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YHEC

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Evaluation of GP at Hand

Progress Report

Ipsos MORI and York Health Economics Consortium with Prof. Chris Salisbury

Contents

1 Summary

Ipsos MORI, working with York Health Economics Consortium (YHEC) and Professor Chris Salisbury[1] were commissioned in May 2018 to conduct an independent evaluation of babylon GP at Hand[2].

1.1 Purpose of this progress report

The aim of the progress report is to provide the Primary Care Commissioning Committee for NHS Hammersmith and Fulham Clinical Commissioning Group (CCG) with a:

- summary of the final evaluation approach following the evaluation scoping stage; and,
- an update on progress in delivering the agreed evaluation approach.

This progress report is structured as follows:

- **Chapter 2, Evaluation overview.** Evaluation aims and evaluation questions.
- **Chapter 3, Evaluation approach and progress.** Proposed evaluation methods and progress to date.
- **Chapter 4, Evaluation governance and timings.** Evaluation governance arrangements, and timings for the remainder of the evaluation.

1.2 Summary

1.2.1 Evaluation approach

The final evaluation approach, arrived at following completion of the scoping phase involves five key strands as set out in the table below.

Table 1.1: Summary of evaluation approach

Strand	Details
Quantitative assessment of patient experience	• Online survey of babylon GP at Hand patients to understand experience. • Comparative analysis against GP Patient Survey data to assess **impact** of babylon GP at Hand.
Qualitative practice-based case studies	• GP practice-based case studies at babylon GP at Hand and two other models of digital primary care. • Qualitative interviews with patients and staff to understand experience, and perceptions of impact on safety, effectiveness and outcomes.
Wider qualitative work	• Qualitative interviews with individuals/organisations to assess wider policy questions.
Economic evaluation	• Assessment of patient and system-level impact of babylon GP at Hand through analysis of routine datasets.
Secondary data analysis	• Synthesis and analysis of NHS England analytical work. • Analysis of available workforce data to understand impact on.

1.2.2 Progress to date

Progress of the evaluation to date has involved:

[1] Professor Salisbury is Professor in Primary Health Care, University of Bristol.

[2] The practice was initially known as 'GP at Hand' but was relaunched as babylon GP at Hand in October 2018.

- completion of the scoping phase (June – September 2018);
- agreement of the final evaluation approach with the Evaluation Steering Group;
- design and initial implementation of the patient experience survey;
- initial qualitative visit to two babylon GP at Hand locations; and,
- refinement of the approach to economic evaluation and negotiation of data access.

1.2.3 Timings

The evaluation is ongoing until March 2019, at which point a final evaluation report will be provided to Hammersmith and Fulham CCG and NHS England. (Further detail on timings is provided in chapter 5).

2 Evaluation overview

2.1 Introduction to the evaluation

Babylon GP at Hand 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[3]. 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 Health.[4]

NHS Hammersmith and Fulham CCG and NHS England are undertaking a programme of evaluative activities to understand the babylon GP at Hand practice and its impact on a range of audiences. As part of this Hammersmith and Fulham CCG and NHS England have commissioned an evaluation team, led by Ipsos MORI, working in partnership with York Health Economics Consortium (YHEC), and with advisory input from Prof. Chris Salisbury (University of Bristol) to undertake an independent evaluation of babylon GP at Hand.

This evaluation is a key component in a wider programme of work to evaluate the effectiveness and impact of babylon GP at Hand (see 2.3). This evaluation consists of 5 key strands. This report provides details of the approach, and progress to date, for each strand (see chapter 3).

The key strands are:

1. Quantitative assessment of patient experience.
2. Qualitative practice-based case studies.
3. Wider qualitative work.
4. Economic evaluation.
5. Secondary data analysis.

2.2 Evaluation questions

Babylon GP at Hand 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 seeks to help unpick. These fall under three broad areas:

- What is the impact of babylon GP at Hand 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 babylon GP at Hand on the **wider health system**? Building on work being undertaken by NHSE, consider the impacts on: other practices and their patients; CCG finances; referral pathways; overall demand and costs; productivity, efficiency and value.
- What is the impact of babylon GP at Hand on the **workforce**? To consider the potential effects of Babylon GP at Hand on staff, including: job satisfaction; pay; training, retention/recruitment/working patterns; workload; the patient/doctor interaction; and the wider primary care workforce.

