<u>Access Study:</u> Evaluation of patient access to medical test result services in General Practice: A mixed-methods study.

Short title: Patient access to medical test result services in general practice.

### STUDY PROTOCOL

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# 1 Plain English Summary

Increasingly patients are being offered the opportunity to access medical test results electronically, through online access and other methods such as text messaging. This has the potential to offer benefits to both patients and practices, but could result in unintended negative consequences and the evidence on both sides is currently limited. Our research aims to find out what types of electronic access to medical records are currently being used in general practices in England, patient and GP practice experiences of these systems, and draw together the types of costs and benefits linked to electronic test result access. To do this our project will have three phases. In the first phase we will develop a questionnaire, and send this to a sample of practices across England to identify what electronic access to medical tests is currently being offered to patients by what types of practices (for example results online, by text message). We will also obtain pseudoanonymised patient records from a sample of practices to find out if patients who access their medical test results differ from those patients who do not with respect to age, gender, social deprivation, and health conditions. In the second phase we will find out about patients' and general practice staffs' views about electronic patient access to results. We will do this by doing qualitative interviews with patients and general practice staff to find out their experiences and views of using (or not) the electronic access to medical test services offered by their practice, and what helps and hinders using them. In the last phase we will draw the questionnaire, patient data and interview information together to develop a framework which could be used to conduct an economic evaluation in the future. Our results will be of use to policy makers and practices looking to roll-out electronic access of test results to patients in the best way possible.

# 2 Background

Patient Online is a programme instigated by NHS England that aims to enable general practices in England to offer patients access to their medical records, online appointments, ordering of repeat prescriptions and online test results.[1] The roll out of these services is part of NHS England's 5 year Forward View and is considered part of the strategic plan for modernising primary care.[2] Offering patients direct access to their medical test results alters the once widely accepted paternalistic patient-doctor relationship, which was the mainstay of clinical interactions in general practice for decades.[3] Indeed, the introduction of these aforementioned services represents a concerted effort to move general practice towards adopting shared doctor-patient relationships, which is increasingly seen as the norm in medical practice.[4] With the advent of the Salzburg Statement on Shared Decision Making in 2011, there is now considerable impetus driving the development of shared decision making approaches throughout the NHS.[5]

Medical tests result services will undoubtedly play an important role in the continued development of shared patient-doctor relationships in general practice. Such services should help to meet ethical obligations, such as those pertaining to respect for patient autonomy and promoting patient benefit.[6] Furthermore, delivering patient access to medical tests might result in better health outcomes, increased service satisfaction, increased health literacy levels and reduce misunderstanding between patients and doctors that may result in litigation.[7] However, there remains a paucity of empirical research and thus a lack of evidence on patient outcomes and other potential benefits and harms.

The intention of this study is to employ a realist evaluation methodology to explore the mechanism and contextual factors behind each service more fully.[8] This approach has been chosen because a realist evaluation yields information that indicates how a service/programme works (i.e. mechanism) and the conditions that are needed for a particular mechanism to work (i.e. contexts) and, thus, it is likely to be more useful to policymakers than other types of evaluation.

# 2.1 Study Aims

- 1) To describe the range of services currently being offered to provide electronic medical test results to general practice patients in England.
- 2) To understand patient and clinician experiences, attitudes and perceptions of different test result services in general practice.
- 3) To develop a framework to assess the economic impact of adopting these test results services in general practice in England.

# 2.2 Study Objectives

To meet our aims, we will conduct a mixed-methods realist evaluation with the following objectives:

- 1) To undertake an identification exercise of services offering patient electronic access to medical tests in General Practice in England
- 2) Determine if patients who access their medical test results differ from those patients who do not access these services.

- 3) To ascertain patients' experiences and views of, and facilitators and barriers to, using (or not using) the medical test services.
- 4) To ascertain general practitioners' (and other practice staff, as appropriate) views about the medical test result services.
- 5) To develop an economic framework for undertaking a health economic analysis of different electronic access to test result services offered in Primary Care, and to identify and quantify the potential costs and benefits of different test results services in general practice.

# 3 Methods

# 3.1 Questionnaire survey of general practices in England.

This methodological approach relates to Objective 1 and addresses Aim 1 (Section 2). We will develop a questionnaire to audit the different types of test results services offered in primary care and send it to Practice Managers (and/or Practice IT Managers) for completion.

