergency contraception**

It was hypothesised that BGPaH would display a higher use of emergency contraception based on research in walk-in centres that has shown that emergency contraception was one of the most common reasons for attending. It could therefore be hypothesised that this would be a driver of wanting quick medical advice via a service such as BGPaH. It would appear that during 2018, the practice has been amongst the higher prescribing practices of emergency contraceptives in the CCG<sup>102</sup>. However, prescribing of emergency contraceptive drugs since 2014 has been erratic for all practices in the CCG, making conclusions on the behaviour of the practice difficult to appraise, even if an appropriate weighting to prescriptions (rather than just list size) could be used.

### **Antidepressants and anxiolytics**

There was no clear hypothesis as to what higher or lower rates of prescribing would imply for antidepressants and anxiolytics, but it is a key area of prescribing and therefore warranted investigation. Rates of prescribing seem to have been well controlled relative to other practices in the CCG during 2018. This needs to be caveated by the fact that the analysis is only based on list size and is not adjusted for patient characteristics.

---

<sup>102</sup> Information on emergency contraception is available on the use of ulipristal acetate and levonorgestrel

From the start of 2018, rates of antidepressant prescribing have been consistently below the median for the CCG during 2018. For anxiolytics, rates have been amongst the lowest in the CCG throughout 2018.

### Erectile dysfunction

It was hypothesised that BGPaH may have a higher rate of drugs used to treat erectile dysfunction. Patients may feel that contacting a GP via telephone or video is more impersonal and might therefore prefer this mode of contact for sensitive personal conditions of this nature. However, as might be expected given the age profile of the BGPaH population, prescribing rates are amongst the lowest in the CCG during 2018. OpenPrescribing also provides information on the use of high cost drugs for erectile dysfunction. This showed that the practice was around the 50th percentile nationally in December 2018.

### NSAIDs

It was hypothesised that BGPaH would have a higher use of non-steroidal anti-inflammatories (NSAIDs). Higher rates of prescribing for NSAIDs or tramadol may indicate people wanting rapid treatment for a painful condition (e.g. sports injuries, back pain). Conversely, NSAIDs use could be lower if the patient list has fewer patients with chronic conditions such as arthritis, and this is the case for BGPaH, due to the profile of its patients. During 2018, the practice was in the bottom three practices in the CCG for NSAIDs prescriptions.

### Tramadol

High-cost tramadol is one of the performance indicators for prescribing and it was hypothesised that BGPaH would have a higher use. Rates are amongst the lowest prescribing practices in the CCG during 2018. However, use of high-cost branded formulations of tramadol by the practice have frequently been amongst the highest in the country. In December 2018, these were in the 94th percentile nationally with 41.9% of all tramadol prescribed in that month by the practice being high-cost preparations.

### 3.5.4 How does the number and type (including to specialists, community and social services) of referrals change? Is there any difference in the quality or appropriateness of these referrals?

While the qualitative interviews have provided some limited insight as to GPs' own perceptions of their referral patterns, there was no data available on the number, type or quality of referrals by BGPaH to be able to answer this question sufficiently. This was because Babylon were unable to provide these data as part of the dataset they provided for analysis.<sup>103</sup>

GPs that worked remotely (i.e. only providing digital consultations) felt that they were referring patients to services less frequently than they did in their other practices. This was because they would often request the patient attended a face-to-face appointment before they were referred on to another service. There were some exceptions to this, for example for some dermatology referrals (if the image via the video was of good enough quality to adequately assess the patient) or some mental health referrals. The GPs balanced up the need to ensure the appropriateness of the referral with the potential delay that an additional appointment would entail. One GP, who worked in one of the clinics providing face-to-face appointments described them as a "*conduit to referral*" and speculated that referral rates from those appointments (in isolation from the digital appointments) may be higher than at other practices, though rates as a whole may be lower.

---

<sup>103</sup> Data on referrals would be available in other datasets which were initially considered for the evaluation. However, it was decided to use Babylon BGPaH's own data as it would be a better source for the range of evaluation questions being answered. The dataset provided did not contain referrals data. See Section 1.2.4 for a discussion of the limitations of the data.