It is also important that in considering the impact of babylon GP at Hand the evaluation does 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. This means exploring each element of the model, as far as is possible within the resource and timeframe of the evaluation, to try to understand each element and its contribution to the outcomes observed:

[3] babylon GP at Hand is the name of a GMS contract-holding general practice providing Primary Medical Services under the GMS Regulations 2015 in North West London, previously known as Dr Jeffries and Partners.

[4] NHS England, *GP at Hand Fact Sheet,* 2017. Online at: https://www.england.nhs.uk/london/our-work/gp-at-hand-fact-sheet/

- the digital-first 'offer' of babylon GP at Hand;
- the rapid access to primary care offered by babylon GP at Hand (within 2 hours, 24/7);
- the active marketing of babylon GP at Hand; and,
- the employment model and working arrangements for the babylon GP at Hand workforce.

The introduction of babylon GP at Hand also raises a range of wider policy questions which NHS England is exploring. While these are not the explicit focus of this evaluation, in designing the evaluation approach we have sought to be sensitive to these and ensure that any evidence generated that could contribute to answering these is recorded and fed back.

Based on initial internal analysis and exploratory work Hammersmith and Fulham CCG and NHS England identified a range of possible evaluation questions. During the scoping phase of this evaluation, these have been refined, and the key areas of investigation are outlined below.

A. Questions relating to activities and impacts

- A1. Who is accessing the service and what attracted them?
- A2. To what extent do users understand the service, and its implications?
- A3. How does the Babylon GP at Hand model work and what are the patterns of usage by patients?
- A4. How is this digital first model of primary care delivered and what are the resource implications of this?

B. Questions relating to outcomes and impacts:

- B1. What are the levels of satisfaction with Babylon GP at Hand?
- B2. What evidence can the evaluation provide regarding potential differences in clinical outcomes for babylon GP at hand patients compared to 'usual' GP services?
- B3. Why do patients de-register from the practice?
- B4. What changes (if any) are there to patients' use of health and social care services?
- B5. What are the workforce issues?
- B6. What evidence can the evaluation gather (or could be gathered in the future) to inform an assessment of the financial implications of a digital first primary care model such as Babylon GP at Hand?

C. Wider policy questions

- C1. How does this fit with wider NHS policy, now and in the future?
- C2. What options do NHSE/ CCGs have to effect change?
- C3. How might this model change in the future?
- C4. What other models are there for delivering a digital-first service?

2.2.1 Scope and limitations of the evaluation

The scoping phase has highlighted the difficulty of answering some of the evaluation questions. While the evaluation team have designed an approach that will seek to gather as much evidence against as many of the evaluation questions as is practically possible within the resource available, there will be some limitations to this. In particular, it is important to note that:

- The evaluation does not include a comprehensive assessment of the safety and effectiveness of the babylon symptom checker ('Artificial Intelligence' triage tool). It will explore patient use of the tool, and perceptions around the quality of advice given.
- The evaluation will only be able to provide **qualitative evidence** as to the safety and effectiveness of the babylon GP at Hand service, and therefore will be limited in the robustness of the conclusions that can be drawn in this area.

Beyond these limitations to the scope of the evaluations, the success of the evaluation in being able to answer some of the evaluation questions will depend on the ability to secure access to the necessary data and individuals (patients and staff).

2.3 Fit with wider evaluative work

There are three parallel strands of evaluative work focussing on babylon GP at Hand.

1. **Independent external evaluation.** This evaluation focuses on providing a robust and independent analysis of the outcomes and impacts of babylon GP at Hand.
2. **NHS England internal analysis.** Led by NHS England's Operational Research and Evaluation Unit, this work focuses on understanding the patient population, and service usage, as well as exploring other aspects (such as prescribing patterns).
3. **Ongoing clinical assurance.** Led by the Hammersmith and Fulham CCG clinical review team, an ongoing process of clinical assurance seeks to ensure that the service provided by babylon GP at Hand is safe, meeting contractual requirements and is addressing issues raised in initial clinical review.