# 3.1.1 Study population

We will pilot the questionnaire initially using the National Institute for Health Research (NIHR) Clinical Research Network (CRN) West of England. The West of England hub will contact a purposeful sample of the research active general practices (104 out of ~300 practices in the area) on behalf of the research team and invite them to complete the electronic questionnaire – using this approach we anticipate a higher response rate than might be achievable by contacting practices directly. Once this questionnaire audit has been piloted in the West, and revised if required, it will then be disseminated electronically by all other 14 NIHR CRN hubs throughout England.

For the definitive questionnaire survey, we will seek to recruit practices according to the following criteria: practice list size (small, medium and large); deprivation quintile (according to patients registered with the practice); electronic health system used; training practice (yes or no); proportion of practice list size aged 65+ years (2 levels); and whether the practice is rural or urban. These criteria yield 480 possible combinations. We will attempt to recruit one practice to each. If practices are not available for a given combination we will randomly select another combination and recruit another practice of that type. This strategy will ensure the questionnaire is sent to a diverse range of practices, thereby ensuring we produce meaningful and translatable results.

Adoption of medical test result services may be less likely in non-research active practices (i.e. not affiliated with the NIHR CRN) when compared to research active practices. To investigate this, we will also send the questionnaire audit (electronically if contact details are available, paper otherwise) to a random 10% sample of non-research active practices.

### 3.1.2 Data collection

The electronic questionnaires will be designed using Online Surveys (formerly Bristol Online Survey) and a paper version will also be available to maximise response rates. This questionnaire will be designed to identify the different models of patient electronic access to medical tests currently used in general practice and those services in development which are likely to be introduced in the near

future. It will be designed to take no more than 30 minutes and practice staff will be reimbursed, at nationally agreed NIHR rates, for the time taken for completion

### 3.1.3 Data analysis

Data from both the electronic and paper copies will be exported to a Microsoft Excel database for data cleaning. Responses from the postal questionnaire will be double entered by two researchers into the same Excel database and results from both sources collated. Any differences will be resolved by agreement with reference to the original questionnaire.

We will describe which models are being used in different types of general practice for example by practice list size, deprivation, and rural/urban classification, and whether these are offered to all, or a subgroup of patients. Analysis will be based on pseudoanonymised data and using STATA statistical software package.

# 3.1.4 Data security and protection

Responding general practices will provide their contact details at the end of the questionnaire to the University of Bristol study team. However, the information provided will merely reflect the types of details that would be freely available on their practice website (e.g. address, contact number). These details will only be used to recontact a proportion of the general practices (numbers dependent on the range of electronic services offered) to assess whether they would be willing to take part in additional research (see below).

Confidentiality of all information will be maintained throughout the study process and all data will be handled in accordance with the recommendations of the Caldicott Committee, the requirements of the Data Protection Act 2018, General Data Protection Regulation, Human Rights Act and Section 60 of the 2001 Health and Social Care Act. Manual data (e.g. paper questionnaire responses) will be kept in a locked filing cabinet, with access restricted to appropriate University of Bristol researchers. Electronic questionnaire responses will be stored on the Online Surveys database, which is fully compliant with all UK data protection laws and meets UK accessibility requirements. Electronic data resulting from the online and postal questionnaires will be stored on password-protected computers, only accessible to University of Bristol researchers involved in this study. All reporting of quantitative data in presentations, reports and academic papers will be in the form of pseudoanonymised data (i.e personally identifiable information fields will be replaced by one or more artificial identifiers, or pseudonyms).

# 3.2 Retrospective data collection

This methodological approach relates to Objective 2 and addresses Aim 1 (Section 2). We plan to evaluate the medical test result services offered in general practices in England. To do this we plan to determine whether patients who access their electronic medical test results differ from those patients who do not access these services. This will be achieved via a retrospective cohort secondary data analysis of all patients in a diverse sample of general practices in England and to develop some patient experience pathways.

# 3.2.1 Study population

The results from the aforementioned questionnaire survey will be collected from a range of general practices, representing the diversity of electronic access to medical test results services. We anticipate approaching approximately 20 practices who took part in the questionnaire survey (numbers dependent on range of services offered); we will randomly select practices to approach within strata based on relevant factors identified during analysis of the questionnaire survey data.

#### 3.2.2 Data collection

Participating practices will be asked to extract data from the records of all patients registered between 1 August 2018 and 1 August 2019 who are 18 years+ and pseudoanonymise these data before securely transferring to the University of Bristol research team for analysis. Data to be extracted will include, but not be limited to: age, gender, patient postcode (first half, for deprivation analysis), comorbidities (via Read Codes), medical test result services used and frequency of accessing medical services including for test results. All electronic test results services will be considered, this will include online access, mobile phone updates and any other services as they are identified.