However, in order to answer this evaluation question, data on referral patterns would be required to show the proportion of BGPaH digital consultations that lead to referral, the proportion of BGPaH face-to-face consultations that lead to referral, and the proportion of all BGPaH consultations that lead to referral. This could be compared to national data about the proportion of GP consultations nationally that lead to referral.

### 3.6 Impact on the wider system

#### Impact on the wider system

This section of the report considers the resource impact of BGPaH on local health systems and the potential impact of mainstreaming similar primary care services in the NHS. The extent to which these questions can be answered was constrained by the available evidence. For example, it is not possible to explore the cost-effectiveness of the model (i.e. the extent to which the health benefits gained outweigh the costs) due to the absence of data on patient outcomes (i.e. the improvements in a patient's health as a result of the GP consultation) and the costs of the provision of BGPaH. From the available data we have been able to consider:

- healthcare resource usage – do BGPaH patients use more or less healthcare resource compared with similar patients in other GP practices?
- the factors that are useful to consider in relation to the potential affordability and sustainability of the BGPaH model if it was mainstreamed in the NHS; and
- the extent to which the current funding formula is appropriate for a digital-first practice such as BGPaH.

#### Healthcare resource usage

As discussed in Section 3.5.2, the evaluation found that BGPaH patients did not use secondary healthcare services considerably more or less than similar patients matched as accurately as possible with the data available. Although some statistically significant results were observed, these are hard to interpret without more detailed understanding of the links between primary and secondary care data.

In relation to primary care, BGPaH patients do appear to be using the BGPaH service more than may have been expected given their age and level of morbidity. However, in the absence of a control group, it is not possible to know whether consultation rates are genuinely higher than would have been expected had the patients been registered in a traditional practice. In addition, given that the service is still relatively new, longer-term data on consultation rates will also be needed to explore whether consultation rates change the longer a patient has been registered with BGPaH.

More importantly, as there is no patient outcome data, even if additional demand for primary or secondary care services had been observed in BGPaH patients, no conclusions could have been drawn on whether this demand was an appropriate use of healthcare resources. Future research must focus on understanding the short and long-term health outcomes for patients who access digital-first services. This means considering the extent to which these services are able to more effectively treat patients with less acute conditions in the short-term, and more effectively manage long-term conditions. Without this information, no conclusions can be drawn on the cost-effectiveness of digital first services, i.e. whether the outcomes achieved are commensurate with the resources dedicated to such services.

#### Affordability and sustainability of the model

In considering the impact on the wider NHS if the BGPaH model was to be rolled out more widely, thought must be given to the ways in which the model differs from traditional GP practices. The model requires a considerable bank of GPs to provide a continuous consultation service over a 24-hour period, usually delivering consultations within two hours for a virtual consultation with a GP. There are currently 124 individual GPs currently providing the BGPaH

service for around 50,000 patients, and, to deliver 24-hour access to a GP, this number must include clinicians who are willing to work unsociable hours. The BGPaH model is supported by IT infrastructure which Babylon has developed and which would need to be replicated in mainstream primary care services, if a similar model was to be adopted more widely across the NHS. For commercial sensitivity reasons, no data are available on the costs of maintaining the bank of GPs or the infrastructure development by Babylon, but commissioners would need to consider the potential costs involved in providing a similar service at a local or national level.

There are also elements of primary care that BGPaH is not required to provide, such as home visits for all patients, and support and visits to care homes. Further, interviews with BGPaH GPs have suggested that they generally do not provide holistic care for multiple issues in one virtual consultation, tending to focus on just one presenting problem per consultation. If the model was mainstreamed, these services and care would still need to be funded by the NHS and delivered by local primary care services in some other way.

At this point, the question of cost-effectiveness becomes relevant. Even if the BGPaH model cost more than current primary care services, it may still be cost-effective if the outcomes for patients are sufficiently better than through traditional practice. The evaluation team do not know if this is the case because data on patient presenting problems or outcomes was not available, and this should be the focus of further research.

