Implementation of Complex Interventions in UK General Practice

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Volume I of II

Declaration

I, Wing Kin Rosa Lau, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Supervision: Rosa was supervised by Dr Fiona Stevenson (eHealth Unit, Department of Primary Care and Population Health) and Professor Elizabeth Murray (eHealth Unit, Department of Primary Care and Population Health).

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Abstract

The pace of change in UK healthcare continues to be rapid with a drive to implement more clinically and cost-effective interventions in order to improve practice/care. Literature suggests that the take-up of these interventions is often slow. This delay in translation of evidence-based interventions into routine clinical practice is known as the 'Evidence-to-Practice Gap'. Almost all changes to practice involve 'complex interventions'. Such interventions can be particularly hard to implement as they are likely to require change at multiple levels.

Initially a systematic review of reviews was conducted to synthesise the literature on a) explanation(s) as to why complex interventions are not implemented and b) the effectiveness of strategies in facilitating implementation. A key insight was that despite an increasing recognition of the role of context in implementation there is a lack of empirical evidence. None of the reviews addressed context and the contextual influences were largely reported as perceived barriers and facilitators. Studies tended to focus on one intervention when in reality more than one intervention is likely to be implemented simultaneously in any given setting.

The systematic review led to a qualitative case study to investigate the implementation of multiple complex interventions in three GP practices, focusing on the role of context as an explanation. Initial practice meetings indicated all three practices were implementing various changes to improve patient access. The decision was taken to focus on online and telephone access and the Named GP scheme. Data from observation, interviews and documentations were analysed using thematic analysis.

This study enhances understanding of the process in which multiple complex interventions are implemented into general practice. Paying particular attention to the 'shifts' of context and how changes in the 'fit' between the intervention and the context over time, may increase the likelihood of implementation success. The study reveals the importance of relative intervention prioritisation particularly when practices face competing intervention options, as a novel explanation of why some interventions get implemented/prioritised first before others.

Impact statement

Problem

The pace of change in UK healthcare continues to be rapid with a drive to implement more clinically and cost-effective interventions in order to improve practice/care. Literature suggests that the take-up of these interventions is often slow. This delay in translation of evidence-based interventions into routine clinical practice is known as the 'Evidence-to-Practice Gap'. Almost all changes to practice involve 'complex interventions'. Such interventions can be particularly hard to implement as they are likely to require change at multiple levels.

About the research

The research involved a systematic review of reviews summarising and synthesising the literature on explanations as to why complex interventions are not implemented in primary care, followed by a qualitative focused ethnographic case study to investigate the role of context in implementation of multiple complex interventions in three GP practices, using access as an example.

This work generated two novel insights:

- The ubiquitous concept of perceived barriers to change is not helpful in understanding implementation. This research found that it may be more useful to take a holistic approach and consider the **fit between the intervention and context** to determine implementation.
- In an environment like English primary care, where there is pressure for organisations to adopt multiple changes simultaneously, there is a process of **relative intervention prioritisation** which occurs, leading to variable implementation of different interventions in different organisations. Factors that appear to influence the relative prioritisation process include: team functions, practice history and narrative, roles of practice manager, management styles, and strategic fit (fit with wider practice agenda).
- These two insights may further explain the evidence to practice gap in primary care.

Impact

The following publications have resulted from the research conducted for this thesis.

- Lau R, Stevenson F, Ong BN et al. *Achieving change in primary care – Causes of the evidence to practice gap: systematic reviews of reviews.* Implementation Science. 2016;11:40
- Lau R, Stevenson F, Ong BN et al *Achieving change in primary care – Effectiveness of strategies for improving implementation of complex interventions: systematic reviews of reviews.* BMJ Open. 2015;5(12):e009993
- Lau R, Stevenson F, Ong BN et al. *Addressing the evidence to practice gap for complex interventions in primary care: a systematic review of reviews protocol.* BMJ Open. 2014; 4(7): e005548corr1

The work have been presented in a number of conferences:

- Lau R, Murray E and Stevenson F. Implementing change to improve access in UK general practice: a focused ethnographic case study. The Society for Academic Primary Care (SAPC) Conference, Dublin, 2016.
- Lau R, Stevenson F, Ong BN et al. Barriers and facilitators to implementation of complex interventions in primary care: a systematic review of reviews. Global Implementation Conference, Dublin, 2015.
- Lau R, Stevenson F, Ong BN et al. Effectiveness of implementation strategies to improve professional practice: a systematic review of reviews. 7th Annual Conference on the Science of Dissemination and Implementation: Transforming Health Systems to Optimise Individual and Population Health (co-hosted by Academy Health and the National Institute of Health), North Bethesda, USA, 2014.

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A research project cannot be done unless you have participants in your study. A very heartfelt “thank you” to the general practices who allowed me to spend considerable amounts of time observing their work. A debt of gratitude is offered to all staff in these practices that shared their views and experiences.

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Publications related to this thesis

The following publications have resulted from the research conducted for this thesis.

Publications

Lau R, Stevenson F, Ong BN et al. *Achieving change in primary care – Causes of the evidence to practice gap: systematic reviews of reviews.* Implementation Science. 2016;11:40

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List of Abbreviations

A&E	Emergency department
CASP	Critical appraisal skills programme
CCG	Clinical Commissioning Group
CDSR	Cochrane Database of Systematic Reviews
CFIR	The Consolidated Framework for Implementation Research framework
CI	Confidence interval
CICI	Context and Implementation of Complex Interventions framework
CLAHRC	Collaborations for Leadership in Applied Health Research & Care
CPOE	Computerised provider order entry
CQC	Care Quality Commission
EMR	Electronic medical records
EPOC	Cochrane Effective Practice and Organization of Care Group
FE	Focused ethnography
FFT	Friends and Family Test
FYFV	Five Year Forward View
GP	General Practitioner
GPPS	GP Patient Survey
HCP	Health Care Professional
HIT	Health information technology
IQR	Interquartile range
IT	Information technology
KPI	Key performance indicators
MAR	Electronic medication administration records
MRC	Medical Research Council
MeSH	Medical Subject Heading
NHS	National Health Service
NHSE	NHS England
NIHR	National Institute for Health Research
NP	Nurse practitioner
NPT	Normalization Process Theory
OECD	Organisation for Economic Co-operation and Development
PARIHS	Promoting Action on Research Implementation in Health Services framework
PCRN	Primary Care Research Network
PCT	Primary Care Trusts
PICO	Population Interventions Comparators Outcomes
PPG	Patient Participation Group
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-analyses
QOF	Quality and Outcome Framework
RCT	Randomised controlled trial
RCGP	Royal College of General Practitioners
RD	Risk difference
SR	Systematic review
STP	Sustainability and Transformation Plan
TDF	Theoretical Domains Framework
UK	United Kingdom
USA	United States of America

Glossary of terms

Avoiding Unplanned Admissions (AUA) scheme	The scheme is designed to help reduce avoidable unplanned admissions by improving services for vulnerable patients and those with complex needs, who are at risk of hospital admission or re-admission. The AUA scheme is a Directed Enhanced Services (DES) (see enhanced services in glossary).
Barriers	Barriers are defined as factors that inhibit or impede the implementation of an intervention, also known as inhibiting or impeding factors.
Case study	A research method that involves a detailed investigation of a single case or multiple cases (a single case can be either an individual, small group of participants or an organisation). Case studies may be prospective or retrospective.
NIHR CLAHRCs	National Institute for Health Research (NIHR) Collaborations for Leadership in Applied Health Research and Care (CLAHRCS). Collaborative partnerships between universities and surrounding NHS organisations, focusing on improving patient outcomes though applied health research.
Clinical Commissioning Group	Also known as CCG. Clinical Commissioning Groups were created following the Health and Social Care Act in 2012, and replaced Primary Care Trusts (PCT) on 1 April 2013. CCGs are GP-left statutory NHS bodies responsible for the planning and commissioning of health care services for their local area. There are currently 209 CCGs in England.
Complex interventions	In the MRC framework for complex intervention (Craig et al., 2008), complex interventions are defined as 'interventions with several interacting components'. There are several dimensions of complexity, including the following: • Number of and interactions between components within the experimental and control interventions • Number and difficulty of behaviours required by those delivering or receiving the intervention • Number of groups or organisational levels targeted by the intervention • Number and variability of outcomes • Degree of flexibility and tailoring of the intervention permitted.
Consent form	By signing a consent form, the participant agrees to take part in the research study and is aware of any risks that might be involved (usually stated in the participant information sheet) and has the right to withdraw at any time without any reason and without prejudice to future care.
Care Quality Commission (CQC)	An independent regulator of health and adult social care in England, to ensure health and social care services provide people with safe, effective, high-quality care.

Effectiveness	The extent to which any intervention produced an overall positive effect on a given outcome.
Enhanced services	Primary medical services other than essential services, additional services or out-of-hours services. Delivery of Enhanced services would result in additional payment to the GP practices. Local enhanced services (LESs) – schemes agreed by CCGs in response to local needs and priorities. Directed enhanced services (DESs) – schemes that CCGs are required to establish or offer contractors the opportunity to provide, linked to national agreements and priorities.
EPOC interventions	The Cochrane Effective Practice and Organisation of Care (EPOC) Group. A classification of interventions that aim to improve the delivery, practice and organisation of health care services, that includes: • Professional interventions • Organisational interventions • Financial interventions • Regulatory interventions
Exclusion criteria (review)	Explicit standards used to decide which primary studies should be excluded from consideration.
External context level implementation strategies	Implementation strategies that target the external context, e.g., regulatory strategies and finance strategies.
Evidence-based medicine	Evidence-based medicine is defined as the conscientious, explicit and judicious use of current best research evidence in making decisions about the care of individual patients.
Facilitators	Facilitators are defined as factors that promote or enable the implementation of an intervention, also known as enablers, and promoting factors.
Formal integration of services	Integration of services across teams or the organisation to bring all services together at one time.
Governing body	Groups of individuals, e.g. national policy makers, who are responsible for drawing up the rules for an organisation such as a hospital or general practice, and who make sure that these rules are performed.
GP network	A GP network is defined as a number of GP practices who have agreed on some kind of collaborative arrangement with each other (or delivery 'at scale'). It is formed with the purpose of alleviating workload and pressures by sharing costs and resources, this include workforce and facilities. GP networks are also known as federations, collaborations and alliances.
Implementation	Implementation involves all activities that occur between making an adoption commitment and the time that an innovation either becomes part of the organisational routine, ceases to be new, or is abandoned (…) [and the] behaviour of organisational members over time evolves from avoidance or

	non-use, through unenthusiastic or compliant use, to skilled or consistent use (Linton, 2002). The term 'implementation' overlaps with 'adoption', 'embedding', 'normalisation', 'spread', and they are used interchangeably in the literature.
Implementation strategy	An implementation strategy refers to any strategy or technique aimed at improving or optimising the uptake and/or implementation of complex interventions, by overcoming barriers identified by the implementers (e.g. practice nurses, GPs). Some are used alone (i.e. single component strategy), and often a number of strategies are combined and used as a multifaceted strategy (e.g. reminders plus audit and feedback) and some are part of the complex intervention. Implementation strategies also include dissemination strategies. Implementation strategies can be applied at different levels – professional (individual), organisation and external context. An active component of the strategy refers to an essential component needed for effective implementation. In this report, we have focused on implementation which aims to change the behaviours of professionals (clinical practice) in order to improve delivery of healthcare; hence, patient behaviour change is not included.
Inclusion criteria (literature review)	Explicit criteria used to decide which studies should be considered as potential sources of evidence.
Middle-range theory	Middle-range theory refers to an approach to theory construction. Middle-range theories are usually made up of a limited number of propositions that are written at a relatively concrete/ specific level. They can be descriptive, explanatory or predictive.
Non-participant observation	A data collection technique whereby the researcher observes events and interactions with the aim of gaining a direct understanding of a phenomenon in its natural setting. As a non-participant, the observer does not actively participate in the activities being observed.
Observation	A research method which involves direct observation of phenomena in their natural setting. Observations may be participatory or non-participatory.
Organisational-level implementation strategies	Implementation strategies that aim to change organisational behaviours.
Participant information sheet	They are usually given out to potential participants, to ensure they have sufficient information to make an informed decision about whether to take part in the research or not. It should have a brief summary of the study and its aim, using language that is accessible for a lay audience.
Participant observations	A data collection technique whereby the researcher observes events and interactions with the aim of gaining a direct understanding of a phenomenon in its natural setting. As a participant, the observer participates actively in the events

	being observed. This often involves taking notes and asking questions to uncover the meaning behind the behaviours.
Primary care	There is no standardised definition of primary care, the Royal College of General Practitioners has defined primary care as: "… the first level contact with people taking action to improve health in a community. It covers a wide range of community-based health care professionals such as general practitioners (GPs), nurses, pharmacists, therapists and dentists" (Royal College of General Practitioners (2007), 2007).
Professional-level implementation strategies	Implementation strategies that aim to change individual professional behaviours.
Quality and outcome framework (QOF)	A system of financial incentives which rewards GPs in the UK for delivering specific care processes and outcomes.
Regulatory interventions	Interventions that change health service delivery by law or medical liability.
Relative intervention prioritisation	Where individual practices are presented with many competing options in the form of demand internally/externally or new interventions/ opportunities, the prioritisation process whereby decisions are made in terms of which services or interventions should take precedence in relation to each other became important.
Percentage change relative to the control mean post-intervention	Difference between the intervention and control group mean post-intervention divided by the post intervention control group mean x 100 (for continuous outcomes).
Telemedicine	Delivery of health care services using information and communication technologies.
Theoretical framework	A structure which contains a set of explicit statements of theoretical assumptions to explain phenomena.

1 Introduction

1.1 Chapter overview

This chapter sets the scene by describing the 'evidence to practice' gap as a widespread problem in healthcare. Following this, it provides a brief description of implementation science and complex interventions. It then goes on to explain the context within which the National Health Service (NHS) in England is operating and the political drive to adopt 'innovations' to improve quality of care. The aim and objectives of the thesis are then presented, followed by a brief outline of the thesis structure.

1.2 'Evidence to Practice' gap

The drive to improve quality of care while reducing costs has led to widespread attempts to promote evidence-based or proven approaches. Examples of evidence-based products include clinical guidelines, quality indicators for measuring performance and health interventions. Research has consistently shown that the take-up of proven approaches is often slow. For example, interventions recommended as core treatment (particularly exercise, weight loss and the provision of written information) for knee pain among older adults were underused (Cottrell, Roddy, & Foster, 2010). Conversely, many interventions that have been proven to be ineffective continue to be used, for example, antibiotics for acute respiratory tract infection. A systematic review including 29 guideline recommendations from 11 studies showed that only one third of the research evidence informing guidelines is being routinely adhered to, with adherence rates range from 20% to 80% (Mickan,

Burls, & Glasziou, 2011). Similar findings have been reported across a number of clinical areas (Runciman et al., 2012; Grol & Grimshaw, 2003). This delay in translation of evidence-based interventions into every day clinical practice is known as the 'evidence to practice gap' (Woolf, 2008).

This delay is often said to be caused by health care professionals' difficulty in keeping up with research and achieving professional behaviour change (Grol & Grimshaw, 2003). However, closer inspection reveals numerous challenges related to implementation of these evidence-based or proven approaches. How best to implement proven approaches in routine practice is a common question raised by health care professionals, health services managers and academic researchers. This gap is particularly apparent in primary care and general practice.