3 Evaluation approach and progress

In this section we provide an overview of the approach for each strand of the evaluation and a summary of progress to date.

This approach has been developed from that put forward in the original proposal to undertake this evaluation following a scoping phase for the evaluation. This phase, commencing in June 2018 saw the evaluation team undertake a range of scoping activities including familiarisation discussions, and rapid review of evidence, literature and data, to refine the evaluation approach. The revised approach was presented to, and agreed with, the Evaluation Steering Group in September 2018.

3.1 Quantitative assessment of patient experience

3.1.1 Approach

An **online patient experience survey** of babylon GP at Hand patients has been designed to enable the evaluation team to:

- quantitatively assess the experience of babylon GP at Hand patients; and,
- compare this experience to that which would be expected from a similar patient cohort.

The survey covers experience of key aspects of the babylon GP at Hand model and includes questions designed to allow a comparison to wider primary care via the GP Patient Survey[5]. It also includes wider questions to understand the nature of the babylon GP at Hand patient population.

Questionnaire

The questionnaire covers the following topics:

- the registration process;
- overview of services (e.g. ease of accessing information);
- making an appointment;
- experience of most recent appointment;
- overall experience;
- future intentions;
- wider NHS service use;
- smartphone usage; and,
- demographics.

Consent (and contact details) for recontact are also being collected to allow the evaluation team to conduct qualitative interviews with a sub-sample of patients (see 3.2).

Survey administration

Information Governance restrictions mean that it would not be possible for the evaluation team to be provided with patient contact details to administer survey invitations. Babylon GP at Hand are therefore acting as 'gatekeepers' and sending out invitations to take part in the patient experience survey on behalf of the evaluation team.

As the invitation method is reliant on babylon GP at Hand administering the invitation, it is necessary to use an SMS approach. The evaluation team worked with babylon GP at Hand to explore other possibilities for sampling and inviting patients to participate in the survey, but the systems in place mean that it was not feasible to restrict an

[5] https://www.gp-patient.co.uk/

email invitation to only babylon GP at Hand patients. As a result, an SMS approach was considered the best way to reach currently registered babylon GP at Hand patients.

A single SMS invitation will be sent out, including a unique survey link for each patient. The SMS invitation will be sent out to all currently registered patients of babylon GP at Hand aged 16 and over (a 'census approach')[6].

Proposed analysis approach

The proposed approach to analysing responses to the patient experience survey is set out below. The final analysis approach cannot be designed until the level of response received to the patient survey is known, and this will be agreed with Hammersmith and Fulham CCG and NHS England, with input from the evaluation scrutiny panel.

- **Assessment of overall patient experience (across key metrics) within babylon GP at Hand**. This will allow exploration of the patient experience within the practice, including analysis by sub-group. This analysis will be based on all currently registered patients completing the survey.
- **Assessment of the variation in patient experience by key patient groups**. Dependent on achieved sample size we will undertake analysis of variations in patient experience across different groups of patients (e.g. age, sex, ethnicity, long-term condition, distance from clinic(s)).
- **Comparison of babylon GP at Hand patient experience to expected patient experience.** We intend to create a matched-sample[7] of non-babylon GP at Hand patients from the most recent GPPS dataset. This analysis will be based on all currently registered babylon GP at Hand patients who have been registered for six months or more (at the time of sampling).[8]

A key challenge in conducting any comparative analysis will be adequately accounting for differences between patients using babylon GP at Hand and wider patients. Initial analysis will assess how robust any such analysis will be and inform decisions about the final analytical approach.

3.1.2 Progress to date

At the time of writing this report, progress on this strand of the evaluation can be summarised as follows:

- The patient experience survey has been designed and implemented by the evaluation team.
- The evaluation team have been working with babylon GP at Hand since September to agree the process and timings for inviting patients to take part in the survey.
- The evaluation team are currently working with babylon GP at Hand to launch the survey as soon as possible. This work has included a series of 'soft launches'[9] to test the process which are still underway.
- Alongside this the evaluation team is currently negotiating the necessary Information Governance processes to secure access to the person-level dataset for GP Patient Survey (2018) from NHS England.
- Initial data analysis and refinement of the analysis plan will take place in early 2019.