Even if the cost-effectiveness of the service could be evidenced, and the costs involved in a national rollout were considered affordable to the NHS, there would be some challenges in its implementation and delivery. It is unlikely that individual GP practices would have the level of staffing to provide 24-hour access with appointments usually provided within two hours, or the resource to invest in the IT infrastructure required to be able to provide this model (alongside the existing model of primary care provision which includes having to undertake, for example, home and care home visits). It is, therefore, important to consider this in the context of ongoing wider system reform such as support for larger scale collaboration between practices and other providers, and the development of Integrated Care Systems and Primary Care Networks.

### **Appropriateness of the current funding formula**

The current method of funding GP practices (outside of quality payments under the Quality and Outcomes Framework (QoF)) is primarily through the Global Sum Allocation Formula (the Carr-Hill formula) where a payment per registered patient is made based upon:

- the age and gender profile of a practice population (per patient payments are higher for females than males and for patients under 5 and over 14 with payments getting greater as patients age);
- the number of people in nursing and residential care (patients in nursing and residential care attract a higher payment);
- practice list turnover (new patients attract an additional payment in the first year);
- additional needs in the local area measured by standardised limiting long standing illness (65 and over) and standardised mortality ratio (under 65) (the higher the additional needs in a population the higher the payment);
- a market forces factor (essentially higher payments in areas of higher cost such as the South East); and
- the rurality of patients (rural practices have higher payments than urban practice).

For example, a rural practice in the South East with a greater proportion of older and female patients would receive more money per patient than an urban practice in the North East with a younger population that was predominantly male. This is to reflect the increased costs of providing consultations for the population in the South-East practice.

To understand whether the Carr-Hill formula is appropriate for a digital first practice, consideration needs to be given to the costs of the service and the demands placed upon it by registered patients.

The evaluation team requested information from BGPaH on the costs of the service but this information was not provided. However, the evidence available suggests that the Carr-Hill formula may not work well in establishing the costs of providing GP services for patients who choose to be treated through a digital first service and, therefore, in providing appropriate funding levels.

From a demand perspective, patients registered with BGPaH are younger than the general population, indicating their use of primary care services ought to be lower than the general population. Whilst this should be accounted for in the Carr-Hill formula, it does not account for the fact that BGPaH patients have fewer long-term conditions than might be expected (based on analysis of age and sex standardised QOF registers). This may suggest that the additional needs assessment of the Carr-Hill formula (which looks at the local area and not the practice population) may be overcompensating BGPaH for the actual health needs of their patients. Despite this apparent lower prevalence of LTCs, consultation rates are still higher than might be expected. Unfortunately, the limitations of the evidence mean the evaluation team lacks certainty about BGPaH consultation rates, due to the observational nature of the data with no comparator group.

Limitations in the evidence that could be gathered from the evaluation on the primary care resource use of BGPaH patients and the costs of providing the service allow very limited conclusions to be drawn on whether the Carr-Hill formula was providing a 'fair' level of funding for the patients registered with BGPaH (i.e. sufficient to reflect the costs of providing care), or whether it is overly generous, at the expense of providing adequate funding to traditional practices. To address this issue adequately, more evidence should be gathered on the consultation rates and outcomes of patients registered with BGPaH and other practices. This would help to provide a better understanding of how different patient characteristics (including age, sex, patient level socio-economic status and different long-term conditions) impact on the total costs of providing general practice care using different models of service delivery.

This would help to identify whether there is a need to change the allocation formula to account for the model of service delivery and so that additional health needs were calculated at a practice rather than locality level. This could be established through practice disease registers rather than population based indicators as is the case currently. Additional transparency on the costs of the services such as BGPaH would also be required for such a review of the formula, although the evaluation team acknowledge the potential commercial confidentiality issues of releasing such information.

Another policy question is whether BGPaH has financially destabilised other GP practices in London (through the removal of younger, healthier patients from the list). Analysis by NHS England indicates that BGPaH patients were previously registered at a large number of CCGs and other practices (see Table 3.2). This indicates the impact on any singular practice or CCG would be minimal if the patients now registered with BGPaH were indeed subsidising patient care through the Global Sum Allocation Formula in their old practices. However, this impact may increase in future if BGPaH was to continue to increase in size.