Primary care has its own distinctive research and implementation culture, which has been described as contributing to the evidence to practice gap (Salmon et al., 2007). Primary care clinicians (general practitioners) are generalists and often manage a set of undifferentiated symptoms or health problems; this requires a combination of wide ranging knowledge, clinical experience and sound judgement (Harnden & Lehman, 2009). Their roles and activities have changed and expanded over the recent years; for example, they are increasingly likely to be involved in care coordination for people with complex problems and areas of 'specialist' care' e.g. diagnostics and minor surgery, as a result of the development of medical technologies (Smith et al., 2013). Furthermore, these clinicians often work as part of a multi-professional team. Primary care organisations vary in characteristics such as team composition, organisational structures, and working practices. These diverse contexts can make it challenging to implement proven approaches.

1.3 Choice of theoretical lens and rationale

Having determined that I wanted to study the evidence to practice gap in primary care, I then considered the overall theoretical lens that I would use. The fundamental underlying issue in the evidence to practice gap in primary care is that changes in evidence require health professionals and health care systems to change their behaviours, actions and processes. Achieving such change is widely recognised as challenging (Morden et al., 2015; Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004; Woolf, 2008; Morris, Wooding, & Grant, 2011).

Different disciplines have taken different approaches to this challenge – for example, behavioural psychology focuses on individual behaviour change (Davis, Campbell, Hildon, Hobbs, & Michie, 2015). Two main categories of psychological theories include motivation and action theories (Michie et al., 2005), for example, Theory of Planned Behaviour (Aizen, 1988) and social cognitive theory (Bandura, 1977; Bandura, 1986). The Technology Acceptance Model (TAM) (Davis, 1989) was developed specifically for the purpose of studying the adoption of new technologies, and is an extension of the Theory of Reasoned Action (Fishbein & Aizen, 1975). These theories posit that individuals make changes in their actions or behaviours when the perceived benefits of change outweigh the perceived harms or difficulties of change, and when individuals believe that they have the capacity to make these changes (self-efficacy). Researchers whose work is primarily influenced by these types of behavioural psychology theories will focus on interventions at the level of individuals, such as interventions that are aimed at informing targeted individuals about the benefits of the proposed change, along with interventions that aim to increase those individuals' self-efficacy in making the change.

In contrast, theories of organisational change posit that individual's behaviours are largely governed by the systems within which they work, and as a result, suggest that closing the evidence to practice gap will require interventions that work at organisational or system level. There are many theories which can understand the structure and processes of organisations, and how organisations interact with each other, for example, complexity science to explain the effects of organisational structure and dynamics, Max Weber's theories concerned with bureaucracy (Waters & Waters, 2015), and institutional theory (DiMaggio & Powell, 1991; Scott, 1995) which emphasises the influence of formal structures of legitimacy, the situated change theory (Orlikowski, 1994) which focuses on changes in the on-going practices of individuals.

There are also other theories that focus on the operation of the organisation and systems, for example, Normalisation Process Theory, a mid-range sociological theory developed by Carl May and colleagues (May et al., 2009), which focuses on the process by which a complex intervention either does or does not become "normalised" into routine practice. Social-network theory was developed to examine the structural relationships and influence in networks defined as a 'set of people or groups of people', and social capital (Eccles et al., 2009; Parchman, Scoglio, & Schumm, 2011; Cunningham et al., 2012; Mascia & Cicchetti, 2011). Roger's Diffusion of Innovations (Rogers, 1983) focuses on the spread of innovations and highlights the importance of innovation attributes (e.g. complexity, relative advantage) and intermediatory actors (e.g. change agents, opinion leaders) for successful adoption and implementation.

Given the very wide range of approaches that were available for studying the evidence to practice gap in primary care, I decided to develop criteria to guide my choice of approach to this topic. These criteria were developed through my reading and discussion with my supervisors, and included the following:

1. As my primary focus was the evidence to practice gap in primary care, the approach should be suitable for application to primary care and general practice. This had several implications:
    a. Primary care health professionals work as individuals (in consultations) and as part of a group (in a practice). Therefore the approach selected should account for change both at the level of individuals and at the level of a group or organisation.
    b. Primary care is a healthcare environment, and so the selected approach should have relevance to, and have been widely used, in healthcare.
    c. As described above, almost all change aimed at closing the evidence to practice gap in primary care involves complex interventions; therefore the approach should be applicable to complex interventions.
    d. I was interested in many different sorts of change, from changes in prescribing behaviour to adoption of new forms of technology to changes in working roles or changes in appointment systems. Therefore I needed an approach that was applicable to all these different sorts of change, and not one that focused specifically on one form (e.g. the Technology Acceptance Model).

2. I already had considerable experience and expertise in evidence-based medicine, and knew that I wanted my future research and career to build on my existing skills. Therefore one of the criteria for selecting an approach to my research was that it would build my knowledge and expertise in areas that would enable me to contribute to promoting evidence-based practice. This implied that I should adopt an approach that was reasonably well known and accepted in the community that I wished to work with. This was not an absolute priority – if I had thought the best approach was one that was not yet widely known in the healthcare and evidence-based medicine communities, I would have adopted it, however, if there were two approaches which appeared equally good to me, one of which was well known and widely accepted and one of which was not, I would have prioritised the well-known one.

Having developed these criteria, I looked again at the range of approaches available. Implementation Science, defined as efforts or activities planned to apply (new or changes to) practices in a specific setting, seemed to me to be the best fit. Implementation science is an inherently interdisciplinary research area, which draws on different theories and lenses to get a broader understanding of how "things" work in practice (Implementation Science, 2018). As implementation is a complex process that can be influenced by many factors (May et al., 2009; Damschroder et al., 2009; May, Johnson, & Finch, 2016); it requires the study of not only organisations, but also influences on patient, the wider context and their interactions with the intervention and its implementation process. In addition, implementation science has been developed for use in health care; it explicitly addresses complex interventions and considers many different forms of interventions and change.

1.4 What is implementation?

There is no consensus upon the definition of implementation in health care research. Although increasing attention has been given to the concept of implementation over the past decades, the concept is inconsistently defined and used. According to Pfadehauer et al (Pfadenhauer et al., 2015), "implementation" can be classified as a partially matured concept, limiting its operationalisation in research and practice.

The concepts 'implementation', 'diffusion', 'adoption', 'embedding', and 'normalisation', are used interchangeably in the literature. The definition of each of these concepts is provided in Table 1.

Table 1: Definitions of implementation, diffusion, adoption, embedding and normalisation

Implementation	Defined as efforts or activities planned to apply (new or changes to) practices in a specific setting. The implementation process involves all activities that occur between making a decision to adopt and the time that an intervention becomes part of the organisational routine, ceases to be new or is abandoned.
Diffusion	Described as an unplanned, untargeted, natural and passive process and individuals may or may not choose to adopt the given intervention as a result.
Adoption	Refers to the stage in which an intervention is selected for use or taken on by an individual or an organisation.
Embedding and normalisation	Both embedding and normalisation occur when the intervention is fully integrated with routine practice and is linked to the concept of long-term sustainability (sustained use).

Implementation has been included as one of the four key elements of the development and evaluation process in the MRC guidance for complex interventions (Craig et al., 2008).

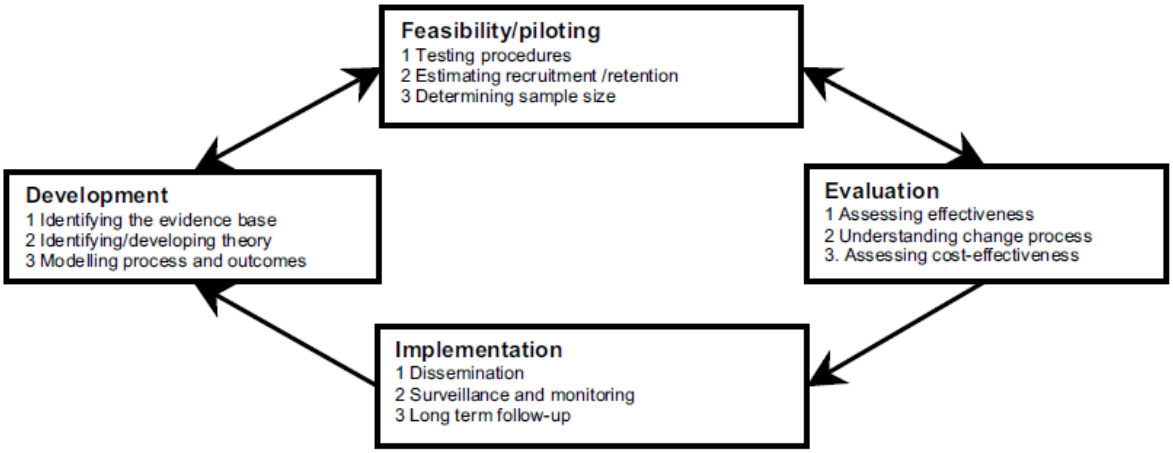


Figure 1: The development and evaluation process of complex interventions (taken from the MRC guidance for complex interventions)

The focus of this thesis is implementation. The concept of implementation takes a broad perspective, and encompasses an initial adoption stage as well as embedding and normalisation (post adoption). Implementation is seen as a social process in this thesis (May & Finch, 2009). It can be considered as a whole or multiple step process, which involves multiple decisions, actions, refinements and methods/ strategies undertaken by individuals involved in the implementation of a given intervention (Pfadenhauer et al., 2015). It is characterised as an active, dynamic, iterative, multifaceted and complex process (Pfadenhauer et al., 2015). Implementation of a given intervention can target one level or several levels. The goal of implementation is for targeted populations/ users to use the intervention effectively and to maximise the potential or the effectiveness of the intervention.

The concept of implementation science and improvement science overlap significantly. Improvement science is about finding out how to improve quality and make changes well (Health Foundation, 2011), and this can be partly achieved through 'good' implementation of quality improvement initiative (often a complex intervention) and by utilising a systematic and iterative research approach.

During the initial stages of my PhD, I realised that implementation science focuses on implementing one intervention at a time. However, this does not reflect the reality and I felt that this could be a gap in the implementation literature. For this reason, I decided to explore the implementation of multiple interventions after undertaking my systematic reviews.

1.5 Complex interventions

Implementation is always concerned with an "object". In healthcare, these objects may be an intervention or evidence based practices, for example, a specific technology, a guideline, quality improvement programme. They can be new i.e. innovations or modified practices (i.e. adding something new to existing practices, stop doing something). They can also be policies or more general, change. Many of these interventions are made up of several interacting components also known as "complex interventions", as described in the Medical Research Council (MRC) guidance for complex interventions (Craig et al., 2008). The degree of complexity is influenced by different elements:

- Number of components
- Implementation of the intervention requires change not only at the individual level, but also at the organisational/ practice level
- Targeted behaviour is complex, e.g. prescribing decisions can be affected by different factors such as patient safety and ethical concerns
- Multiple outcomes

- Complexity of implementation.

Complex intervention can encompass a wide variety of non-pharmacological interventions including those that aim to change individual behaviour change, such as weight management programmes, strategies to facilitate organisational change in health care settings and patient safety initiatives. Few interventions are simple in health care partly because their implementation often requires change not only at the individual level, but also at the organisational level (Murray et al., 2011).

1.6 The current context of the NHS

This section describes the context in which this work was carried out, and why the study of implementation of complex interventions matters to the NHS, particularly primary care and general practice.

The NHS has been undergoing rapid reform. Events from 2010-2016 are briefly presented in the timeline below.

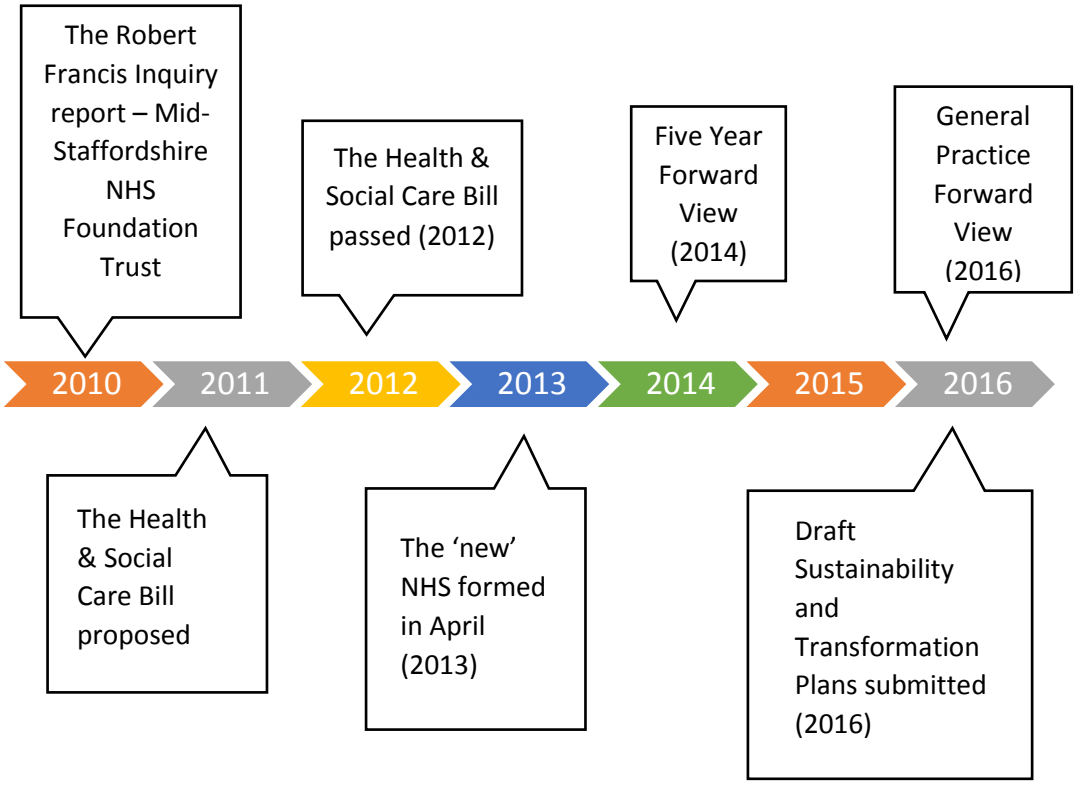


Figure 2: NHS timeline between 2010 and 2016

The Health and Social Care Act of 2012 has been described as the "biggest reorganisation of the NHS since it was established".

> *"While elements of the Bill are an evolution of previous reforms, the scale of the changes and the speed with which they will be implemented make this the biggest shake-up of the NHS since it was established."*
>
> (King's Fund Health and Social Care Bill Briefing 2011)

The 'new' NHS was formed in April 2013; one of the key legislative changes included clinically-led commissioning. Primary care trusts (PCTs) were abolished and Clinical Commissioning Groups (CCGs) were created (see Box 1).

What are CCGs?

CCGs are membership organisations made up of local GP practices which have a legal responsibility for around two-thirds of the NHS' commissioning budget. The CCGs are responsible for commissioning the majority of secondary and community care services. CCGs directly commission services for their populations. The budget varies depending on a number of factors, e.g. the size, age profile, location and health of the patient population within the CCG (Robertson, Holder, Ross, Naylor, & Machaqueiro, 2016).

What is the rationale behind GP-led commissioning?