#### 3.2.3 Data analysis

We will analyse the extracted data to determine whether patients who access medical results electronically differ from those who do not with respect to their demographics, diagnoses or conditions and frequency of consultations, practice characteristics and type of electronic access to test results. An in-depth qualitative analyses of a sub-sample of data from patients using difference types of medical test results services on offer will also be undertaken to develop patient experience pathways to compare the trajectory of these patients along their clinical pathways, whilst appraising the impact of the test results services on each individual patient in a wider sense (e.g. including prescriptions and use of non-GP NHS services).

# 3.2.4 Data security and protection

Patient data will be compiled by each participating general practice on behalf of the University of Bristol. This data will be pseudoanonymised at each practice by tagging patients with a random identification number. This pseudoanonymised retrospective data will then be securely transferred to the University of Bristol study team for analysis. Confidentiality of all information will be maintained throughout the study process and all data will be handled in accordance with the recommendations of the Caldicott Committee, the requirements of the Data Protection Act 2018, General Data Protection Regulation, Human Rights Act and Section 60 of the 2001 Health and Social Care Act. Once all the patient data has been transferred to the University of Bristol study team it will be stored electronically on password-protected computers, only accessible to University of Bristol staff involved in this study.

# 3.3 Patient qualitative interviews

This methodological approach relates to Objective 3 and addresses Aim 2 (Section 2). We will conduct qualitative interviews with general practice patients to ascertain their experiences and

views of, and facilitators and barriers to, using (or not) the medical test services offered by their general practice

### 3.3.1 Study population

The general practices involved in the retrospective data collection processes described in Section 3.2 will also be asked to help recruit general practice patients to participate in some qualitative interviews. These practices will be asked to extract a list of all patients aged 18 years and older that have had a medical test (for which electronic test results are offered) within the last 4 weeks — we will include patients who did and did not choose to access their results electronically. Each general practice will be asked to allocate an anonymised ID to the selected patients so that the University of Bristol study team can then randomly select some patients to approach.

#### 3.3.2 Interview sampling

Assuming an overall 5% response rate, we anticipate sending 1000 invitations to eligible patients, in order to identify up to 30 patients for interview; based on our previous experience a higher number of invitations will be sent out to patients in more deprived areas than patients in more affluent areas in order to compensate for anticipated lower response rates [9] (roughly half) from more deprived areas. Based on previous qualitative work by our team, we anticipate approximately 30 interviews will be sufficient to reach saturation.[9]

Each practice will be asked to send the qualitative interview invitations on behalf of the University of Bristol study team. All potential participants will be sent a postal invitation to participate in a qualitative interview, this will include a research invitation letter (Appendix A), an information leaflet (Appendix B) and a consent form (Appendix C). All non-responders will be re-contacted by the general practice once, two weeks after initial contact (Appendices D, B and C). Potential participants will be asked to use the prepaid envelopes provided to return consent forms to the University of Bristol study team and to provide their contact details if they are willing to take part in an interview. For those who provide consent to be contacted, all future correspondence relating to participation in the study will be from the University of Bristol study team.

Informed consent will be obtained via a method of 'process consent', with initial written consent being sought via post and additional verbal written and verbal consent being obtained immediately prior to an interview.[10, 11] Participants' consent will be captured in writing using the patient interview consent form (Appendix E) and audio recorded prior to the qualitative interview - both will be stored securely at the University of Bristol.

We will only seek to recruit patients who have capacity and are willing to provide informed consent to participate, indeed we will only include participants in this study if we have a record of their full informed consent. Advice will be sought from relevant general practice staff prior to sending out postal research invitations.

### 3.3.3 Interview summary

Semi-structured qualitative interviews will be conducted to explore patients' experiences and views of the medical test result services offered by their general practice including facilitators and barriers to use. The interviews will be guided by a topic guide which will cover patients' experiences and explore the key elements needed to conduct a realist evaluation including why electronic test results services are (or are not) beneficial – with prompts focused on the context, mechanisms, outcomes and transferability of these tests results services. The patient topic guide is provided in Appendix F and list the main topics to be covered, this guide will be revised as new issues emerge in the course of the study.