3.2 Case studies to explore experience and outcomes

The second primary research strand of the evaluation is a series of case studies.

[6] At the time of writing the intention was to send the survey invitation to around 34,000 currently registered patients. Given the changing nature of the babylon GP at Hand population, the exact sample size will be determined at the point at which the survey is launched.

[7] Using a Propensity Score Matching approach.

[8] This is important to ensure the comparability of the sample with GPPS.

[9] This involves sending out survey invitations to small subs-samples of patients to test the invitation and survey process, ironing out any issues prior to a full launch.

3.2.1 Approach

The case studies have been designed to gather evidence to answer key evaluation questions that it is not possible to answer using quantitative data, and to provide supplementary evidence to help understand data collected as part of the patient experience survey and the economic evaluation. The evaluation team will conduct three case studies, as set out in table 3.1.

Table 3.1: Overview of case studies

Case study	Overview	Approach

babylon GP at Hand	• Core case study at babylon GP at Hand to understand how the model works, the experience of patients, and staff, and explore perceptions of the impact of the model on various aspects of importance to the evaluation.	• Site visit to two babylon GP at Hand locations (clinic and GP hub), including discussions with several key audiences:
		  ○ Practice manager
		  ○ Staff interview (nurse and GPs)
		  ○ Patient interviews
		• Additional qualitative in-depth interviews with:
		  ○ GPs.
		  ○ Current patients[10]
		  ○ Deregistered patients
		• Additional patient interviews to be agreed to explore particular groups or issues of interest.[11]
		• Follow-up analysis of available data (e.g. patient experience, workforce).

Online triage approach	• Case study at a practice using an **online triage-only** approach alongside 'usual' general practice delivery.
	• To allow comparison to another 'technology enabled' primary care model.
		• Desk research and exploration of available data to understand background to practice and refine key lines of investigation for interviews.
		• Will include understanding local practice context (current digital offer/list-size and mix etc).
		• Day-long site visit to practice by one researcher.
		• Discussions with several key audiences:
		  ○ GP Partner
		  ○ Practice manager
		  ○ Paired-depths/triads/mini-groups with staff
		  ○ Patient interviews
		• Follow-up interviews with additional patients ().
		• Follow-up analysis of available data (e.g. patient experience, workforce).

Blended approach (triage + virtual consultations)	• Case study at a practice using an **online consultation** approach alongside 'usual' general practice delivery. • To allow comparison to another model of digital primary care using online consultations.	

Interviews will vary in length but last up to one hour, and will use semi-structured discussion guides focussed on collecting evidence relating to the evaluation questions.

[10] Patient interviews, across all three case studies, will be conducted either by telephone or in-person, depending on the preferences of individual patients.

[11] The evaluation includes additional resource that will be used to conduct further qualitative research at babylon GP at Hand, for example to explore issues with any particular groups of patients emerging from initial qualitative work or the analysis of responses to the patient survey.

Selection of interview participants

The identification and selection of patients and staff to participate in the qualitative interviews is crucial to the success of the evaluation. The approach will vary across the case studies and is summarised below.

Babylon GP at Hand

- **Patients:** Patients will be recruited in two ways:
    - *Pragmatic* selection of patients attending face-to-face appointments during the evaluation team visit to the clinic.
    - *Purposive sampling* of patients following the patient experience survey. Quotas will be put in place to ensure a spread of patients with different characteristics: Demographics (age, gender, employment status); Distance from closest clinic; Utilisation rate (high; medium; low); Ongoing health conditions (no long-term health conditions; patients with one specific ongoing health need requiring regular consultations; patients with mental health problems ; patients with multimorbidity); nature of service use (face-to-face vs digital only).[12]
- **Staff:** As with patients, there will be a pragmatic element to the recruitment of staff, with the evaluation team interviewing those working in both the clinic and GP hub during the visit. In addition, a purposive sample of other GPs will be targeted for interviews. Babylon GP at Hand will act as gatekeepers to secure the participation of GPs. The sampling approach will be agreed with Hammersmith and Fulham CCG and NHS England following discussion of workforce information with babylon GP at Hand. At this stage, we anticipate sampling will be focussed on the following methods: length of time working as GP; working patterns (hours/week); working shifts; working location.
- **De-registered patients:** Given the rate at which patients are de-registering from babylon GP at Hand, it is anticipated that a number of patients invited to take part in the patient experience survey may have deregistered or stopped using the babylon GP at Hand service by the time they complete the survey. The survey is, therefore, the preferred approach for identifying and recruiting deregistered patients for the evaluation and has been designed with this in mind. If, following review of the patient experience survey data, this is not feasible, the evaluation team will work with babylon GP at Hand, Hammersmith and Fulham CCG and NHS England to find an alternative approach.