The rationale behind GP-led commissioning was GPs' in-depth understanding of their practice population given their daily interactions with patients. They were well placed to transform 1) health services that meet local needs and 2) out-of-hospital care. (Department of Health, 2010)

In 2015, under a new policy of primary care co-commissioning, CCGs were given the option to commission general practice themselves or in collaboration with NHS England (NHSE). (NHS England, 2016a)

Box 1: What are Clinical Commissioning Groups?

This rapid and radical restructuring of the health service took place within a context of financial pressures and rising demand.

Professor Chris Ham, the King's Fund's chief executive said:

> *"The first three years were wasted on major organisational changes when the NHS should have been concentrating on growing financial and services pressures. This was a strategic error."*

Financial pressures and slow growth in funding in primary care

The Royal College of General Practitioners (RCGP) previously highlighted that the share of NHS funding allocated to general practice fell from nearly 11% in 2004/05

to 8.5% in 2012/13 (Royal College of General Practitioners, 2015a) (Figure 3). This reduction had placed GP services under huge strain. By 2013/14, spending on GP services had reduced by 3.0% in real terms since 2009/10 (Figure 3). In the meantime, spending on secondary care had increased significantly. Between 2013/14, there was a reduction in the rewards offered for general practitioners (GPs) meeting Quality and Outcome Framework (QOF) targets; practices received less through this route (Baird, Charles, Honeyman, Maguire, & Das, 2016).

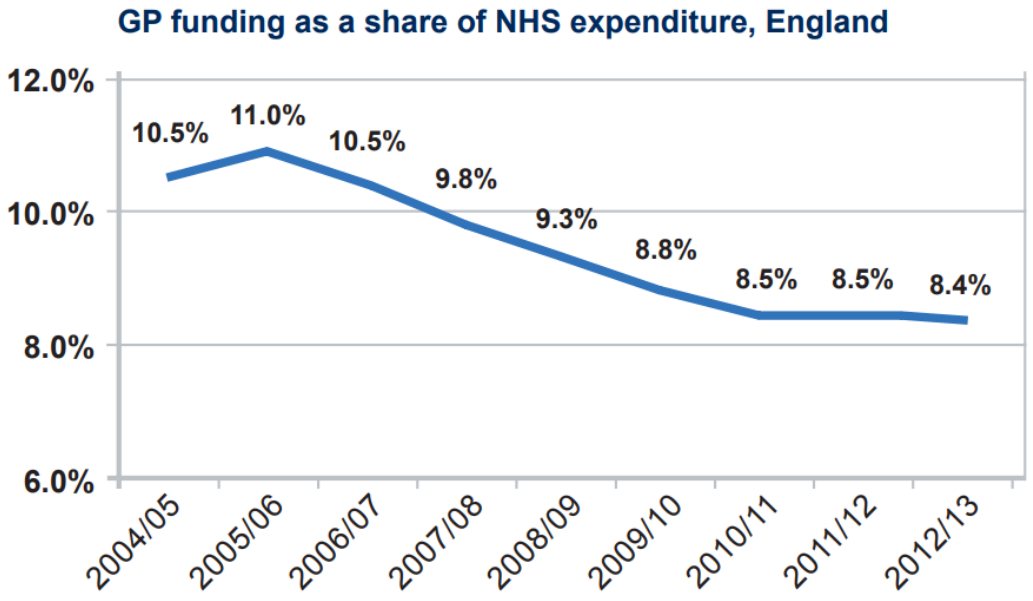


Figure 3 GP funding as a share of NHS expenditure, England (taken from RCGP report, 2015)

Increased workload

The substantial increase in workload in general practice is well-known. They include:

a) *An increase in the number of consultations*

An analysis published by the King's Fund (2016) found that consultation increased by more than 15% between 2010/11 and 2014/15. The number of face-to-face consultations grew by 13% and telephone consultations by 63% (Baird et al., 2016). Further, the work of general practice is becoming more complex with longer time is needed for each consultation. This is mainly due to the ageing population, increased prevalence of long term conditions and rising expectations. Patients with multiple long-term conditions "will likely have 10 or 12 GP appointments in the year, see eight specialists, and have 11 or 12 medications to manage, three urgent care, and so on" (House of Commons, 2016). Two-thirds of consultations are for those with long-conditions and a third of consultation are for people with multiple conditions (House of Commons, 2016).

b) Expansion of service provision

GP practices have been asked by the government to provide more services, many involved the transfer of services from hospital into the community (Baird et al., 2016). GPs are being asked to undertake more preventive work, and to develop extended clinical services to deliver more integrated care by collaborating with other providers (Rosen, 2015).

c) Contractual and regulatory requirements

Over the last decade, practices have also been required to spend considerably increased time and resource to meet regulatory and contractual requirement, including:

- Compliance with regulatory standards
- Preparing for inspection by the Care Quality Commission (CQC)
- Revalidation and appraisals
- QOF requirements and enhanced services (national or local)

GPs have no protected time for these activities, except for fitting them into the normal working week (Rosen, 2015; Royal College of General Practitioners, 2015b).

In addition, general practices are facing recruitment and retention problems (Rosen, 2015). Practices are finding it increasingly difficult to recruit and retain GPs. More GPs opt for working part-time and fewer GPs choose to undertake full-time clinical work (Baird et al., 2016). There were fewer GPs per patients in England, reduced from 62 per 100,000 in 2009 to 59.5 in 2013 (Health Education England, 2014). Between 2006 and 2013, the number of GPs increased by 4%, compared to a 27% increase in the number of hospital doctors over the same period (Dayan, Arora, Rosen, & Curry, 2014).

Overall, general practice is broadly perceived to be in "crisis" (Dayan et al., 2014; Baird et al., 2016). Workload has increased significantly in recent years and has not been matched by growth in funding and workforce.

1.7 The drive to adopt innovations

> "Innovation is the way – the only way – we can meet these challenges".
>
> (Sir David Nicholson, former NHS Chief Executive of the NHS, 2011)

Policy makers increasingly acknowledge the need to speed up the pace and scale of change and the adoption of (proven) innovations have been proposed and presented as one of the ways to manage these financial and operational challenges (Department of Health, 2011). For example, for the NHS to be sustainable within the limited resources available in the next couple of years, a report from the Nuffield Trust highlighted that the organisation needs to work much better through the development and implementation of new models of care (Rosen, 2015). The definitions and key goals of innovations are presented in Box 2.

What is an innovation?

Innovation is defined as “an idea, object, service or product, new to the NHS or applied in a way that is new to the NHS” (Department of Health, 2011). It is not always an addition to existing processes or practice, it could be decommissioning an activity that is shown to be ineffective or even harmful, e.g. antibiotic prescribing, or is replaced by something new, e.g. a new model of care where non-clinicians such as a nurse to deliver the care.

What are the key goals of implementing and spreading innovations?

- Transforming the way services are delivered;
- Improving the quality of care and services for patients;
- Reducing variation in care and practice;
- Potential cost savings through improving efficiency and productivity.

Box 2: Information about innovations

The UK government has great expectations of the capacity of innovation to play an important role in overcoming the rising costs and demand in the delivery of health care services. The drive to adopt innovations remains as a central priority for the government and the NHS (see Table 2), echoed by subsequent reports such as the NHS Five Year Forward View (FYFV) published in October 2014 (NHS England, 2014b). All of these policies and reports call for an acceleration of the adoption and spread of innovations across the NHS. Because of this, I wanted to investigate the implementation of innovations, in terms of both existing evidence and empirically.

Table 2: Timeline of key policies and guidance relating to the importance of innovations in the NHS

2011	2012	2013	2014	2015	2016
The Innovation Health and Wealth: Accelerating Adoption and Diffusion in the NHS (DoH, Sir David Nicholson)	Creating change: innovation, health and wealth one year on (DoH)	Mandate from the Government to the NHS Commissioning Board: April 2013-March 2015 Freeing the NHS to innovate; Enhancing quality of life for people with long term conditions, by the use of technology to help people manage their health and care	The NHS Five Year Forward View (NHS England)		General Practice Forward View (April 2016) -Practice infrastructure and invest in better technology and quality improvement
2010-2015 Government policy: research and innovation in health and social care (DoH)			Plans to improve health outcomes and the quality of patient care through digital technology and innovation (DoH, Jeremy Hunt)		Sustainability and Transformation Plans – develop new models of care to achieve better outcomes for all; focused on prevention and out of hospital care.
			Established Academic Health Science Networks		

1.8 Summary

There is a big push to implement innovations throughout the NHS particularly general practice in order to overcome the current financial and operational challenges. However, the literature has revealed that the take-up of these interventions is often slow, also known as the evidence to practice gap. Gaining a good understanding and addressing this problem of implementing complex interventions into practice is now more important than ever, given that general

practice is likely to continue to undergo further changes over the next 5 years, in order to deliver the General Practice Forward View and the Sustainability and Transformation Plan blueprints. This makes this research on implementation of complex interventions in general practice particularly timely.

1.9 Thesis aims and objectives

The overall aim of this thesis is to explore implementation of complex interventions in UK general practice, and it will be addressed through the following research questions and methods:

	Research questions	**Methods**
1	Why do complex interventions fail to be taken up in primary care?	Systematic review of reviews of current literature
2	How do aspects of context influence implementation, and explain variations in the degree of implementation?	Comparative case study
3	What happens when multiple interventions are implemented into general practice?	Comparative case study

1.10 Statement of intellectual property and independent contribution

Systematic review of reviews

Part of the research (systematic review of reviews) I carried out for this PhD was part of a wider NIHR SPCR funded programme grant to explore whether the evidence to practice gap could be addressed by supporting researchers to consider implementation during the process of developing and evaluating complex interventions to improve health care in primary care. This project was led by joint

principal investigators, Professor Elizabeth Murray (UCL) and Professor Pauline Ong (Keele University), and included five work packages. I was employed in the Department of Primary Care and Population Health at UCL between October 2012 and September 2013. During that time, I was awarded a three-year NSPCR doctorate studentship.

The aims/ objectives and methodologies of the systematic review were briefly outlined in the original project grant application; however the protocol for this work package had not been developed. I developed and refined the protocol for the systematic review, supported by the research team (steering group committee) (see Lau et al, 2014, for further information). I then went on to conduct the systematic review, including the development of a search strategy, literature searches of electronic databases, study selection, data abstraction, data management, quality assessment of studies, initial and subsequent data synthesis and writing up. I was responsible for the development of the conceptual framework/ model based on the findings emerged from the analysis. The key role of the steering group in the review was to advise on the methodology, and data synthesis (e.g. content of the conceptual model), as well as acting as second reviewers for titles/abstracts screening and checking the accuracy of my data abstraction and synthesis.

Following the systematic review of reviews and additional reading in the subject area, a number of important knowledge gaps have been identified which have subsequently shaped the development of my PhD.

Empirical research

The process of developing research questions for the empirical study was iterative, drawing on the findings generated in the systematic review of reviews. I spent a considerable period of time working back and forth between existing literature, various theories and frameworks, data collection and analysis, and writing up. Reflexive work was extensively carried out to ensure the conduct of the research was rigorous. I was able to develop research questions that built on the earlier work of the study (i.e. systematic review), while ensuring that the new questions I wanted to put forward could be answered by the data I gathered.

Figure 4 shows the iterative process for this thesis.

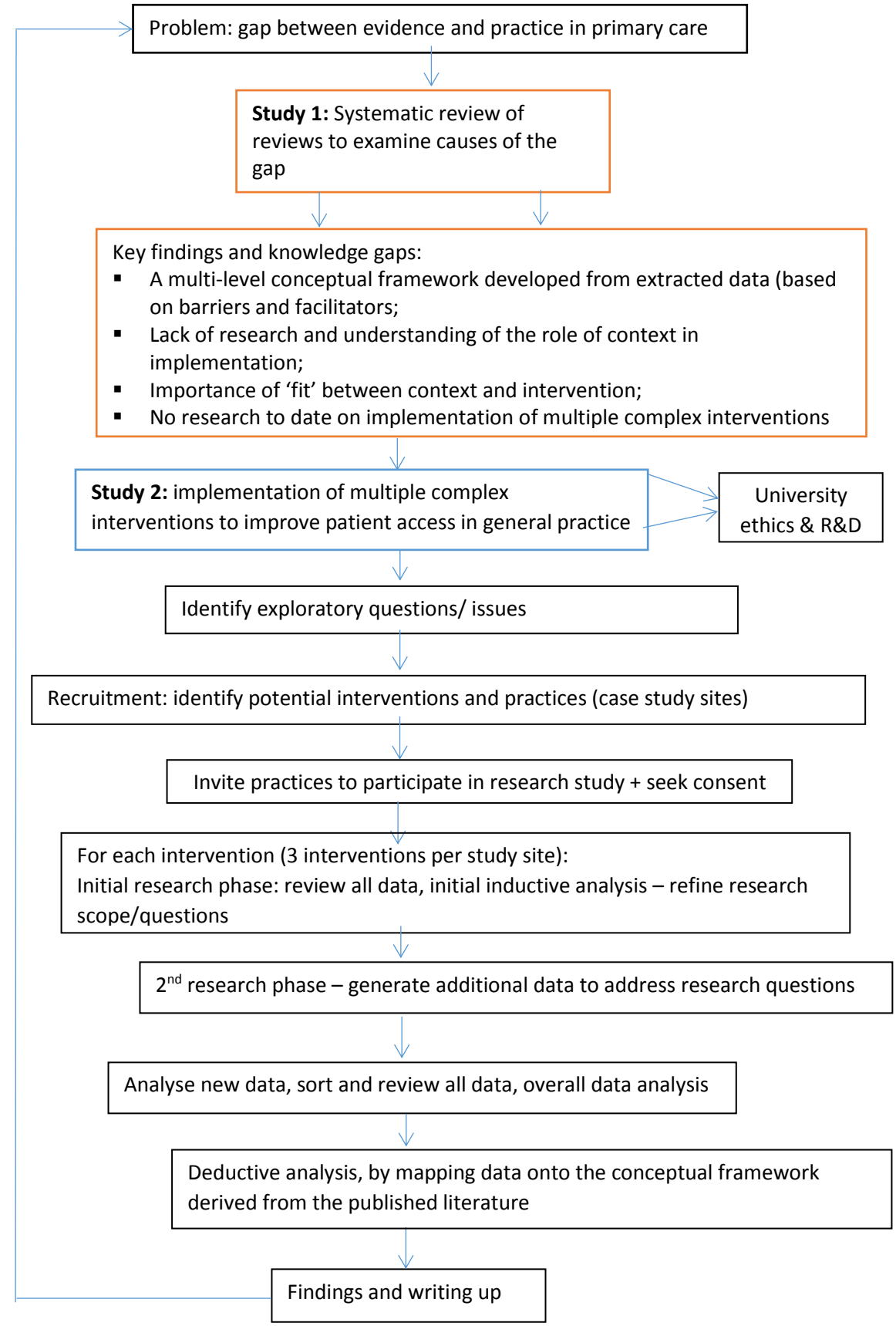


Figure 4: Iterative research study flow diagram

1.11 Overview of the thesis

Following on from this introductory chapter, **Chapter 2** presents the methods and findings of the systematic review of reviews that determined the causes of the failure of implementing complex interventions in primary care. **Chapter 3** outlines the rationale, aims and objectives of the empirical research. Rationale for the chosen methodological approaches and theoretical approaches underpinning the research are also discussed in this chapter. **Chapter 4** describes the method of the case study, which includes observation, semi-structured interviews, analysis of relevant documentation and other sources of information. This chapter also presents reflexive accounts about my fieldwork. Findings are divided into four chapters: **Chapters 5, 6, 7 and 8**. **Chapter 5** describes the characteristics of the study sites. **Chapter 6** presents the empirical data describing the challenges faced by the three study sites which influence implementation of the three chosen complex interventions, namely online services, telephone GP triage and Named GP. This chapter also describes the way in which access was perceived by participants. **Chapter 7** presents the individual analyses of the chosen complex interventions, with reference to the contextual influences on the degree of implementation. These findings are then integrated in **Chapter 8**. This chapter also presents the exploratory analysis of the implementation of multiple interventions. Lastly, **Chapter 9** summarises the overall findings, their contribution to the knowledge base in this field of research, and discusses the implications for policy, practice and research.