#### 3.3.4 Data collection

Interviews will be arranged at a time convenient to the participant and conducted in a venue of the participant's choosing or via telephone / Skype depending on their preference. Where relevant, a fieldwork contact system will be used for the qualitative interviewers to ensure researcher safety. Interviews will be recorded onto an encrypted digital audio device and transcribed verbatim by a University of Bristol approved professional transcription specialist. All audio files and hard copies of interviews will be stored securely and pseudoanonymised by removing personal identifiable information and allocating a study participant number for identification purposes. At the end of each interview, participants will be asked to complete a questionnaire capturing their demographic details (Appendix G); explicit written consent will be sought prior to collection of this information (Appendix E). The interviewer will explain to each participant that they are under no obligation to complete the questionnaire and that this will have no impact on their eligibility to take part in an interview. Participants will be informed that they can withdraw from the study, but that any information already obtained will be kept. To safeguard participants' rights, only the minimum personally-identifiable information will be retained (a in accordance with the General Data Protection Regulation). All participants will be offered a £10 Love2shop voucher as reimbursement for their time.

### 3.3.5 Data analysis

Interviews will be analysed using thematic analysis. At least two members of the study team will code the initial batch of interviews independently and together develop a framework for thematic coding of further interview transcripts. This coding framework will then be applied to all subsequent transcripts. Regular meetings of the study team during this phase will be used to ensure a consistent and agreed approach to coding and analyses of the qualitative data.

# 3.3.6 Data security and protection

Willing interview participants will provide their contact details by returning the initial postal consent form (Appendix C) to the University of Bristol study team. These details will only be used to contact the consenting participants to arrange their involvement in a qualitative interview. All qualitative sampling, data collection and analysis will be performed in line with COREQ guidance for qualitative research.[12] Confidentiality of all information will be maintained throughout the study process and all data will be handled in accordance with the recommendations of the Caldicott Committee, the requirements of the Data Protection Act 2018, General Data Protection Regulation, Human Rights

Act and Section 60 of the 2001 Health and Social Care Act. Manual data (e.g. printed interview transcripts, interview notes and consent forms) will be kept in a locked filing cabinet, with access restricted to University of Bristol study team members. Electronic data (e.g. audio files) will be stored on password-protected computers, only accessible to University of Bristol researchers involved in this study. All reporting of qualitative data in presentations, reports and academic papers will be in the form of anonymised quotes.

# 3.4 Qualitative contrasting case studies

This methodological approach relates to Objective 4 and addresses Aim 2 (Section 2). We will conduct qualitative contrasting case studies in general practice to help ascertain general practitioners' and other practice staff (as appropriate) views about medical test result services offered to patients.

# 3.4.1 Qualitative case studies study population

A subset of the general practices (approximately 6) involved in the retrospective data collection processes (Section 3.2) will be asked to act as qualitative case studies. These practices will be selected to ensure we obtain an insight into a range of different approaches to online test result access, uptake rates and deprivation. This selection process will be informed by the results obtained from the questionnaire survey and retrospective cohort data analysis (Sections 3.1 and 3.2).

### 3.4.2 Sampling

At each participating general practice, the University of Bristol study team will carry out some observations to help identify how electronic medical test result services are incorporated into routine practice. This process will involve members of the study team observing general practice services that are affected by electronic test results services, such as telephone reception staff.

In addition, within these participating general practices, we will invite a range of healthcare professionals (approximately 20) directly responsible for managing patients' care (e.g. GPs, Nurse Practitioners) to participate in semi-structured interviews. Maximum variation sampling will be used within and across the participating general practices, with relevant individuals invited to ensure a range of demographic, geographic and professional characteristics.

During these initial interviews, healthcare professionals will be asked to identify other staff members within their practice that influence or have been affected by the delivery (or not) of the medical test result services (for example, senior managerial staff, administrators, receptionists etc.). These additional individuals will also be interviewed (approximately 20).

All potential participants will be sent an invitation to participate in a qualitative interview; this will either be sent to them via email or a written copy will be given to them by a member staff from their general practice (Appendix H).

### 3.4.3 Observational work summary

We will start by carrying out observations of general practices services at two time points: 1) baseline (May 2019) and 2) at the end of the fieldwork (Jan 2020). This involves a maximum total of 12 observations. Two visits to each practice provide sufficient opportunity to observe how electronic medical test result services usually operate and track changes over time. The aim of the first set of observations is to build relationships with general practice staff, observe how the test result services function, identify staff and staff roles, clarify electronic test result dissemination routes and collect documentation such standard operating procedures. The aim of the second set of observations is to explore more fully how the services operate, particularly what works well and what does not, drawing on data obtained from patient and professional interviews.