**Table 3.2: Ten CCGs with the largest number of residents registering with BGPaH, Feb 2019**

CCG Name	Total Moved	% of CCG List moved	% of registrations since July 2017
NHS Tower Hamlets CCG	4,902	1.6%	8.5%
NHS Islington CCG	3,290	1.4%	5.7%
NHS Southwark CCG	4,045	1.2%	7.0%
NHS Hammersmith & Fulham CCG	3,030	1.1%	5.2%
NHS Lambeth CCG	3,789	1.0%	6.5%
NHS city and Hackney CCG	3,179	1.0%	5.5%
NHS Camden CCG	2,480	0.9%	4.3%
NHS Wandsworth CCG	3,228	0.9%	5.6%
NHS Newham CCG	2,940	0.9%	5.1%
NHS Westminster	2,022	0.8%	3.5%

Note: Includes patients that have registered and then de-registered from BGPaH.

Source: NHS England

There may also be other relevant factors in terms of the overall financial impact of this model, both locally and if a similar model was rolled out nationally. For example, practices receive an additional payment for patients in the first year of registration (an uplift of 46%). As noted in Section 3.3, BGPaH experiences a higher de-registration rate in comparison with other London practices. Therefore, if this level of de-registration continued, this additional cost could be significant as patients move around the system from one practice to another. This could also create an administration cost to the NHS, though evidence on the size and significance of this administration cost could not be identified by the evaluation. It is unclear whether this level of de-registration will continue and is a feature of services like the BGPaH practice, or whether it is merely a 'teething problem' that will settle down as people develop a better understanding of the way these types of GP practices vary from traditional care. Further evidence should be gathered on the costs of registering and de-registering from GP practices, and whether the level of de-registration rates of the BGPaH practice begin to fall.

### Wider societal impacts

Finally, at the level of individual patients, some patients commented that BGPaH benefits them financially, as they can have digital appointments without taking time off work. When asked about the main advantages of BGPaH in the patient survey, 15% stated they didn't need to take time off work for an appointment and 11% stated they didn't need to travel to an appointment. On the other hand, some patients noted the caveat that when a face-to-face appointment is required they may need to travel, and slightly further distances than for their previous GP. The net financial impact to patients (based on an average consultation rate of 4.3 per year) is likely to be minimal but at a national level, potential economic benefits from reductions in travel time and time off work for patients should be considered if the BGPaH model were rolled out across the NHS.

## 4 Conclusions and implications

New technology can enhance patient care and improve efficiency of delivery and health outcomes. The use of digital technology in primary care has this potential. The introduction of Babylon GP at hand (BGPaH), in November 2017, has been a major test case for the demand for a service like this. Since its introduction, it has had a significant impact on discourse on the subject, and may well have, in part, stimulated policy makers and politicians to commit to rolling out variants of this approach more widely. These models are already proliferating throughout the NHS, and other health systems.

These circumstances provide a strong case for robust analysis and evaluation of these innovations. Given the speed of innovation and roll-out, a process and early outcomes evaluation which provides robust and, where possible, generalisable findings as soon as is feasible is necessary. This evaluation has provided the first structured analysis of this service. It has sought to be as comprehensive as possible, but limitations of time and data mean that some key questions would benefit from further research over a longer time period.

This concluding chapter brings together the most important findings from the evaluation, covering the impact of the service as it is currently being delivered on patients, workforce and the wider health system. It also explores the possible implications if the model was to be rolled out further and mainstreamed, and highlights learnings that may be useful more widely.

### Patients

Despite the scale of the service at this point, interpretations and generalisations should be made with care. The group of patients currently using BGPaH is self-selecting and has been part of an enormously high-profile, novel service. This has hampered efforts to conduct robust comparative analysis throughout. They are differentiated from the rest of the population by demographic and health characteristics. There is also emergent quantitative and qualitative evidence that the group are dissatisfied with existing services and care models, but relatively high users of them, and are, therefore, motivated to identify alternative solutions to their care needs such as BGPaH. They are early adopters of a new type of digital-first service, but are sizeable in number.