2 Causes of the evidence to practice gap in primary care: a systematic review of reviews

Findings from Study 1 have been published in *Implementation Science* journal.

Lau R, Stevenson F, Ong BN et al. Achieving Change in Primary Care – causes of the evidence to practice gap: systematic review of reviews. Implementation Science. 2016; 11:40. *https://implementationscience.biomedcentral.com/articles/10.1186/s13012-016-0396-4*

2.1 Introduction

Chapter 1 introduced the rapid pace of change in health care and the drive to implement more clinically- and cost-effective interventions. However the adoption of these interventions is often slow, this is also known as the evidence to practice gap and primary care is particularly prone to this problem. It is unclear what causes the evidence to practice gap, or why it often fails to be implemented into healthcare setting.

There are a number of approaches to reviewing, summarising and synthesising the literature, including, but not limited to systematic reviews, narrative reviews, scoping reviews and realist reviews. Each type of review is briefly described in turn below:

- Systematic review: focuses on a clearly formulated question with a narrow focus. It uses systematic and explicit methods to identify, appraise, and synthesise all the empirical evidence that meets pre-specified criteria to answer a given research question, with detail provided to enable replication (Higgins & Green, 2011).

Within systematic reviews, there are different methods of synthesising the data, and again the choice of method will depend on the research question and the type of data available. Where data are either sparse, or very heterogeneous, a narrative approach to synthesis is likely to be the most appropriate. Such an approach summarises in a narrative form the included studies and their findings; most researchers will view any conclusions drawn from a narrative synthesis as tentative, and requiring further work (Cook, Mulrow, & Haynes, 1997). Where the available data are quantitative in nature, and the included studies are reasonably similar in terms of populations, interventions, comparators, outcomes and study type, meta-analysis may be appropriate. Meta-analyses have been described as the most robust form of evidence in the "evidence pyramid" promulgated in evidence based medicine (Higgins & Green, 2011; Murad, Asi, Alsawas, & Alahdab, 2016), but may not be valid if the studies identified are too heterogeneous, or do not report appropriate data (Lau et al., 2016).

Meta-ethnography is an approach developed for synthesising qualitative data from several studies. The ultimate intention is to analyse and synthesise key elements in each study, with the aim of translating individual findings into new conceptualisations and interpretations (Polit & Beck, 2006). While the translations allow for comparison between different studies, they should preserve the structure of relationships between concepts within any given study (Noblit and Hare, 1988; Britten 2002). In recent years, the concept of a "meta-review" (Mair et al., 2012) has developed, which applies the methods of a systematic review to existing reviews, rather than to primary studies. This approach is particularly suitable where there is so much primary data that identifying and synthesising it becomes an almost impossible task, and when there are already a number of relevant reviews available.

- Scoping review: tends to address broader topics and is less likely to seek to address very specific research questions, nor to assess the quality of included studies. It's typically a narrative integration of the relevant evidence. A scoping review usually goes "*wide"*, and maybe not "*deep"*.

- Narrative review: a discussion of the state of the science of a specific topic, often from a theoretical point of view. It provides a comprehensive background for understanding current knowledge by identifying gaps, thus helping the researcher to determine research questions (Cronin, Ryan, & Coughlan, 2008). It takes a different approach seeking key concepts as opposed to developing a clearly defined but narrow research question concerning which data are carefully selected using inclusion and exclusion criteria.

- Realist review has an explanatory focus and seeks to unpick the mechanism of how complex programmes work or fail in particular settings and to understand causal relationships between context, the underlying mechanism of change and outcomes between two events (X and Y) (Pawson, Greenhalgh, Harvey, & Walshe, 2005). It is often used in synthesising evaluation studies of complex interventions. It is driven by the question 'what works for whom in what circumstances and in what respects?'. However, realist review is not standardisable or reproducible and tends to lead to tentative recommendations and contextual conclusion (Pawson et al., 2005).

In this thesis, I have chosen to undertake a systematic review because 1) undertaking a systematic review is a rigorous process, which typically includes

identification of relevant studies from a number of different sources, quality assessment of include studies, systematic collection of data and involves transparent reporting using an explicit framework e.g. PRISMA (Higgins & Green, 2011; Liberati et al., 2009); 2) there was a clearly defined review question – implementation of complex interventions in primary care.

Initial scoping of the literature revealed that 1) existing reviews tend to focus either on a particular type of complex intervention (e.g. introduction of new technologies (Gagnon, Nsangou, Payne-Gagnon, Grenier, & Sicotte, 2014) or promoting uptake and use of guidelines (Novins, Green, Legha, & Aarons, 2013)) or on a particular health condition (e.g. mental health (Addington, Kyle, Desai, & Wang, 2010) or diabetes (Adaji, Schattner, & Jones, 2008)); and 2) the size of the literature was too vast to synthesise. When the search was limited to review only, I identified a large number of articles and to do a review of primary data was duplication. Therefore, instead of undertaking a systematic review of primary studies, I conducted a systematic review of reviews. It was judged to be the most appropriate method to address this complex area as there is a vast literature which is highly heterogeneous (Mair et al., 2012; Smith, Devane, Begley, & Clarke, 2011). Undertaking a systematic review of reviews enables the findings of individual reviews to be brought together, compared and contrasted, with the aim of providing a single comprehensive overview. There are a number of limitations associated with this method (e.g. quality of the authors' synthesis, having a narrow and well defined review question means some important findings that could be learned from studies from other settings might be missed) and they are discussed in more detail in the discussion (section 2.5.2).

The results of this systematic review of reviews were used to inform the design and analysis of the empirical study, as described in detail in Sections 3.7.3 and 4.11.6.

The systematic review was part of a NIHR SPCR funded project (SPCR FR4 project number: 122).

2.2 Aim

The overall aim of this study was to identify, summarise and synthesise the available review literature on causes of the evidence to practice gap, referred to as any given explanation(s) of why and how complex interventions fail to be implemented in clinical practice, in the primary care setting.

2.3 Methods

2.3.1 Eligibility criteria

Eligibility criteria were defined to enable transparent and reproducible selection of papers for inclusion. The following *a priori* definitions were applied:

Primary Care in developed countries: the Royal College of General Practitioners (RCGP) has defined primary care as "the first level contact with people taking action to improve health in a community" (Royal College of General Practitioners, 2007). I defined primary care teams as teams or groups of health professionals that include a primary care physician (i.e. general practitioners, family physicians, nurse practitioners and other generalist physicians working in primary care settings). Developed countries are often referred to as more economically developed countries and a list of high-income member countries has been provided by the Organisation for Economic Co-operation and Development (OECD) (OECD, 2017).

I included reviews with at least 50% original studies from "primary care" in developed countries. Reviews exclusively on dental practices, pharmacies or developing countries were excluded.

Complex interventions: defined as interventions with multiple interconnecting components that operate at multiple levels (Craig et al., 2008).

Implementation: defined as all activities that occur between making an adoption commitment and the time that an innovation becomes part of the organisational routine, ceases to be new, or is abandoned (Linton, 2002).

Review: any type of review that provided a description of methods (e.g. identification of relevant studies, synthesis), such as systematic reviews (structured search of bibliographic and other databases to identify relevant literature; use of transparent methodological criteria; presentation of rigorous conclusions about outcomes), narrative reviews (purposive sampling of the literature use of theoretical or topical criteria to include papers on the basis of type, relevance and perceived significance, with the aim of summarising, discussing and critiquing conclusions) and meta-syntheses using definitions provided by Mair (Mair et al., 2012).

To be included a paper had to be a review of the causes of the evidence to practice gap for complex interventions in primary care. As our primary focus was professional behaviour change, I excluded reviews that only examined patient behaviours.

2.3.2 Search strategy

To ensure I comprehensively covered the important disciplines that might be related to my research (i.e. medicine, psychology, social science, nursing), I searched five electronic databases from inception to December 2013:

- International health care electronic bibliographic databases: MEDLINE (Ovid platform) and EMBASE (Ovid platform)

- Psychology and nursing electronic bibliographic databases: PsycINFO and Cumulative Index to Nursing and Allied Health (CINAHL)
- Cochrane Database of Systematic Reviews

I used four overlapping concepts to construct the search strategy:

- Complex interventions
- Implementation
- Primary care
- Reviews

I developed the search strategy with reference to the inclusion criteria and based on discussion with an information specialist, using both medical subject headings (MeSH), for example: “translational medical research”, “evidence-based practice”, “general practice”, “review”, “review literature as topic” and free-text words, such as, evidence to practice, evidence practice gap, family doctor, implementation, adoption, barriers. Articles reported in English and published up to December 2013 were eligible for inclusion in this review. I also carried out citation searches in ISI Web of Science and screened the reference lists of all included articles for additional literature. Details of the search strategy for MEDLINE (Ovid) are provided in Appendix 1.

2.3.3 Data collection and synthesis

Study selection

I downloaded all citations obtained from the literature search in Reference Manager and deleted duplicate references. The titles and abstracts of all the records were independently double-screened. I screened all identified citations (titles and abstracts) for potential inclusion; the steering group members acted as the second reviewers. In the first instance, the steering group members and I screened a

sample of 20% of citations (~100 citations each). Following this, the group had an in-depth discussion to resolve any uncertainty or disagreement about applying the inclusion/ exclusion criteria before screening the remaining citations. I then obtained the full text of potentially eligible articles. My supervisor and I then independently assessed the full text articles for eligibility against the pre-specified inclusion and exclusion criteria. Any discordance or uncertainty was resolved through discussion between me and my supervisor initially and if necessary with input from a third reviewer. I documented the reasons for exclusion and presented them in the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) flow diagram to show search, screening and selection results (Liberati et al., 2009) (Figure 5).

Data extraction and management

I extracted the data using standardised structured data abstraction forms. The content of the data abstraction forms were reviewed for validity by the co-authors with extensive experience in systematic review methodologies and implementation/ evaluation of complex interventions, to ensure all key information from the included reviews were captured. Data extracted included the following: author, year, title, objective, setting, eligibility criteria for selecting studies, synthesis method, number of and design of included primary studies, use of theoretical framework(s). Data extraction was checked by co-authors for a sample of 25% of all included reviews, using a quality assurance form I designed for the purpose of this review. The papers were randomly selected from each review topic or category (e.g. guideline, technology, prescribing behaviour) to ensure same level of quality assurance was carried out in all review categories.

For this review, I aimed to synthesise a body of qualitative literature and not determine an effect size, hence I did not undertake a formal quality appraisal of the

included reviews (Lau et al., 2014). Nevertheless I described the degree to which each included review conformed with the PRISMA checklist ((Liberati et al., 2009).

Data synthesis

I synthesised the extracted data using principles of meta-ethnography (Noblit & Hare, 1988; Walsh & Downe, 2005), based on an iterative, interpretive and inductive approach. Meta-ethnography rests on the authors' interpretation of the findings, which may include themes, categories and relationships, arising from the data of the original findings, to produce new interpretations that incorporate the meanings of the included studies (Jensen & Allen, 1996).

Step 1: determine how the studies are related

This can be achieved by creating a list of initial themes or concepts used in each account. Initially, I extracted key information and concepts from results and discussions of the included reviews, this included the main themes related to the causes of the evidence to practice gap. I also extracted data from discussions because they often contained further interpretations from the reviewers, which provided important insights. I made a good attempt to differentiate between interpretations made by the original authors based on the primary data and those made by the authors of the reviews, although this was not always possible.

Step 2: translating the studies into one another (comparisons between studies with regards to key themes/ concepts) (Campbell et al., 2011).

This process allowed the identification of common and recurring elements (or translation of the results of the papers into a common form) in the literature by reading the reviews again, taking into account the extracted data, and grouping similar concepts in the extraction grid as themes (Noblit & Hare, 1988). These themes formed columns of the grid, and a row for each review was created. The construction of this grid allowed the relationships between themes and between

reviews to be explored and compared. I undertook a pilot synthesis using a sample of 20 papers which was reviewed and discussed extensively by the authors, before conducting further analysis. To preserve the meaning of the included studies, the terminology used in each review was maintained within the grid. I carefully defined each theme (also known as descriptors) to facilitate coding, with input from all authors. The list of descriptors was reviewed repeatedly by the authors and refined. Data were re-categorised from one construct to another, and some constructs were refined and re-configured if necessary (Noblit & Hare, 1988).

I discussed any uncertainty about coding with three other reviewers. When each concept from the reviews had been translated into the grid, all the authors examined and commented on the themes and data within the grid to ensure all data were coded into appropriate constructs, and a final version was agreed. Following such iterative and rigorous process of data synthesis, 25% of included reviews (randomly selected from each review topic or category) were double-coded by the co-authors using a quality assurance form designed by me.

Step 3: synthesising translations

There are three main forms of synthesis: reciprocal (concepts are common and recurring); refutational (concepts are conflicting across included reviews); and line of argument where an overarching narrative is developed that summarises and represents the key findings of the included reviews (Noblit & Hare, 1988). Following review of the grid (mapping of data onto the constructs), I along with other authors collectively agreed that the relationships between included reviews appeared to be reciprocal, with many common themes occurring across studies, and from which a line of argument could be constructed. The line of argument synthesis was described in the results section, presented in the form of a conceptual framework (Figure 6) and also in the discussion section where I described my interpretations of the data and implications for clinical practice as well as future research.

This systematic review was reported in accordance with the ENTREQ statement guidelines to enhance transparency in reporting the synthesis of qualitative research (Tong, Flemming, McInnes, Oliver, & Craig, 2012). The full version of the review protocol was published elsewhere (Lau et al., 2014). The systematic review protocol was registered on the PROSPERO database (CRD42014009410).

2.4 Results and discussion

2.4.1 Identification of relevant reviews

Searches of the five electronic databases to December 2013 yielded a total of 6,164 potentially eligible papers. After screening of titles, abstracts and full text papers, 70 reviews were included. Figure 5 presents the PRISMA flow diagram of study selection.