Other models

- **Arranging site visit.** Once participating practices have been agreed, the evaluation team will work with the designated contact (practice manager, lead GP) to arrange the visit. For on-site interviews, selection must be pragmatic and will be based on those staff who are available to speak with the researcher on the day. Ensuring a broad range of views and experiences are collected will factor into agreeing a date for the visit.
- **Patients:** As with the babylon GP at Hand case study, interviews with patients during the visit will be dependent on those with appointments during the site visit. We also anticipate using similar criteria for the recruitment of patients for follow-up interviews, although with a narrower focus given the smaller number of patients.

3.2.2 Progress to date

The following progress has been made on the case study strand of the evaluation, following agreement of the approach with the Evaluation Steering Group in September.

[12] In addition to those criteria to be used for recruitment the evaluation team will also monitor the spread of patients recruited across the following characteristics: Ethnicity; Use of digital services (e.g. banking etc); Reasons for registering with babylon GP at Hand/using the other model; and, Level of contact with health services in past 12 months.

Babylon GP at Hand case study

- The evaluation team conducted two half-day site visits:
    - to one of babylon GP at Hand's clinics (King's Cross BUPA Health Centre), and,
    - to the 'GP hub', a co-working space where doctors can carry out digital consultations and other administrative work.

  During these visits the evaluation team conducted interviews with GPs, patients and a nurse.
- The evaluation team have also agreed the sampling criteria and approach for recruiting additional patients and GPs. Following the launch of the patient experience survey, the evaluation team will begin to recruit patients (and former patients) who have 'opted in' to the qualitative research. We will also work with babylon GP at Hand to identify and invite GPs to take part in the additional GP interviews.

Wider models

- The evaluation team have been working with NHS England, Hammersmith and Fulham CCG and the Evaluation Steering Group to identify the most suitable alternative models to be included in the evaluation.
- Following agreement of the approach by the Evaluation Steering Group, NHS England have been supporting the evaluation team in making initial contact with the providers of alternative models. Agreement in principle to support the evaluation has been obtained and discussions about involvement and timings are ongoing. In particular, the evaluation team are currently establishing the 'maturity'[13] of other models to inform final selection of practices.

3.3 Wider qualitative work

3.3.1 Approach

The scoping work highlighted the importance of some wider evaluation questions related to informing policy and future developments of digital primary care. As such, the scoping report presented to the Evaluation Steering Group in September 2018 set out our approach to exploring these issues.

A series of qualitative interviews with a range of organisations to help NHSE analysts and policymakers shape the research questions for future internal and/or commissioned work to more fully answer these questions.

We plan to conduct a relatively small number (15) of telephone consultations[14] across five key groups[15]. Table 3.2 sets out the groups it is suggested are included in this work, and the contributions we anticipate that consulting these groups would make. These consultations will take place at a later stage in the evaluation once babylon GP at Hand is a more mature practice and the longer-term developments and implications may be becoming more apparent.

For example, it may be more beneficial to the evaluation to include organisations representing a wide range of groups who may have a lower propensity to access usual GP services or face other barriers to accessing healthcare (e.g. homeless, refugees, undocumented migrants).