The rapid, unprecedented, and continuing growth of BGPaH implies there was a latent demand for a service of this kind amongst a segment of the population. The rate of growth has been relatively consistent across the lifespan of the service, including in more recent months, suggesting that demand is still unmet – there has consistently been 500-1000 new joiners per week over recent months (though of course this must be considered alongside the significant numbers choosing to de-register each week). Nevertheless, the sustained growth in list size shows an appetite for 'something', that was not being met by traditional general practice.

Conversely, the BGPaH service is not currently being used by large numbers of patients with complex needs, potentially linked to the cautionary note about the suitability of the service for some patients, and the current advice that patients should be willing and able to travel to face-to-face appointments. This clearly limits the number and type of patients that are likely to use the service and raises the possibility that those with the greatest health needs will benefit least from the mainstreaming of such a model. It also raises questions about the financial impact of the service on the wider health system. There are costs attached to dealing with patients with complex needs that BGPaH is not incurring – and this is discussed later in this section. While the evaluation has not been able to identify how many patients are actually advised to de-register,<sup>104</sup> or on what grounds, it is an area for further

---

<sup>104</sup> BGPaH state that 10 patients have been advised to de-register.



consideration. This is particularly relevant for BGPaH given the fact that a large proportion of its patients live outside of the practice area.

Satisfaction is high for most BGPaH patients and more so than a matched sample of other patients with their own practices. However, the differences are not wide on all measures, and it is only in relation to access where we see a particularly substantial difference. These patients have chosen a model on the basis of access and convenience, and are comparing their experiences with their previous experiences of 'traditional' general practice. This evaluation has not concluded that this is the optimal model of care for these patients – just that the high levels of access and convenience offered by this model are highly attractive to this cohort of patients. It is likely that providing access to a GP when they want it is at the heart of their satisfaction – and this does not need to be delivered via an app or through video consultations. In fact, the data show that large numbers of patients choose a telephone consultation, which of course, is something that many traditional practices can and do offer – but they do not offer appointments 24 hours a day within two hours.

Feedback on the face-to-face aspects of the service also requires consideration as it is generally poorer, and some patients state they are unlikely to travel to face-to-face appointments if they need them. It may be that users expecting a service delivered through a mobile app will always be disappointed by having to travel. Either way, it is important for several key reasons, all of which will need monitoring over a longer period of time:

- They may not use the service if they are too ill to travel and therefore present elsewhere (BGPaH advises patients to call 111 if they are unable to travel to a face- to-face).
- They may be less likely to attend for screening appointments, requiring significant effort on the part of the practice to ensure adherence.<sup>105</sup>
- There are fewer opportunities for opportunistic health promotion and prevention activities, which are seen to be a key role for general practice.

Further, while feedback on aspects of the quality of care are good, this may be linked in part to the nature of the consultations required by this group of patients – which tend to be less complex than seen in other practices (in terms of the condition and number of presenting problems). Traditional general practice provides holistic care, for example, dealing with multiple issues in one consultation, and this may affect patient perceptions of the quality of the consultation (for example, the amount of time they were given to discuss their problem). Further research would be needed to explore this in detail.

Similarly, continuity of care does appear to suffer in this model. This is not perceived to be an issue by the majority of its current users who either don't desire continuity of care, or have managed to achieve it to the extent that they do. However, taking these points together, it seems that the model meets the needs of a specific segment of the population for a limited set of needs. It raises questions about the extent to which the service is valid for a more diverse and multi-morbid population whose care needs may generally not be suited to the digital medium or who are entering the service with a relatively low level of activation. Further work is required to understand exactly what proportion of people using general practice services can have their needs met by a service of this kind. A key focus would be trying to calculate the numbers who can effectively receive the vast majority of their care remotely.