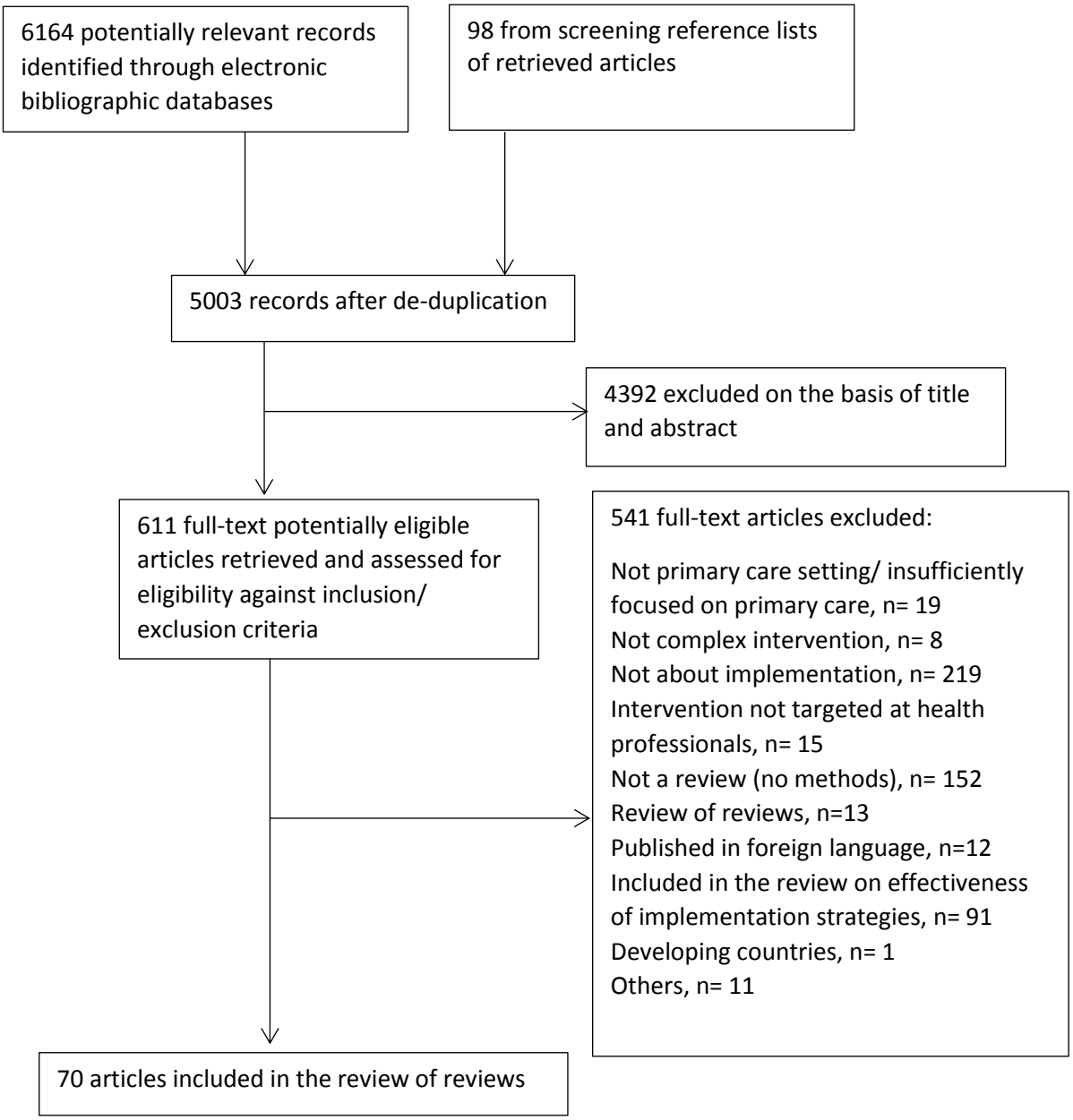


Figure 5: Study 1 PRISMA flow diagram of study selection

2.4.2 Description of included reviews

None of the included papers used the term “cause” or intended to investigate causes of the second translational gap. It quickly became apparent that a descriptive approach prevailed with the included papers expressing “causes” in terms of “barriers and facilitators” to implementation; hence I adopted this approach despite being aware of the criticisms of this in the literature (Checkland, Harrison, & Marshall, 2007). Of the 70 included papers, 64 reported barriers, 49 reported facilitators, and 46 reported both. Reviews encompassed a wide range of different topic domains: 13 reviews focused on research evidence/guideline implementation, 11 on quality of care and disease management, 26 on technology based intervention implementation, 12 on public health and prevention programmes, 6 on role integration/collaborative working, 1 on prescribing and 2 on others. Details of how topics were categorised are described in Appendix 2. Thirty-two reviews (46%) included original studies from primary care only, with the rest including studies from mixed health care settings.

Eighteen reviews (26%) were conducted in the United States of America (USA), 16 (23%) in Canada, 15 (21%) in the UK, 8 (11%) in Australia and 10 (14%) in Europe. The number of primary studies included in the reviews ranged from 2 to 225. The primary studies included in the reviews had been conducted in developed countries worldwide, with 17 reviews stating that the primary studies were predominantly conducted in the USA. Seventeen reviews included only quantitative studies, 4 included only qualitative studies, and 30 included both quantitative (e.g. survey) and qualitative studies. Data came from multiple perspectives including health care professionals and administrative staff. Details of included reviews can be found in Appendix 3.

2.4.3 Quality of included reviews

The level of methodological detail reported varied between the included reviews. Sixty-eight reviews (97%) reported the use of explicit inclusion/exclusion criteria. Screening and data abstraction process were adequately described (e.g. independently, in duplicate, use of piloted forms, as per PRISMA checklist (Liberati et al., 2009)) in 45 reviews (64%). Thirty-nine reviews (56%) summarised the study selection process (as a form of flow chart and/or described in the text) and the characteristics of included primary studies.

Thirty-two reviews (46%) critically appraised their included primary studies using some form of checklist/ assessment e.g. the Critical Appraisal Skills Programme (CASP) (Critical Appraisal Skills Programme, 2006) and Pluye's mixed methods review scoring checklist (Pluye, Gagnon, Griffiths, & Johnson-Lafleur, 2009), or described quality issues in the results or discussion. Theoretical frameworks were described in 25 reviews (36%). Many of them used theory to explain the findings in their discussion, or as part of their introduction or background (Mair et al., 2012; Gagnon et al., 2012; Mickan et al., 2011; Addington et al., 2010; Durlak & DuPre, 2008; Mason, 2008; Broens et al., 2007; Dulko, 2007; Nilsen, Aalto, Bendtsen, & Seppa, 2006; Peleg & Tu, 2006; McKenna, Ashton, & Keeney, 2004; Cabana et al., 1999; Fitzpatrick, Melnikas, Weathers, & Kachnowski, 2008; Leatt, Shea, Studer, & Wang, 2006; Lu, Xiao, Sears, & Jacko, 2005; Yarbrough & Smith, 2007). Relatively few of the reviews used theoretical frameworks as a way to carry out their analysis (Mason, 2008; Durlak & DuPre, 2008; Broens et al., 2007; Leatt et al., 2006; Yarbrough & Smith, 2007; Yusof, Stergioulas, & Zugic, 2007). Examples of theories discussed in the reviews included the Diffusion of Innovations Theory (Rogers, 2003), Normalisation Process Theory (NPT) (May & Finch, 2009), the Consolidated Framework for Implementation Research (CFIR) (Damschroder et al., 2009),

Technology Acceptance Model (TAM) (Legris, Ingham, & Collerette, 2003) and the Promoting Action on Research Implementation in Health Services (PARIHS) framework (Kitson et al., 1998; Helfrich et al., 2010). Further information about methodological quality (e.g. type of critical appraisal checklist or assessment form used by the included reviews) can be found in Appendix 3.

2.4.4 Final systematic review (SR) conceptual framework

A total of 21 primary themes and 40 secondary themes emerged from the data and were classified into the four levels of *external context*, *organisation, professionals* and *intervention*, described in detail below. Examples of quotations from the included reviews are provided to illustrate themes in Appendix 4. Many reviews mentioned the dynamic relationships among factors as an important issue in implementation. However, almost all reviews presented individual barriers and/or facilitators as separate concepts without exploring how the barriers and facilitators interacted or their relative importance. Overall, there was a lack of information about the context in which the different barriers and facilitators occurred. All the themes drawn from the identified reviews were treated equally and attributed the same weight independent of their frequency to avoid problems arising from potential "double counting" of primary studies included in several reviews. The final SR conceptual framework describing the different levels is presented in Figure 6, with further explanation provided below.

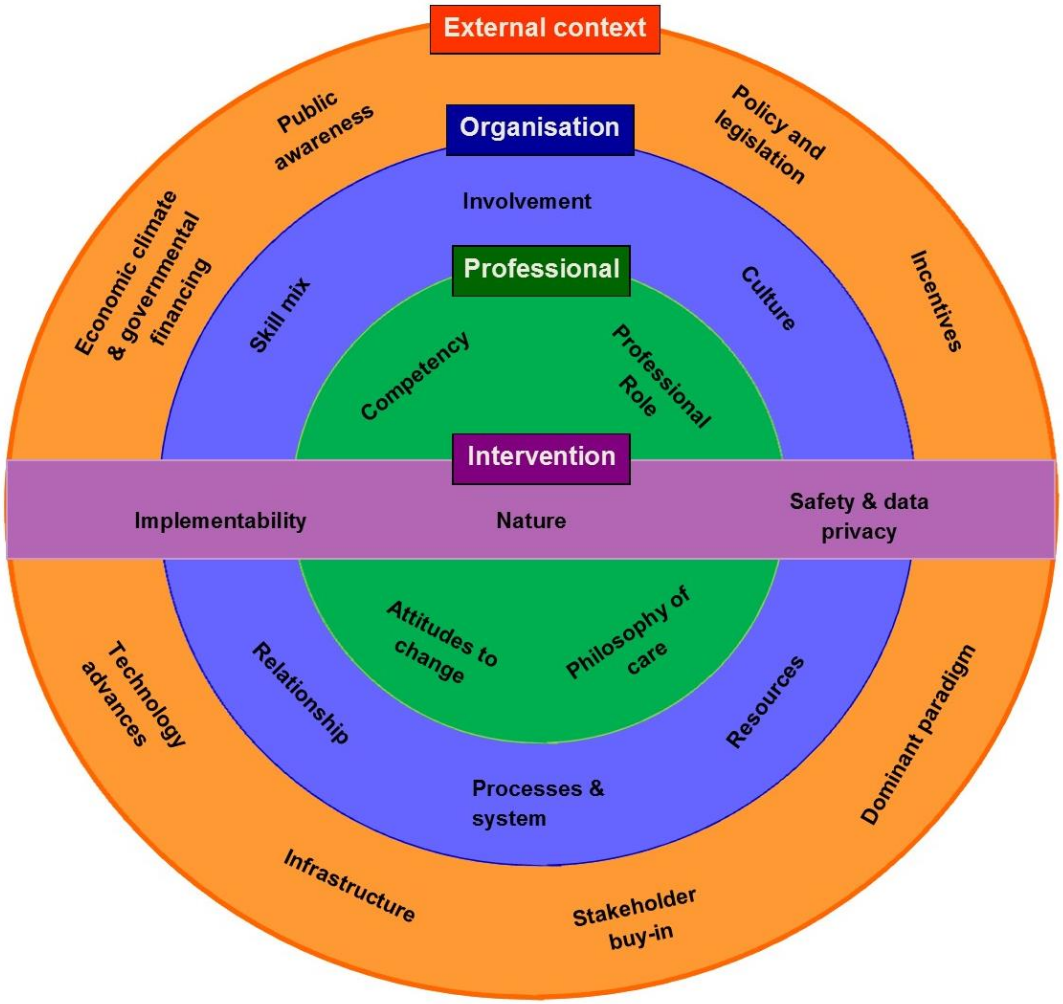


Figure 6: Conceptual framework describing key elements that influence implementation of complex interventions in primary care

2.4.5 External context

Policy and legislation The presence of supportive national and local policies which were mandatory, and appropriate legislative mechanisms often acted as potent activators (Fontaine, Ross, Zink, & Schilling, 2010) and promoted implementation of clinical guidelines, telemedicine and new roles (e.g. nurse practitioners) (Ogundele, 2011; Broens et al., 2007; Hoare, Mills, & Francis, 2012; Sangster-Gormley, Martin-Misener, Downe-Wamboldt, & Dicenso, 2011; Dicenso et al., 2010; Jarvis-Selinger, Chan, Payne, Plohman, & Ho, 2008). Secondary themes associated with policy and legislation included: *fit with local or national agenda*, where compatibility between interventions and local or national policies, or an organisation's mission, priorities and values promoted adoption (Addington et al., 2010; Durlak & DuPre, 2008). Conversely, the lack of *stated goals and objectives* reflecting priorities and directions could act as barriers (Eisner et al., 2011). Similarly, the *regulatory framework*, particularly where it was restrictive or absent was found to impede implementation (Lau et al., 2012; Fontaine et al., 2010; Leatt et al., 2006). *Presence of codes of practice*: having standards (usually at the local level) to ensure quality and uniform practice and establishing guidelines for how work gets done were shown to promote implementation.

The presence of clear *incentivisation* structures were found to drive adoption: this included *non-financial incentives* such as public recognition (Langberg, Brinkman, Lichtenstein, & Epstein, 2009) and access to training (Taylor, Shaw, Dale, & French, 2011; Johnson, Jackson, Guillaume, Meier, & Goyder, 2011). *Financial incentives* were shown to facilitate adoption, e.g. governmental incentives for use of health information technology, quality and outcome frameworks that linked to targets for prescribing (Mason, 2008). There were concerns from professionals about the lack of finance to incentivise adoption of new processes or interventions (Berry,

Coverston, & Williams, 2008). Financial penalties could lead to distrust and professional demoralisation (Mickan et al., 2011).

Dominant paradigms refer to the presence of commonly held set of values or beliefs in a society at a given time, e.g. evidence-based practice and patient centred care. Professional organisations such as those producing national guidance and advice to improve health care and the political agenda impact upon the credibility and enactment of these commonly held values (Mason, 2008). Another example included the advocacy of certain drugs by pharmaceutical industries (Baker et al., 2010).

Buy-in by internal or external stakeholders at different levels promoted implementation through multidisciplinary effort and by having stakeholders aligned with an implementation plan (Addington et al., 2010). Conversely lack of stakeholder buy-in (Ohinmaa, 2006), resistance or competing priorities or lack of interest from stakeholders was found to impede implementation (Sangster-Gormley et al., 2011).
Infrastructure: short comings, from unreliable internet access, lack of access to information, lack of mechanisms or systems to support storing or documenting information, or lack of infrastructure support for implementation were all reported to impede implementation, whereas presence of these features promoted implementation.

Advances in technology in health care have become increasingly salient. Technologies change health care delivery and the way in which information is provided (e.g. electronic patient records, telemedicine). There is a growth of interest in their use (Garg et al., 2005), and this is shown to drive implementation.
Economics and financing including the economic climate, the ways in which the government allocated funding, and investment decisions made by local health authorities were shown to affect implementation of guidelines (Zwolsman, te, Hooft, Wieringa-de, & van, 2012) and new roles (Sangster-Gormley et al., 2011; Dicenso et

al., 2010). Finally, *public awareness* could result in pressure to introduce a new intervention. This was presented as a facilitator for motivating the uptake of telemedicine and for educating the public about new nurse practitioner roles (Broens et al., 2007; Dicenso et al., 2010).