Table 3.2: Suggested groups for inclusion in wider qualitative work

Group	Key contributions
Regulators, national	Understand regulator opinion on the safety and efficacy of key features

[13] To provide useful evidence for the evaluation it will be necessary for the other models to have been up and running for sufficient time that the evaluation team can recruit patients who have experience of using the service.
[14] Consultations would be based on a high-level discussion guide focussed on the implications of models like babylon GP at Hand.
[15] These audiences are to be agreed following consideration of the emerging findings from the evaluation, and it may be more beneficial to the evaluation to include organisations representing a wide range of groups who may have a lower propensity to access usual GP services or face barriers to healthcare (e.g. homeless, refugees, undocumented migrants).

bodies/services	of the service.
Providers and provider representatives	Understand workforce impacts. Understand perceptions of system impact. Understand likelihood of wider adoption of babylon GP at Hand model.
Commissioners and commissioner representatives	Understand perceptions of system impact. Understand implications for place-based commissioning. Understand likelihood of wider adoption of babylon GP at Hand mode.
Technology companies	Understand other models for delivering a digital-first service. Understand how other models might adapt as a result of Babylon GP at Hand.
Others	Understand perceived impact on recruitment and retention. Understand perceived impact on GP training. Understand impact on indemnity, risk taking and mistakes by GPs. Understand perceived impact on patients.

3.3.2 Progress to date

This strand of the evaluation is not scheduled to be conducted until early 2019 to feed into the final analysis and reporting stages of the evaluation. As such, efforts to date have focussed on agreeing the broad approach and audiences to be included.

The evaluation team will be working with Hammersmith and Fulham CCG and NHS England during late 2018 to refine the audiences to be included in this strand and begin approaching them.

3.4 Economic evaluation

Seeking to understand the economic impact of the babylon GP at Hand model is a key component of this evaluation.

3.4.1 Approach

The approach to assessing the economic impact of babylon GP at Hand is proposed at two levels: patient level and system level.

Patient-level

A cost minimisation analysis is planned to analyse the cost and efficiency of babylon GP at Hand (cost per patient adjusted for needs). This will involve analysing data on the use of primary care by those patients who have signed up to babylon GP at Hand and comparing use with comparator data, either using administrative data from a control group, literature or clinical best practice. The use of a control group will provide the most robust approach but whether this is feasible in the time and with the data available will need to be explored. Alternatives to the use of a control group would be the generation of assumptions from a rapid review of literature and/or opinion on clinical best practice.

Evaluating the cost-effectiveness of the service for users is more challenging because the babylon GP at Hand cohort are most likely to be episodic users of primary care and may not have any underlying health conditions. There will be no measurement of health-related quality of life (e.g. EQ-5D) so cost-utility analysis will not be possible. Instead a wider cost-minimisation analysis is planned using proxy metrics such as use of hospital (e.g. A and E) and 111 services to understand the patterns of usage between the cohort using babylon GP at Hand and a comparator group (as above, using either a control group or assumptions from data/opinion).

System-level

Evaluation of the impact of babylon GP at Hand on the wider health system needs to consider the potential changes in demand, pathways and overall system costs. An interrupted time series approach is planned to examine key metrics such as changes in demand for consultations over time. Any bias in the numbers will be controlled by using regression to predict likely changes in demand over time. Data gathered from the survey and case studies may also be used to understand the extent to which the babylon GP at Hand service impacts on patient pathways. The aim is to model both the results of the time series analysis and an understanding of the changed pathways to estimate the likely impact on 'usual' primary care services, as well as other urgent and emergency care services. Nationally available data on costs will be used to value the outputs and outcomes from the economic analysis (e.g. Payment by Results Tariff, NHS Reference costs, PSSRU Unit costs of Health and Social Care).

As far as evidence allows, the evaluation also plans to assess the impact of patients switching to babylon GP at Hand on capitation funding, including the impact on other GP practices and their sustainability, and the costs of patients registering and de-registering.

3.4.2 Progress to date

The ability of the economic evaluation to effectively assess the impact (both observed to date and potential) of babylon GP at Hand depends on the ability to successfully negotiate access to key datasets. This is currently being negotiated with NHS England.