---

<sup>105</sup> A document provided by BGPaH shows that cervical screening rates (as of February 2019) have improved to 62% from 53% in November 2018, and outlines steps that it is taking to improve coverage.

The relatively high satisfaction scores should also be contextualised by a high drop-out rate; not enough is currently known about why people are de-registering, and it remains a key gap. Some patients appear to de-register when their health needs change, but it is not known why others do so, particularly so quickly after joining. For example, it may be because the service doesn't meet their needs or that they had a specific need that was dealt with quickly and so left, having obtained what they wanted.

## Workforce

BGPaH is staffed by a large, flexible workforce. Analysis of the overall efficiency of the service raises significant questions about possible transferability and scalability of the model to other areas and wider groups of patients. There are aspects of the BGPaH model which differ from the traditional primary care model – for example, the flexibility of staffing (including use of locum staff) required to meet the two-hour target, administration breaks that BGPaH GPs get, and the fact that they are not required to carry out management tasks as they would in other practices. The model itself, whereby GPs see both private and NHS patients in one session makes the picture more complicated, and more data on the proportion of private versus NHS consultations would be required to understand this point and answer the question satisfactorily. However, it is clear that the GP workforce required to deliver the service will need to continue to grow at a significant rate to support further expansion, either by encouraging existing employees to work more hours or by attracting more GPs to the service. Both have implications for the size of the workforce.

GPs stated a consistent set of motivating factors for working for BGPaH; primarily they were attracted by the potential of a better work-life balance. The ability to work part-time, flexibly and remotely, means that it is an attractive offer for some GPs with positive implications for recruitment and retention. However, the net impact on the wider workforce is not clear – if large numbers of GPs choose to work for a digital-first service like this, this will have implications for the size of the workforce available to work in traditional general practice. It is also not clear what the impact would be on the number and profile of GPs choosing to enter primary care, if digital-first models were mainstreamed.

Furthermore, GPs appear very satisfied with working for BGPaH. In addition to the better work-life balance they feel they have achieved, they are also positive about the support and development opportunities provided. While GPs noted that their relationships with colleagues were affected by the BGPaH model, on balance they were positive about its impact. In spite of working remotely, they managed to guard against feelings of isolation, through their own efforts to continue to work in traditional general practice, or through the efforts of BGPaH as an employer. They were particularly positive about the processes in place to monitor and develop their performance.

Regardless of whether the BGPaH model is mainstreamed, there are learnings for policy makers and the profession as a whole about the features that are attracting GPs to work for BGPaH and that keep them satisfied with their work. It may be useful to consider if and how these features can be replicated more widely in conventional general practices.

There do appear to be downsides of the model, however. For example, in addition to working remotely, BGPaH GPs often live (and work) outside of the communities to whom they are providing care, with implications for their understanding of the community and the local services. BGPaH has implemented measures to mitigate these disadvantages, but there may be other ways to do this. For example, some digital-first models employ GPs from the local area only, though this of course would be difficult for the BGPaH model with its wide geographic coverage and the sheer size of workforce needed.

In addition, the BGPaH model is one of a number of emerging service models and working patterns that potentially limit the opportunity for young clinicians to develop their generalist skills. While most of the GPs currently employed by BGPaH continue to work elsewhere, potentially broadening their experiences, the evaluation has not explored the breadth of experience that they are exposed to, and this is an important point for those with responsibility for clinical education.

There is a linked but separate point for further thought if this model became mainstreamed. The need for training places would need to be considered, potentially as part of any contract for providers of digital-first models, to ensure that sufficient numbers of places would be available.

### **Wider health system impact**

The evaluation evidence on the impact of BGPaH on the wider health system is limited, but the findings and conclusions that have been drawn are intended to help policy makers and commissioners understand the potential implications of introducing similar digital-first models and their impact on other health service costs and resources.