2.4.6 Organisation

The presence of a positive *culture* which was receptive to change and valued innovation was viewed as important for implementation (Durlak & DuPre, 2008; Leatt et al., 2006; Lau et al., 2012). Strong and consistent internal and external *leadership* including identifying influential champions who were respected and trusted by staff to drive change and implementation and communicate vision, from the beginning of the project had a positive impact on adoption. Conversely, lack of effective leadership to advocate change, set priorities or manage the implementation process; and changes in leadership were presented as barriers (Dicenso et al., 2010; Johnston, Crombie, Davies, Alder, & Millard, 2000; Kendall, Sunderland, Muenchberger, & Armstrong, 2009; Shekelle, Morton, & Keeler, 2006). *Organisational readiness* is defined as the degree of preparation before implementation: lack of staff preparation or strategic planning (e.g. resource planning, implementation plan) was found to be a barrier which could be influenced by the practice environment (e.g. small practice size, inadequate practice organisation). A *hierarchical structure,* defined as the degree to which the organisation prescribed roles or responsibilities and/or promoted autonomy was mainly presented as a barrier (Johnston et al., 2000; Yusof et al., 2007; Sangster-Gormley et al., 2011).

Available resources, including time, funding, staff and technical support were commonly reported as both barriers and facilitators. Limited funding in general, lack of time to plan (Addington et al., 2010) or train staff (Fontaine et al., 2010),

insufficient equipment (Vedel, Puts, Monette, Monette, & Bergman, 2011; Mickan et al., 2011) or administrative support to perform additional data entry or deal with paperwork (Holm & Severinsson, 2012; Johnston et al., 2000; Gagnon et al., 2012; Pereira et al., 2012) were reported as barriers. Other related barriers included failure to adequately anticipate the amount of time and costs, including operational and training costs (Broens et al., 2007; Dulko, 2007; Yusof et al., 2007), costs associated with ongoing maintenance (Broens et al., 2007; Leatt et al., 2006) and the amount of technical assistance and support required at all stages of the project, e.g. some resources available to support the project at the beginning but insufficient for its completion (Johnston et al., 2000).

Processes and systems were defined as the extent to which the intervention fitted with existing workflow and how well it integrated with current working processes and systems. When the fit was good (Gagnon et al., 2014; Kawamoto, Houlihan, Balas, & Lobach, 2005; Mollon et al., 2009), for example when e-prescribing was sufficiently integrated as part of clinician workflow, work process was improved (Gagnon et al., 2014). Achieving good fit sometimes required redesign of delivery systems or workflow.

Relationships, both *between professionals and between professionals and patients* were found to influence implementation. Positive and trusting *inter-professional relationships* through the presence of bi-directional communication and giving staff abundant opportunity to discuss salient matters and provide input to challenges before and during implementation were perceived to be facilitators (Dicenso et al., 2010; Durlak & DuPre, 2008; Leatt et al., 2006). Conflict with patient expectations (Parsons, Merlin, Taylor, Wilkinson, & Hiller, 2003) and concerns about patient and health professional interaction, for example when using the new information system, nurses spent more time on documentation than on direct care (Gagnon et al., 2012),

could lead to a decrease in acceptability of an intervention and subsequently impede implementation.

Skill mix issues, including *clarity of role and responsibility* and *division of labour*, were presented as both barriers and facilitators. A lack of clarity about accountability leading to confusion about who should be responsible for implementing the changes could constitute a barrier (Johnson, 2001). For instance in relation to e-prescribing, clinicians did not want to solve implementation problems and believed this should be done by non-clinical staff (Gagnon et al., 2014). The nature of the division of labour, defined as the allocation of responsibilities and the appropriate use of skills to accommodate new processes or implementation was also a factor that emerged from some reviews. The absence of personnel with the right combination of skillset or a lack of appropriate expertise to perform specific tasks (e.g. business and medical personnel with the informatics expertise to develop strategic plans for health information exchange or electronic sharing of health related information) (Johnston et al., 2000; Yusof et al., 2007), were found to impede implementation. By contrast, flexibility of skill mix incorporating an interdisciplinary approach was shown to facilitate implementation. Non-clinical staff often had better knowledge of optimising processes compared to clinicians (Ludwick & Doucette, 2009) and different members of the workforce brought different perspectives and skills to the implementation (Ludwick & Doucette, 2009).

Involvement - support from team members and management; *collaborative working* and *shared vision*. Support from peers, colleagues and superiors, active engagement of both clinical and non-clinical staff, continuous communication from senior management about the importance of change and its consistent commitment were shown to facilitate implementation (Taylor et al., 2011; Durlak & DuPre, 2008; Leatt et al., 2006). A team-based partnership approach, collaborative efforts and good coordination between stakeholders and organisations were all shown to be

important for implementation (Dicenso et al., 2010; Ludwick & Doucette, 2009; Broens et al., 2007; Leatt et al., 2006). Collaborative processes can be characterised as being facilitated by non-hierarchical relationships, mutual respect or trust and open communication among individuals, as well as shared decision making to determine how the intervention can or should be implemented and the ability to reach consensus when there is disagreement (Durlak & DuPre, 2008). Shared vision, defined as a collective understanding and agreement on goals, importance and benefits of the intervention and mutually held realistic expectations about the work required for implementation; for instance, a collective understanding of resources required for implementing change and that cost savings might not occur in the short term, due to decreased productivity during implementation, was presented as both a facilitator and a barrier (Sangster-Gormley et al., 2011; Addington et al., 2010; Ludwick & Doucette, 2009; Durlak & DuPre, 2008; Leatt et al., 2006).

2.4.7 Professionals

Themes within this level included perceptions of what it meant to be a professional - *professionalism, peer influence, sense of self-efficacy and authority/ influence*. *Professionalism*, which included using professional judgement to apply scientific and experiential knowledge and dealing with uncertainty, was viewed as a salient aspect to be considered in relation to implementation. Concerns about reduced autonomy or trust, independence of practice or inability to practise to full scope were all shown to impede implementation (Gagnon et al., 2012; Sangster-Gormley et al., 2011; Addington et al., 2010; Dulko, 2007; Cabana et al., 1999; Dicenso et al., 2010). *Peer influences,* for example negative attitudes or beliefs of colleagues towards information and communication technology were perceived as barriers to implementing the intervention. Moreover, a lack of confidence in one's own ability to

carry out specific tasks and the feeling of not having authority or enough influence to change or carry out the procedures were found to impede implementation (Zwolsman et al., 2012; Gagnon et al., 2012).

Underlying philosophy of care includes *personal style* and *relationship between health professionals and patients*. Personal style, defined as the perceived fit between the intervention and the preferred style of clinical practice, such as clinicians' communication style (Nam, Chesla, Stotts, Kroon, & Janson, 2011; Koch, Iliffe, & EVIDEM-ED, 2010), personality (Sangster-Gormley et al., 2011) and philosophical opposition to the intervention (Johnson, 2001; Shekelle et al., 2006), were presented exclusively as barriers. Additionally, patient values and preferences (Mickan et al., 2011; Mason, 2008), and concerns about clinician-patient relationships (Ludwick & Doucette, 2009; Lu et al., 2005) impeded implementation (e.g. concerns that new systems would affect clinician-patient relationship).

Attitudes to change, prior experience, motivation and priority, familiarity and awareness, perception of time and workload. Attitudes and beliefs are shaped by personal beliefs and experience, education and training, and peer networks. This was perceived as an important aspect to consider in relation to implementation and was reported as both a barrier and a facilitator. Resistance to change caused by disagreement with the evidence, negative beliefs about the usefulness or added value of the intervention or belief that the intervention was not part of their role, were commonly described as a barrier to implementation (Mickan et al., 2011; Ludwick & Doucette, 2009; Johnston et al., 2000; Vedel et al., 2011; Kendall et al., 2009; Dulko, 2007; Stead et al., 2009; Gagnon et al., 2014; Johnson, 2001; Leatt et al., 2006; Shekelle et al., 2006). Previous personal experience in clinical practice or with the information system affected professional attitudes to a new system or intervention (Zwolsman et al., 2012; Ludwick & Doucette, 2009; Sangster-Gormley et al., 2011; Johnson, Scott-Sheldon, & Carey, 2010; Ludwick & Doucette, 2009).

Competing priorities (Eisner et al., 2011; Vedel et al., 2011; Baker et al., 2010; Langberg et al., 2009; Berry et al., 2008; Hearn, Miller, Campbell-Pope, & Waters, 2006; Lu et al., 2005), lack of motivation (Gagnon et al., 2012; Eisner et al., 2011; Johnson et al., 2010; Kendall et al., 2009; Cabana et al., 1999; Lu et al., 2005) and low awareness of the intervention (Kendall et al., 2009; Dulko, 2007; McKenna et al., 2004; Parsons et al., 2003; Cabana et al., 1999; Gagnon et al., 2012; Johnson et al., 2010; Stead et al., 2009; Yarbrough & Smith, 2007; Yusof et al., 2007) were shown to impede implementation. Further, perceived shortage of time, for example to plan or implement new ideas, to carry out new interventions or procedures or to learn new skills, were commonly presented as a barriers in the included reviews (Mickan et al., 2011; Vedel et al., 2011; Adaji et al., 2008; Nilsen et al., 2006; McKenna et al., 2004; Parsons et al., 2003; Cabana et al., 1999; Wensing, van der Weijden, & Grol, 1998; Berry et al., 2008; Gagnon et al., 2012; Johnson et al., 2010; Fitzpatrick et al., 2008; Koch et al., 2010; Yarbrough & Smith, 2007). Additional workload caused by the implementation of new complex interventions was also found to hinder adoption (Zwolsman et al., 2012; Sangster-Gormley et al., 2011; Johnson et al., 2010; Adaji et al., 2008; Gagnon et al., 2012; Orwat, Graefe, & Faulwasser, 2008; Yusof et al., 2007).

Lastly, *competencies*, e.g. adequate training and good computer experience/skills were shown to facilitate implementation (Addington et al., 2010; Johnston et al., 2000; Gagnon et al., 2012; Lau et al., 2012; Ludwick & Doucette, 2009; Adaji et al., 2008; Broens et al., 2007; Eisner et al., 2011; Taylor et al., 2011; Vedel et al., 2011; Johnson et al., 2010; Stead et al., 2009; Durlak & DuPre, 2008; Sangster-Gormley et al., 2011; Dicenso et al., 2010; Halcomb, Davidson, Daly, Yallop, & Tofler, 2004; Child et al., 2012; Jarvis-Selinger et al., 2008; Leatt et al., 2006; Lu et al., 2005; Orwat et al., 2008; Yusof et al., 2007).

2.4.8 Intervention

The nature and characteristics of the intervention which included the *complexity of the intervention, evidence of benefit, applicability and relevance, costs of an intervention, cost-effectiveness of an intervention*, *clarity, practicality and utility of intervention, customisation of intervention and IT compatibility* were all viewed as aspects to be considered during implementation. Interventions that were complex were often associated with lower adoption (Mickan et al., 2011; Renders et al., 2001; Dulko, 2007; Cabana et al., 1999; Grilli & Lomas, 1994). By contrast interventions that demonstrated clear and consistent clinical evidence of benefit (Broens et al., 2007; Addington et al., 2010; Dulko, 2007; Mickan et al., 2011; Dicenso et al., 2010; Fontaine et al., 2010; Kendall et al., 2009; Davis & Taylor-Vaisey, 1997; Jarvis-Selinger et al., 2008; Mollon et al., 2009); or good applicability relevant to setting (Mickan et al., 2011; Kendall et al., 2009; Dulko, 2007) were shown to facilitate implementation. The costs of an intervention and whether practices could obtain a positive return on investment (Fontaine et al., 2010) and in particular the time invested (Fontaine et al., 2010; Lu et al., 2005) were considered to be features that would promote implementation. A lack of cost-effectiveness evidence relevant to the setting or poor cost-effectiveness could impede implementation (Eisner et al., 2011; Mason, 2008). Additionally, interventions with good definitional clarity, such as well-organised guidelines with well-defined measurable actions that were based on clear strong recommendations promoted implementation (Kendall et al., 2009; Dulko, 2007). Complex interventions that demonstrated good design, e.g. an overview of patient information (current health status and patient history) with a follow-up of patient adherence to their prescription and access to laboratory results was a facilitator of implementing e-prescribing (Gagnon et al., 2014); and showed good usability and reliability, e.g. user-friendly, easily accessible, fast, provides accurate and up-to-date information, content

relevant to user, automatic prompting, information given at the time of decision making (Gagnon et al., 2012; Lau et al., 2012; Dulko, 2007; Jimison et al., 2008; Kawamoto et al., 2005; Mollon et al., 2009; Shekelle et al., 2006) were associated with successful implementation. *Customisation of intervention* - the degree to which a new intervention can be modified to make it more applicable to specific contexts was a relevant factor. New interventions that could be customised to fit provider needs and preferences, organisational practices, values and cultural norms were shown to promote implementation (Durlak & DuPre, 2008; Peleg & Tu, 2006). In addition, interventions compatible with the current operating IT system were more likely to be implemented (Addington et al., 2010; Jarvis-Selinger et al., 2008).

Implementability included the *complexity of implementation process, trade-off between benefit and harm as a result of implementation and resource requirement*. The *complexity of implementation* can be determined by the scale of implementation, number of sites and processes required. Highly complex implementation plans were less likely to succeed as they often required complex project organisation (Eisner et al., 2011). Effective project management (e.g. using an incremental approach over time according to a strategic plan allowing a transition period between old and new system) was shown to facilitate implementation (Ludwick & Doucette, 2009). *Trade-off between benefit and harm as a result of implementation* - adoption of a new intervention or process might bring potential benefit or harm to other aspects of care. For instance, implementing a new intervention usually required shifting organisational priorities and putting other projects on hold which resulted in initial lower productivity and increased staff workload (Johnson, 2001; Leatt et al., 2006). Conversely, implementation of a new intervention might lead to cost savings or more efficient workflow (Lau et al., 2012; Fontaine et al., 2010). *Resources required for implementation* – effective implementation required sufficient resources and funding not only to support start-up

costs, but also on-going costs and attention to sustainability (Jarvis-Selinger et al., 2008).

Finally, *safety and data privacy* were perceived to be important for implementation. With regards to technology based interventions, there were concerns from both health care professionals and patients about the ownership of health information, secure data exchange, unauthorised sharing of confidential information about patients with fear of discrimination based on the health condition (Fontaine et al., 2010); and liability if patient information was lost (Leatt et al., 2006). Presence of sufficient security mechanisms to support trust between providers and patients (Broens et al., 2007), and technical measures to ensure systems compliance with data protection laws (Orwat et al., 2008) were shown to promote implementation.

2.4.9 "Fit" between the intervention and context

My conceptual framework has highlighted the importance of the "fit" between the intervention and the different levels of context (Figure 6), i.e. external context, organisation and professionals; how well the intervention fits with the external context (e.g. current policy, national or local agenda, existing infrastructure) and whether the organisation's existing work practices (e.g. readiness to change, relationships and leadership) and daily work as well as their beliefs and values (professional attributes), will have an impact on the degree of implementation and intervention outcomes. This hypothesis requires empirical testing.

2.4.10 Dynamic nature of barriers and facilitators

The literature suggested that relationships between individual barriers and facilitators are subject to change over time. This was rarely described in great detail. A review of electronic prescribing implementation found a change in individuals' perceptions between the different stages of implementation. While the users had a

less positive view of the intervention during pre-implementation phase; their views became more positive with the increasing use of the intervention during the transition and post-implementation phases. In addition, work processes were viewed as a barrier during the transition phase, but became a facilitator when the intervention was formally integrated and work flow was improved (Gagnon et al., 2014).