### 3.4.4 Data collection - Observational work

To guide formal observations, the researchers will be provided with an evaluation proforma (Appendix J) listing queries and areas of interest previously agreed by the evaluation team. Researchers will also take field notes while carrying out observations or record their observations into an audio recorder. These will be typed up either by the researcher or an external University of Bristol approved professional transcriber.

# 3.4.5 Interview summary – Professional staff

Semi-structured qualitative interviews will be conducted to explore professionals' experiences and views of the medical test result services offered by their general practice including perceived facilitators and barriers to use. The interviews will be guided by a topic guide which will cover professionals' experiences and explore the key elements needed to conduct a realist evaluation. An outline of the general practice staff topic guide is provided Appendix I. The full topic guide will be created after the questionnaire survey and retrospective data collection processes have been conducted. However, we anticipate holding general discussions on why electronic test results services are (or are not) beneficial – with prompts focused on the context, mechanisms, outcomes and transferability of these tests results services.

### 3.4.6 Data collection – Professional staff qualitative interviews

Interviews will be arranged at a time convenient to the participant and conducted either at the participating general practice or via telephone/Skype, depending on their preference. Where relevant, a fieldwork contact system will be used for the qualitative interviewers to ensure researcher safety. Interviews will be recorded onto an encrypted digital audio device and transcribed verbatim by a University of Bristol approved professional transcription specialist. All audio files and hard copies of interviews will be stored securely and pseudoanonymised by removing personal identifiable information and allocating a study participant number for identification purposes. The participating staff member's consent will be captured in writing using a consent form (Appendix K) and audio recorded prior to the qualitative interview or group interview - both will be stored securely at the University of Bristol. Participants will be informed that they can withdraw from the study for up to one month, but after this time any interview data collected about them will be integrated into the analysis and it will not be possible to remove it. Each participant will be paid

for their time by the University of Bristol research team, the level of financial reimbursement will be in line with the amounts outline by the CRN Service Support Cost renumeration rates.

### 3.4.7 Data analysis – Contrasting case studies

To analyse interview, observation and documentation data, we will use framework analysis, whereby an evaluation proforma (Appendix J) will be applied consistently across all data sources. Each team member will separately analyse their own data, taking one general practice in turn, and then sharing and discussing their findings at team meetings. Draft findings will be written up, discussed at further team meetings and refinements made. To test 'face validity', findings may also be discussed with PPI consultation meetings (Section 3.7) across multiple time points.

Confidentiality of all information will be maintained throughout the study process and all data will be handled in accordance with the recommendations of the Caldicott Committee, the requirements of the Data Protection Act 2018, General Data Protection Regulation, Human Rights Act and Section 60 of the 2001 Health and Social Care Act. Manual data (e.g. printed interview transcripts, interview notes, proforma notes and consent forms) will be kept in a locked filing cabinet, with access restricted to appropriate University of Bristol researchers. Electronic data (e.g. audio files) will be stored on password-protected computers, only accessible to University of Bristol researchers involved in this study. All reporting of contrasting case study data in presentations, reports and academic papers will be in the form of anonymised quotes.

# 3.4.8 Data security and protection – Contrasting case studies

All qualitative interview data, observational proformas, PPI feedback and data analysis will be performed in line with COREQ guidance for qualitative research.[12] Confidentiality of all information will be maintained throughout the study process and all data will be handled in accordance with the recommendations of the Caldicott Committee, the requirements of the Data Protection Act 2018, General Data Protection Regulation, Human Rights Act and Section 60 of the 2001 Health and Social Care Act. Manual data will be kept in a locked filing cabinet, with access restricted to appropriate University of Bristol researchers. Electronic data will be stored on password-protected computers, only accessible to University of Bristol researchers involved in this study. All reporting of qualitative data in presentations, reports and academic papers will be in the form of anonymised quotes.

### 3.5 Economic framework

This methodological approach relates to Objective 5 and addresses Aim 3 (Section 2). We will use the information collected throughout the study to identify areas of potential benefits and economic cost of different models of access to electronic results to develop an economic framework, which could be used as a basis to undertake a full economic evaluation of patient electronic test results services in the future.

# 3.5.1 Study population

The results from the aforementioned questionnaire survey, retrospective cohort secondary data analysis, patient qualitative interviews and qualitative contrasting case studies will be used to inform the economic framework.