It is difficult to form any firm conclusions on whether the apparent relatively high use of BGPaH simply results from the accessibility of the service. Even if this is true, it is uncertain how much of this may be due to meeting previously unmet need (i.e. people seeking consultations for health issues through BGPaH who were unable to access primary care through their former GP practice), and how much due to supply induced demand. Demand for services – both the online triage and virtual consultations – is highest just after registration. This may imply that supply of a new and novel service is an initial driver of demand, but this is not sustained, or that patients join BGPaH with a specific health concern that is addressed quickly. Longer term data on consultation rates for BGPaH and other practices, and importantly their outcomes, would be needed to understand how cost-effective the service is, regardless of higher consultation rates.

The patients using the service are also historically higher users of A&E and 111 than would be expected – and upon joining BGPaH their use of these other services is reduced. This may suggest that the service makes a useful contribution to the health system, in terms of reducing inappropriate use of other services. However, comparison with other patients with similar characteristics (and propensity to use services) shows that they behave in similar ways after joining a new GP practice. So it may be that joining any new practice has the same effect. It is also true that there is some evidence of patients leaving BGPaH when they have a need for hospital care. In this sense, the evaluation has not shown that BGPaH has an impact (whether positive or negative) on wider health service use. Care needs to be taken in interpreting these findings however as there is a lack of primary care data on referrals and patient outcomes, and also because of the self-selecting nature of BGPaH patients. BGPaH patients are atypical in terms of health care resource use compared to patients with similar demographic characteristics so further research, particularly into short and longer-term outcomes for digital first patients, is warranted.

The low levels of antibiotics prescribing (age and sex standardised) are encouraging, but it is difficult to draw firm conclusions, particularly given the lack of a useful comparator for other medicines.

The evaluation has not been able to fully address whether the BGPaH model is affordable and sustainable. However, some key considerations have emerged that may help inform thinking about the delivery of the commitment in the Long Term Plan to ensure all patients are able to access digital-first services. To sustain the enhanced access benefits of the BGPaH model requires considerable numbers of GPs and an embedded IT infrastructure. While the service provides rapid access for patients, certain aspects of primary care, such as care home visits, are not provided through this model. So it may be useful to consider these factors carefully in deciding how to provide a digital-first

primary care service. Even if such a system is affordable and sustainable, it may only be achievable alongside ongoing health system reform, and the scale of the redesign needed should not be underestimated.

Policy makers will also need to consider the appropriateness of the current funding formula (Global Sum Allocation Formula, or Carr-Hill Formula) for a digital-first service. The current funding formula is based on a number of factors including population demographic and illness profiles, but it does not take into account demand for services. The evaluation has shown that BGPaH patients have better health than comparable patients using traditional primary care but that they are higher users of primary care. Further research would be required to understand whether the higher use of primary care services was a product of specific health concerns or simply due to better accessibility. Consideration also needs to be given to the additional costs associated with the observed high levels of patient turnover in BGPaH. Further research would need to focus on whether this would be likely to be sustained if digital-first services were mainstreamed.

Finally, there are further questions as to how well the current BGPaH model fits within the current and future health landscape. For example, it provides a general practice service to a widely dispersed population of patients – defined principally by their wish to access services digitally, not by their geographical location. This presents a challenge for a system of Primary Care Networks if they are defined geographically. Other digital-first models however, could be integrated within these networks, providing digital services at scale but within a geographical boundary.

**Anna Quigley**

Research Director, Ipsos MORI Social Research Institute  
anna.quigley@ipsos.com

**Nick Hex**

Associate Director, York Health Economics Consortium  
nick.hex@york.ac.uk

**Camille Aznar**

Research Manager, Ipsos MORI Social Research Institute  
Camille.aznar@ipsos.com

## For more information

3 Thomas More Square  
London  
E1W 1YW

t: +44 (0)20 3059 5000

[www.ipsos-mori.com](http://www.ipsos-mori.com)

<http://twitter.com/IpsosMORI>

**About Ipsos MORI's Social Research Institute**

The Social Research Institute works closely with national governments, local public services and the not-for-profit sector. Its c.200 research staff focus on public service and policy issues. Each has expertise in a particular part of the public sector, ensuring we have a detailed understanding of specific sectors and policy challenges. This, combined with our methods and communications expertise, helps ensure that our research makes a difference for decision makers and communities.