2.4.11 Relevance of contextual factors according to different topic domains/ complex interventions

Appendix 4 shows which contextual factors are related to different complex interventions/ topic domains. Dominant paradigm (commonly held set of values or beliefs in a society at a given time), financial incentives, resources, competencies, attitudes to change (in general), inter-professional relationships, evidence of benefit, and safety, confidentiality and liability concerns were common implementation considerations. Wider contextual issues such as policy, infrastructure and organisational culture (except inter-professional relationships) were not perceived as issues relevant to changing prescribing behaviour. Most contextual factors were perceived to be relevant to implementation of E-health technology. Whilst it is useful to know what the likely barriers or facilitators are for implementing certain types of complex interventions, these findings need to be interpreted with caution. The findings might highlight the barriers likely to arise during implementation, however contextual factors need to be considered as a whole as every organisation is unique and thus may be more or less affected by particular contextual issues.

2.5 Discussion

In this systematic review of reviews, I sought to identify the causes, or given explanations or influences operating in the evidence-practice gap, relating to the

implementation of complex interventions. I could not examine “causes” of the evidence to practice gap due to the absence of data, as well as the nature of the reviews, particularly the way their analyses were carried out: they mostly used a descriptive approach by reporting individual barriers and facilitators without stating the relationships between them. There is also a lack of information about the context in which these barriers and facilitators occur. A large number of multi-level contextual influences emerged from the included reviews related to the levels of external context, organisation, professionals and intervention. This review has demonstrated the challenges associated with implementation and that implementing any type of change in primary care is likely to be complex. A conceptual framework has been developed based on published reviews of studies with empirical evidence from different types of complex interventions and topic domains. Its development was different from other existing frameworks or models such as the Consolidated Framework For Implementation Research (CFIR) and the Normalisation Process Theory (NPT). CFIR was developed using a meta-theoretical approach, combining constructs across published theories or frameworks (Damschroder et al., 2009). NPT was constructed from a sociological perspective (Finch & May, 2009; May et al., 2009) and the Theoretical Domains Framework (TDF) which is an integrative framework of theories of behaviour change developed using an expert consensus process (Michie et al., 2005). Despite taking a different methodological approach, the content of our framework (data derived from primary care) is comparable and overlaps considerably with the CFIR which is not primary care specific and has resonance with NPT. This has enhanced the validity of the study findings.

Relevant barriers and facilitators are dynamic and likely to change over time (Checkland et al., 2007; Gagnon et al., 2014). Despite many of the barriers being reported as separate entities in the identified reviews they are likely to interact with one another and each cannot be considered in isolation (Checkland et al., 2007;

Durlak & DuPre, 2008; Damschroder et al., 2009; Hage, Roo, van Offenbeek, & Boonstra, 2013). This finding is consistent with the systematic review undertaken by Greenhalgh et al., i.e. many studies failed to address important interactions between different levels and account for contextual and contingent issues (Greenhalgh et al., 2004). Contextual factors that are perceived as barriers at the beginning of implementation may become facilitators later on in the implementation process (Gagnon et al., 2014).

2.5.1 The importance of context in implementation in primary care

This review has highlighted the importance of paying attention to context which is often notably absent from research and frequently fails to be acknowledged, described, or taken into account during implementation. It is unclear how it can be described, defined and measured (Bate et al., 2014) . Bate et al. suggested that context can be studied using mixed methods (e.g. participatory observations, interviews, documentary analysis), in order to get a richer picture of how different contextual factors influence implementation (Bate et al., 2014). Other methods such as contextualisation and context theorising have been proposed to address the multilevel and dynamic nature of context. The updated MRC guidance for process evaluation of complex interventions stresses the relevance of taking into account the contextual factors associated with variations in implementation, intervention mechanisms and outcomes (Moore et al., 2015). Our review suggests the need to pay attention to the external context as well as the specific context within which a complex intervention is being embedded.

2.5.2 Strengths and limitations of study

To the best of my knowledge, this is the first systematic review of reviews that provides a comprehensive overview related to the field of implementation in primary care. This review is not restricted to any type of clinical topic or intervention. The broad scope is a strength as I aimed to produce a single document which summarises and synthesises the literature that is easily accessible to clinicians, researchers and policy makers. A key advantage of undertaking a systematic review of reviews is the ability to summarise and synthesise a vast and fragmented literature relatively efficiently. It enables synthesis at different levels, allowing comparisons across different complex interventions, different outcomes and different health conditions or population groups.

There are a number of limitations related to the following areas:

<u>Identification/ selection of papers</u>

Despite my attempt to be as inclusive and comprehensive as possible, the search may not have identified all relevant literature; this risk has been minimised by screening reference lists of all included papers for additional literature. Equally, the reviews included in this article may not have captured all the primary research studies related to the review question; therefore some findings may be missed. However, I am confident that this is unlikely to change the conclusions of this review. This systematic review was conducted through the lens of implementation science and the concept of complex interventions. Complex interventions may be interpreted as “change”. The search is likely to yield different results, depending on how authors include as keywords and which search engines were used. For instance, social science journals are less rigorous in their use of keywords than biomedical journals, therefore I acknowledged that some relevant papers (e.g.

change management and organisational change literature) may not get picked up by the search.

Systematic review of reviews as an approach

Due to the size of the literature related to the topic, rather than re-synthesising the primary literature, a decision was made to synthesise existing reviews which rely on review authors' interpretation of primary findings, which may or may not always be appropriate. Including the authors' interpretations may add another dimension to the review as they may add richness and depth. However, the quality of the authors' synthesis and interpretation is likely to vary. If there was more than one review on a specific topic, I made an attempt to compare the findings between them, as a method of *quality assurance*. Further, review data is two steps removed from primary data, and the quality of the primary research may not be properly assessed in these reviews (Mair et al., 2012). In addition, I could not determine the relative "weighting" of the findings as it would not be appropriate: this is a review of reviews and not of primary studies. The analysis has accounted for all the themes that were identified from the included reviews and presents a robust and reliable picture of the topic area.

One key characteristic of a systematic review is its focus and the well-defined review question. There might be potential limitations of focusing on reviewing primary care studies, as there might be important findings that could be learnt from studies from other settings, such as secondary care settings or other organisational settings such as schools. However I was not able to look at those studies as I already had a huge volume of data and including more studies would make the work unmanageable.

In addition, formal quality assessment was not undertaken and this could be a potential weakness of the study. Nevertheless, the papers included had to meet the

criteria of “review” using the definitions by Mair et al. (Mair et al., 2012) and an attempt was made to describe and summarise the quality of the reviews using PRISMA. Double coding was only undertaken in a proportion of the included reviews, However I took a rigorous and cyclic approach through every step in our data synthesis (i.e. extensive involvement and discussions amongst all the authors in reviewing the extracted data and refinement of concepts at every stage: from pilot synthesis, construction of descriptors and extraction grid, to translations synthesis and the final conceptual framework). Furthermore the importance of using methods of validation (i.e. use of multiple coders, assessment of inter-rater reliability) and their applicability to qualitative research/ evidence synthesis is less clear and controversial (Popay, 2006; Armstrong, Gosling, Weinman, & Marteau, 1997).

Using barriers to change as metaphor

A major limitation is the conceptualisation of factors affecting the second translational gap as “barriers” and “facilitators”. A study exploring the value of “barriers to change” suggested that barriers were constructions used by the participants to make sense of the situation in which they found themselves and implementation studies must look beyond the narrative that is provided by participants (Checkland et al., 2007). Most original studies included in the reviews are surveys or of accounts of research participants through qualitative interviews or focus groups. Perceptions of barriers may be socially constructed, and addressing them may not necessarily improve implementation (Koch et al., 2010). In this review, I could only analyse and report data from included studies, and despite the initial question focusing on the causes of the evidence to practice gap, the overwhelming dominance of the use of the framework of “barriers and facilitators” required me to also adopt this framework to report on existing data.

2.6 Conclusions

I took a multi-level approach to synthesising the data from the 70 reviews addressing barriers and facilitators to implementation of complex interventions in primary care. This resulted in the development of a conceptual framework which emphasised the importance and inter-dependence of 1) the external context in which implementation was taking place; 2) organisational features; 3) characteristics of health professionals involved and 4) characteristics of the intervention. Understanding the context, the interplay between facilitators and barriers to implementation and considering the "fit" between the intervention and the context, are likely to be essential in determining the degree to which implementation of any one intervention is successful. This evidence-based conceptual framework could be used by health care researchers and/or primary care organisations that seek to improve uptake of effective complex interventions, by identifying and overcoming their context-specific issues.

2.6.1 Implications for research

Despite the identification of a large number of reviews and many topics being discussed, there are gaps in the literature. Studies beyond barriers and facilitators are required and a more explanatory approach (how and why) should be used. Future research needs to focus on articulating how and why each contextual factor, is important in influencing the uptake of a particular intervention, and what are the essential or active components of each factor. In addition, it is important to describe the interactions between these contextual influences and understand their relative

importance. A more theoretically driven approach may help with understanding, describing, defining and potentially measuring context.

2.6.2 Implications for clinical practice and policy

Implementation of any type of intervention is complex, dynamic and influenced by a variety of factors at the level of external context, organisation, professional and intervention in the primary care setting. Understanding and defining context appeared to be important and the “fit” between the intervention and the context has been highlighted. A list of recommendations was constructed from the review findings and can be found in Table 3. Individuals who wish to implement any type of change in their organisation should 1) consider and describe the context they are working in and 2) monitor context periodically as it is likely to change over time.

Table 3: Practical implications of the results of the synthesis – recommendations when planning implementation

External	• Consider how your proposed intervention or change fits with current policy and the legislative framework as well as the organisation's goals and objectives. • Consider the economic climate nationally and locally. How will this affect resource allocation and your proposed intervention and implementation? • Consider whether your intervention is congruent with dominant paradigms nationally and locally (e.g. NICE, professional leaders, media/public values). • Identify, communicate and actively engage with key stakeholders about the benefits of the interventions and involve them in the process of implementation and decision making as early as possible.
Organisation	• Devise a strategic implementation plan with realistic and measurable goals and milestones prior to implementation. • Clarify and widely disseminate expected benefits (e.g. improved patient health outcomes, streamlined care, more efficient work processes). • Determine the necessary resources for all the stages of implementation (e.g. funding, adequate staff with appropriate skills, training and ongoing support) and consider how to provide these. Costs and resource needs may vary according to the phase of implementation – e.g. smaller (pilot) vs. larger (scaling) deployment phase. • Consider how the intervention will impact on existing workflows and structures within the organisation, and respond appropriately. • Identify and engage key internal and external leaders to promote the intervention. • Identify and engage key staff to lead and coordinate the implementation. • Actively involve all relevant personnel and foster collaboration between team members and management.
Professionals	Consider how the new intervention influences or fits with the following: • Professional role (e.g. will health care professionals see use of the intervention as congruent with their perceived role); • Style of clinical practice – how different tasks are normally carried out; • Personal interest; • Consultation/ current workflow: a. Time; b. Relationship between health care professionals and patients
Intervention	Intervention characteristics that promote implementation include: • Ease of use, good integration with existing systems and workflow, adaptable to local conditions; • Evidence that the intervention delivers intended benefits; • Established mechanisms for protecting patient safety, privacy and confidentiality.

3 Empirical case study aim, rationale and choice of methodology

3.1 Chapter summary

The systematic review (Chapters 2) highlighted the importance of context in understanding implementation. I found a lack of understanding of how context (or aspects of context) influence implementation and information on context was not consistently reported in implementation/ health services research. In addition, research studies mostly focused on the implementation of single intervention(s) when in reality more than one intervention is likely to be implemented simultaneously in any given healthcare setting.

This chapter outlines the aim and objectives of the empirical research carried out, and discusses the rationale for employing qualitative research methods, including a focused ethnography comparative case study to investigate the influence of context on implementation of multiple complex interventions to improve access in general practice. Theoretical approaches underpinning the research are then discussed.

3.2 Research rationale

3.2.1 Why context?

> *"So, the question is not if context matters but rather why and how context matters."* (Friemel, 2008)
>
> *Thomas Friemel, 2008*

One main finding from the two systematic reviews of reviews (Chapters 2 and 3) was the importance of context for understanding and explaining implementation of complex interventions in health care. This had also been acknowledged by researchers from many disciplines, including implementation science, health services research and quality improvement (Bate et al., 2014; Harvey, Jas, &

Walshe, 2015), leadership research (Fulop & Mark, 2013) and organisational and management science (Rousseau & Fried, 2001; Johns, 2001; Johns, 2006). Increasingly, context is perceived as having effects so powerful that it may shape complex interventions and therefore cannot be considered separately from those interventions (Raine et al., 2016).

Context is important because:

- Context and implementation are highly interconnected. Implementation is sensitive to the circumstances and conditions in which it occurs because it is a social process that is inherently dependent on the context in which it takes place (Pfadenhauer et al., 2015; Davidoff, Batalden, Stevens, Ogrinc, & Mooney, 2009).
- Insufficient attention to context and implementation contributes to the evidence to practice gap (Mendel, Meredith, Schoenbaum, Sherbourne, & Wells, 2008).
- Contextualisation is more important now than it has been in the past, partly due to the increasing complexity and diversifying nature of work and work settings (Rousseau & Fried, 2001).
- It is possible that intervening in the broader context will have more impact than interventions at individual or organisational level (Montini & Graham, 2015).

Despite this overall agreement about the importance of context, my reviews revealed little agreement on how to study it, including an absence of agreed definitions of context. Context had been described as “an important but poorly understood mediator of change and innovation in health care organisations” (Nilsen, 2015; Dopson & Fitzgerald, 2005). Contextual information was rarely recorded, analysed or included in research (Tomoaia-Cotisel et al., 2013; Bate et al., 2014; Rousseau & Fried, 2001). It had been argued that a better understanding is

necessary for making more accurate diagnoses of context and identifying key factors which could be modified in order to improve the likelihood of implementation success.

3.2.2 Definitions and characteristics of context

The definitions of context and its associated features come from a wide range of disciplines: health care (particularly nursing research), implementation science/ quality improvement, organisational and management science, sociology, and information technology. Overall, there was considerable agreement in terms of how context was defined and characterised. To present these definitions in a more meaningful way, I synthesised these definitions and features by putting them into categories based on the shared themes (Figure 7), which helped inform the choice of methodology for the empirical study.

1: Context is everything

Context has been defined as everything *but* the intervention, or the "environment" within which an implementation occurs. These kinds of definitions are ambiguous and not bounded, and therefore would be too unwieldy to study (Bate et al., 2014).

2: Aspects of context and their relationships

In order to study context, there are propositions that structure elements of context to help characterise context:

- The context is multifactorial, including physical factors ('hard' factors) and psycho-social or cultural factors ('soft' factors) (May & Finch, 2009);
- These elements of context can impact on the implementation, either positively (i.e. facilitator) or negatively (i.e. barrier);

- Context changes with time (Bate et al., 2014), and there is a dynamic relationship between the elements making up the context; the different levels involved; and the implementation process. This dynamism suggests the importance of gathering data over time, rather than cross-sectionally, to capture any potential change when studying context.
- Some aspects of context are likely to be more significant than others, i.e. they play a more important role in shaping behaviour and mediating relationships between factors (Bate et al., 2014). Therefore it is important to pay attention to the effects of the different aspects of context on implementation.

3: Multilevel complexity

- Context has been described as 'blind spots' – elements that are commonly overlooked. Individuals often focus significantly on their own innovation, but it is the entire "ecosystem", rather than simply the immediate environment of the innovation which determines the likelihood of success or failure of the innovation (Adner, 2013).
- Context can be categorised according to different levels, and these levels interact with each other (Bate et al., 2014).