An evaluation with limited access to data and covering a short time period will not be able to provide definitive conclusions on whether babylon GP at Hand is cost-effective or provides value for money but it will be able to provide information for decision makers to help them understand the impact of babylon GP at Hand. The quality of that information will depend upon the granularity of the data available for analysis.

Given the above, efforts to date have been focussed on refining the proposed approach to conducting an economic evaluation, and on negotiating access to necessary datasets.

- A proposed economic evaluation plan has been produced and is being reviewed and discussed with Hammersmith and Fulham CCG, NHS England analytical colleagues and the Evaluation Steering Group.
- Advisory input is also being provided by the Improvement Analytics Unit[16].
- Discussions are ongoing with babylon health and babylon GP at Hand with regard to what data on the use of primary care resources by babylon GP at Hand patients may be available to feed into the evaluation. We have asked for individual patient data, anonymised or pseudonymised, detailing all contacts with babylon GP at Hand (and outcomes of contacts) broken down by different types, and linked to demographic data such as CCG of origin, age etc.
- The evaluation team are also currently negotiating access to wider health system data NHS England and the CCG. Discussions with the NHS England Information Governance team are currently ongoing

3.5 Secondary data analysis

3.5.1 Approach

In addition to the primary data generated through the evaluation, the analysis of routine datasets and service-specific datasets that will be conducted as part of the economic evaluation (see 3.4), and the analysis of GP Patient Survey data, the evaluation will also include two other kinds of secondary data analysis. This consists of:

- **NHSE analytical outputs.** The NHS England Operational Research and Evaluation Unit is conducting ongoing analysis of babylon GP at Hand using nationally-held routine datasets. The evaluation team will have continued access to the outputs of this analysis and will work to synthesise these findings into the overall

[16] The Improvement Analytics Unit is a partnership between the Health Foundation and NHS England to provide rapid feedback and evaluation for local health care projects in England. More information can be found online: https://www.health.org.uk/programmes/projects/improvement-analytics-unit

evaluation (and use them to inform lines of investigation for qualitative work). This will minimise the amount of duplication between the different programmes of evaluative work that is ongoing.

- **Workforce data.** At this stage we anticipate using two types of workforce data.
  - NHS Digital data on the primary care workforce will be used to provide contextual information to support the analysis emerging from the case studies in terms of the composition of the babylon GP at Hand workforce (and how this compares to usual primary care), and the potential impacts on recruitment and retention of GPs.
  - Data on the babylon GP at Hand primary care workforce would have to be provided by babylon GP at Hand, to understand the composition of the workforce and allow comparative analysis against the wider primary care workforce.

3.5.2 Progress to date

- To date, the evaluation has focussed on, negotiating Information Governance processes for the wider service-use datasets required.
- Discussions with babylon GP at Hand regarding workforce data are ongoing.

4 Evaluation governance and timings

4.1 Evaluation governance

The evaluation team report to Hammersmith and Fulham CCG and NHS England on a weekly basis. Wider evaluation governance arrangements are as follows:

- **Evaluation Scrutiny Panel:** A 'scrutiny panel' consisting of two academics (with primary care and health economics expertise) and a Patient and Public Involvement representative plays a role in reviewing and challenging the design and key outputs of the evaluation before submission to Hammersmith and Fulham CCG and NHS England.
- **Evaluation Steering Group:** The evaluation team are ultimately responsible to the Steering Group, who make all key decisions on the scope and direction of the evaluation. The Steering Group consists of representatives of Hammersmith and Fulham CCG, NHS England (Operational Research and Evaluation team, National Primary Care team) and NHS England London Region. The evaluation team reports to the Evaluation Steering Group monthly.

4.2 Evaluation timings

The evaluation is scheduled to run until the end of March 2019. Analysis of evidence within individual strands of the evaluation, and synthesis across strands, will be conducted on an ongoing basis between December 2018 and March 2019.

A final evaluation report will be provided to Hammersmith and Fulham CCG and NHS England in **March 2019.** This final report will present an assessment of the impact of babylon GP at Hand on the various audiences of interest based on a synthesis and triangulation of all evidence collected as part of the evaluation, and triangulation with findings from the other evaluative work being undertaken (NHS England analysis, ongoing clinical assurance process).

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