# 3.5.2 Data collection and analysis

Data will be drawn together from across all sources (Sections 3.1 to 3.4) to identify areas of costs and potential benefits to the patients and primary care staff and services for the different electronic access to test result services offered in Primary Care in order to develop an economic framework for the assessment of the services. Parameters may include: time for practice staff to manage an online system, reductions in number of appointments, reduced patient travel, and changes in health seeking behaviour. Estimates of these factors will be obtained from the data collected during the questionnaire survey, retrospective data collection, patient qualitative interviews and contrasting case studies. Where relevant, different costs and benefits to different patient groups and/or practices will be made explicit. The economic framework developed will provide the basis for a future full economic evaluation enabling different electronic test access options to be compared and used to guide and inform decision makers on selecting which system to use in particular circumstances.

### 3.5.3 Data security and protection

Confidentiality of all information will be maintained throughout the study process and all data will be handled in accordance with the recommendations of the Caldicott Committee, the requirements of the Data Protection Act 2018, General Data Protection Regulation, Human Rights Act and Section 60 of the 2001 Health and Social Care Act. Manual data will be kept in a locked filing cabinet, with access restricted to appropriate University of Bristol researchers. Electronic data will be stored on password-protected computers, only accessible to University of Bristol researchers involved in this study.

# 3.6 Advisory Group

We will recruit individuals to an Advisory Group for the duration of the study. The group will help manage the study by reviewing and commenting on progress so far and recommending actions for the next phase of the project. We will seek to recruit to this group two patient representatives (with experience of attending their general practices for conditions that may/have required medical tests), two NHS primary care staff (for example a general practitioner and a receptionist), and an NHS IT specialist. We will formally meet with this group twice each year (for a meeting lasting a maximum of 2 hours). This group will also be available for consultation throughout the study if the need arises.

# 4 Regulatory Approvals

The proposed research does not involve topics that may be deemed to be politically or culturally sensitive. However, the qualitative interviews with general practice patients may involve discussions about their underlying health conditions and interactions with their general practice, which some may find distressing, although we believe the risk to be low.

We will apply for appropriate approvals from the HRA and NHS ethics Board, and Sponsorship by the University of Bristol before commencing any research with participants. Confidentiality of all information will be maintained in accordance with the recommendations of the Caldicott Committee, the requirements of the Data Protection Act 2018, General Data Protection Regulation, Human Rights Act and Section 60 of the 2001 Health and Social Care Act

# 5 Peer review

This study has been peer reviewed by reviewers affiliated to the Department of Health and Social Care.

# 6 Source of funding

The study is funded a Policy Research Programme grant from the Department of Health and Social Care.

# 7 Study milestones

Key research activities	Deliverable / output	Due date
Submit IRAS application, seek HRA approval and NIHR	Seek approvals	Jul-18
portfolio adoption. Calculate CRN support costs and		
seek approval.		
Advisory Group meeting 1	Meeting	Jul-18
Research passport submission	Letter of access provided	Aug-18
Occupational health clearance for researchers	Clearance obtained	Aug-18
Analyse questionnaire survey results (Objective 1)	Data obtained	Dec-18
Advisory Group meeting 2	Meeting	Jan-19
Progress report to DH	PRP Standard Progress Report	Apr-19
Advisory Group meeting 3	Meeting	Jul-19
Analyse data from patient interviews (Objective 3)	Other - data obtained	Sep-19
Analyse data extracted from practices (Objective 2)	Other - data obtained	Oct-19
Publication 1 submitted to peer-reviewed journal	Publication	Oct-19
Publication 2 submitted to peer-reviewed journal	Publication	Nov-19
Analyse data from staff interviews (Objective 4)	Other - data obtained	Jan-20
Develop economic framework (Objective 5)	Other - framework	Jan-20
Advisory Group meeting 4	Meeting	Jan-20
Triangulate results from all data streams	Other -	Feb-20
Publication 3 submitted to peer-reviewed journal	Publication	Feb-20
Write final report	Final report	May-20

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#### **Appendices**

Appendix A: Patient covering letter

Appendix B: Patient information leaflet

Appendix C: Patient postal consent form

Appendix D: Follow-up patient covering letter

Appendix E: Patient interview consent form

Appendix F: Patient topic guide

Appendix G: Patient demographic questionnaire

Appendix H: Practice staff recruitment information

Appendix I: Practice Staff topic guide

Appendix J: Evaluation proforma

Appendix K: Staff interview consent form