4: Context as situated action

- "Situation" is a very important factor in determining what people will do and behave (Suchman, 1987). Context shaped by the various dimensions of the social situation may influence the way people act, talk or understand (van Dijk, 2009). Therefore, when studying context, it is helpful to not only document these "situations", but to understand how individuals interpret and perceive these situations (van Dijk, 2010; Tomoaia-Cotisel et al., 2013) leading to their actions e.g. change in behaviour.

- Specific situations can be more powerful than others. A seemingly insignificant event may have big impact – these situations can be “hidden” and unspoken; the participants are not always aware of them, this suggests using one single research method alone e.g. semi-structured interviews may not be sufficient to capture information on context; a multifaceted approach would be needed.

1) Context = everything

Context is the ***setting, (physical) environment*** in which evidence or proposed change is implemented (Kitson, Harvey, & McCormack, 1998; Estabrooks, Squires, Cummings, Birdsell, & Norton, 2009).[1]

"Context is ***everything*** that is ***not*** a quality improvement [an intervention] – it is the environment within which a quality improvement [an intervention] is carried out." (Bate et al., 2014)[2]

Context is ***a set of circumstances or factors*** that surround a particular implementation effort. The setting includes the environmental characteristics in which implementation takes place (Damschroder et al., 2009).[2]

2) Aspects of context and their relationships

Context comes from a Latin root meaning "to knit together" or "to make a connection". (Oxford Dictionary)

Defined **as *features and dynamics of the environment of organisations*** that are receptive or non-receptive, enabling or disabling of improvement and the organisational supports and processes needed to sustain it (Bate, Robert, Ovretveit, & Dixon-Woods, 2014; McCormack et al., 2002).[2]

"Context as ***situational opportunities and constraints*** that affect the occurrence and meaning of organisational behaviour as well as ***functional relationships*** between variables. Context can serve as a main effect or interact with personal variables such as disposition to affect organisational behaviour." (Johns, 2001; Johns, 2006)[3]

3) Multi-level complexity

Context referred to as "***innovation ecosystems***"; it is important to focus on the ***whole ecosystem***, rather than simply on the ***immediate environment*** of innovation. It is also described as the ***blind spot*** and these key dependencies can be ***hidden*** (Adner, 2013).[3]

Context refers to the "why" and "when" of change and concerns itself both with influence from the ***outer context*** (such as the prevailing economic, social, political environment) and influences ***internal to the focal organisation*** under study (e.g. its resources, capabilities, structure, culture and politics) (Pettigrew, Ferlie, & McKee, 1992).[2]

4) Context as situated action

"Context, defined as the ***relevant properties of social situation*** that are systematically relevant for the production, comprehension, or functions of discourse and its structures." Context models represent ***ongoing action*** and they are dynamic: they will be ***continuously updated during the processing of text or talk.*** Different participants in a communicative event each have their own personal context mode, defining their personal interpretation of the current situation. Discursive interaction and communication is possible only when such models are (partly) shared or negotiated. Participants may jointly produce and ongoingly update each other's models (van Dijk, 1997; van Dijk, 2010).[4]

[1]Nursing research/ theory; [2]Implementation science/ quality improvement; [3]organisational/ management science; [4]social science

Figure 7: Synthesis of definitions and characteristics of context

The choice of methodological approach took into account all of these characteristics described above, which can be found in Section 3.6.

3.2.3 Why multiple complex interventions?

The first systematic review of reviews (Chapter 2) suggested the majority of the existing literature focused on the implementation of single complex interventions, which is highly appropriate when the aim is to evaluate implementation by exploring barriers and resources required to implement the given intervention. However, they do not reflect the reality, where multiple complex interventions are likely to be implemented at any given time and it is unclear how they may interact with each other, and how they, individually and collectively interact with the environment. Hence, exploring the complexities involved and developing a better understanding of the influence of context in implementing multiple interventions may help improve the likelihood of implementation success.

3.2.4 Different types of complex interventions

Complex interventions in health services or medical research can be described or categorised in different ways. They can be categorised by the *nature of the intervention*, such as technology-based interventions, clinical guidelines with multiple recommendations, or integration of new roles; by *disease domain*, such as diabetes or mental health; by *targeted behaviour/ purpose*, such as increased guideline adherence or change in professional behaviour; and by *targeted group*, such as health care professionals like GPs, patients, or both.

Complex interventions can also be categorised according to their driving force or development source. Whether the intervention is externally or internally driven may influence implementation success. This categorisation is supported by the existing literature (Greenhalgh et al., 2004; Van de Ven, Polly, Garud, & Venkataraman, 1999). There are three broad categories of complex interventions according to driving force and development source and these are loosely defined below.

A. Externally driven/ developed complex interventions

The intervention may enter into the organisation through an external source ("externally driven") such as external policy and incentives which may or may not be mandated (Greenhalgh et al., 2004; Van de Ven et al., 1999). These externally driven interventions are often implemented in response to a need for change at a macro level, rather than locally (Meyers & Goes, 1988). There is evidence of a positive relationship with an authoritative decision to use the intervention i.e. the decision is 'top down' rather than 'bottom-up'. This type of complex intervention may or may not undergo formal evaluation.

B. Internally driven/ developed complex interventions

Interventions can also be supported or commissioned internally as a good idea and solution to a problem. In this thesis, interventions that are driven by general practice are classed as "internally driven" complex interventions. Like externally driven complex interventions, internally driven interventions may or may not undergo formal evaluation.

C. Research based complex interventions

The third type of complex interventions is the evidence-based research project. In the CFIR manual or codebook (Damschroder et al., 2009), this type of intervention is

described as being developed through an external source (i.e. a formal research entity). Traditionally, research- based projects were driven by university researchers' personal interests or past experience. However, over recent years, formal research organisations such as the National Institute for Health Research (National Institute of Health Research, 2017b), CLAHRCs (National Institute of Health Research, 2017a) and improvement science London (University College London, 2017) have acknowledged the importance of bringing together the academic communities and the health care service providers (frontline staff and CCGs) in order to jointly produce research that is meaningful and relevant to target users. Collaborations between universities and health care service providers, such as project grants commissioned by NHS England or Department of Health, are become increasingly common through the facilitation of these organisations. The purpose of this type of collaboration is to bridge the evidence-to-practice gap by speeding up the pace of innovation adoption whilst remaining aligned with national NHS priorities.

I considered this categorisation according to driving force to be appropriate for this research as I was interested in finding out how implementation may differ with each of these three types of interventions i.e. interventions driven internally or externally and research-based complex intervention.

3.2.5 Initial plan of choosing the complex interventions, recruitment challenges and subsequent changes

During the initial planning phase for this research, I decided to first consider the research-based complex intervention by utilising existing projects in the UCL Research Department of Primary Care and Population Health, contact links and networks. There were a number of advantages for taking this approach: first, this would give me the opportunity to examine how a single intervention was

implemented, alongside other planned implementation activities in the study practices. Second, the project team that were involved could help facilitate recruitment and access to the GP practices in which the intervention was implemented, i.e. potential study sites could be identified and/or recruited though the team.

Through discussion with my supervisors, one particular research-based intervention was identified. Following a short period of preparatory work, I identified a total of 18 potential GP practices in three different CCGs, some of which were already using the intervention (i.e. older sites) and some that were about to implement the intervention (i.e. new sites). However, despite taking a proactive approach and continuous efforts to contact and engage these 18 practices, there was a lack of interest and response. As a result of this, studying this particular research-based complex intervention was no longer a viable option, and to prevent further delay, I had to explore and consider alternative options.

Eventually, I went on to recruit the study sites through different methods (information about recruitment in Chapter 5, section 4.3) and decided to involve the recruited practices to: 1) identify the type(s) of interventions they were implementing or about to implement at the time; and 2) gain a sense of what was important to them as a practice by asking if there was anything they felt would be interesting to look at so as to maximise the likely gain for them. Involving the practices in decision making in the selection of complex interventions and research process aided their engagement with the study.

3.2.6 Why access?

Following some initial discussions with representatives from the practices, I soon discovered that there was one area which all three practices wanted to improve upon, and that was ‘patient access’. Conversations with staff members revealed a

service development meeting was being organised to discuss appointments, and both Named GP scheme and online access provision were frequently talked about. All of these were connected and could be grouped together under the broad topic of 'access'.

3.2.7 What is access?

Within health care, access is defined as access to a service, a provider or an institution. It is therefore defined as the opportunity with which individuals are able to use appropriate services according to their needs (Daniels, 1982). Access is multidimensional and has been conceptualised in many ways; it is often used to describe characteristics influencing the initial contact or use of services (Levesque, Harris, & Russell, 2013). A recent report published by the RCGP (2015) focuses on the following three dimensions (Ware & Mawby, 2017):

- ***Physical access*** is made up of six elements, which includes availability of GPs, proximity (distance to service), premises design, telephone access, electronic or online access (email and website), and home visits.
- ***Timely access*** comprises four elements, which include appointment booking, waiting times, out-of-hours care, and prescriptions.
- ***Choice*** refers to choice of practice and of professional.

3.2.8 Problem of access

Primary care, and particularly general practice, is experiencing increasing pressures from many areas such as limited funding, workforce challenges, increased patient demand (Baird et al., 2016). Patients report finding it increasingly difficult to access

services and primary care in the UK will need to adapt if it is to meet the rapidly rising demands of patients living with increasingly complex health conditions. The Access Denied report, published in 2013 revealed that one in four respondents (27.7%) found it necessary to take time off from work to attend a GP appointment. Almost two thirds of people are waiting longer than 48 hours to see a GP (The Patients Association, 2017).

3.2.9 Historical and political context in relation to access

Improving access to GP services and primary care has always been a concern for the NHS and is a central aim of UK Government policy. In order to achieve this, the Government has implemented a number of initiatives. In 2000, the Government's *NHS Plan* introduced targets that patients should be offered an appointment within 48 hours (Salisbury et al., 2007; Pickin, O'Cathain, Sampson, & Dixon, 2004). Financial incentives were introduced for practices to improve access through their contracts and through a Directed Enhanced Service (DES) on access (Salisbury et al., 2007).

Advanced Access, a national initiative, was first introduced in 2004 to ensure that there is sufficient capacity in the system to enable patients to be seen on the day they contact the practice. The Advanced Access model was developed in the USA with an aim to help improve availability of GP appointments and practices in order to manage demand. The initiative is made up of a number of components: understanding pattern of demand; shaping demand through a number of interventions such as alternatives to face-to-face consultations; and matching appointment capacity to demand e.g. making changes to the number of appointments or to skill mix (Pickin et al., 2004). A large independent mixed method evaluation published in 2007 found the extent to which the included practices

actually implemented the principles of the Advanced Access model was limited (Salisbury et al., 2007). Practices that had implemented Advanced Access offered slightly faster access to care than those that had not.

During the past seven to eight years, the focus of health policy has remained strongly on improving access to care, and "access to general practice" is frequently cited by politicians as an issue the public are concerned about in England (Cowling, Harris, & Majeed, 2015). Many practices have introduced different strategies and interventions in an attempt to improve access to care.

"Seven day, 8am-8pm access to GP services" across the NHS is a policy of the UK government (Department of Health and Prime Minister's Office, 2013). This has been derived from previous studies showing a significant increase in hospital mortality over the weekend period (Freemantle 2012). Seven day opening allows working people to access their GP seven days a week and out of office hours and is expected to relieve pressure on hospitals and A&E admission. However, some argue that this extended access is unaffordable, unsustainable and does not mirror patient need. In 2014/15, the Prime Minister's Seven day Access Pilot schemes were implemented in GP practices where opening hours were extended to provide a greater number of appointments (Iacobucci, 2014). On 18 May 2015, then Prime Minister David Cameron reiterated the Party's plan for a "truly seven-day NHS" in his first speech after the election and committed to seven day GP access for 18 million patients by April 2016 (The Guardian, 2017b). Since then, there had been articles and commentaries about GPs' opposition to seven day access (The Guardian, 2017a), with some labelling the Government's pledge a "political imperative" (The Guardian, 2015).

In April 2016, the General Practice Forward View was published, which stated that everyone should have access to GP services on weekend and evening appointments by 2020 (NHS England, 2016b). However, it also added that

appointment availability would be determined by local demand. NHS England will provide additional funding, over £500 million, to allow CCGs to commission and fund extra capacity across England by 2020.

3.2.10 Advantages of studying complex interventions related to improving access

There are many advantages of studying complex interventions related to improving access; these include:

- Relevance/ importance of the topic: Access is a priority area for all the study practices.
- Methodological advantages:
    - Access is a core activity in any GP practice, which allows comparisons between practices;
    - Access is a complex phenomenon; it has many dimensions that need to be addressed by multiple interventions e.g. out-of- hours care to address timely access and telephone and electronic access to address physical access limitations;
    - Interventions for improving patient access are likely to be: 1) complex interventions, as they would require organisational change; and 2) driven differently by external and/or internal forces.

3.3 Study aim

Given the rationale provided above, the aim of this study was to explore the role and influence of context in implementation of multiple complex interventions to improve access in general practice.

3.4 Specific objectives

1. To describe the context in which the chosen interventions were implemented and delivered in GP practices.
2. To investigate how context may influence implementation of the chosen interventions and explain any potential variations between GP practices by considering the relationships between different aspects of context.
3. To examine the 'fit' between the intervention and context, as an explanation of implementation.
4. To understand and explore what happens when multiple interventions are implemented simultaneously (e.g. impact on general practice), and the key contextual aspects that underpin their implementation.

3.5 My personal stance in relation to research

Before I discussed the choice of methodology and theoretical approach, it is important to present my personal stance. How the research was designed and conducted was affected by 1) my perspectives on the social world and what can be known about it and 2) my views on the nature of knowledge and how it can be acquired.

I believe that the world is a changing entity and as such adopted an interpretivist position, allowing a recognition of knowledge as socially and contextually constructed and understanding the world from the subjective experience of people. Events or situations can be understood and interpreted differently by individuals; these interpretations are shared and continues to evolve with time. Therefore there is no single 'truth' but multiple socially constructed realities.

3.6 Choice of methodology

The study was not designed as an investigation of the effectiveness of the interventions. Instead, this study required a descriptive as well as explanatory approach (Hammersley & Atkinson, 1995). The rationale for the methodological approach taken in this research is discussed in the following section.

3.6.1 Why a case study?

This research applies an exploratory and interpretative case study technique. Yin described a case study as “an empirical enquiry that investigates a contemporary phenomenon in-depth within its real-life context; especially when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used” (Yin, 2009).

Case study design is used to seek an in-depth understanding and investigate complex issues. It is particularly suited to studying *process*, *how* and *why*, especially when the unit of analysis focuses on organisational change. Case study is closely linked to the context in which it is being studied, i.e. real life situations.

Case studies provide an understanding of the environment of social phenomenon (Yin, 2009). Case study design is valuable for understanding dynamics present within a specific context (Yin, 2009; Fitzgerald & Dopson, 2009) and to analyse complex interventions in natural settings (Stake, 2005); hence, I believe it to be the appropriate way to fulfil the primary focus of this research – *the role and influence of context in implementation*.

3.6.2 Why comparative case studies?

Rousseau and Fried proposed a three-tiered approach to the contextualisation of organisational research in order to incorporate context into research methods and reporting (Rousseau & Fried, 2001): tier 1: provides rich descriptions; tier 2: direct observation and analysis of contextual effect; and tier 3: comparative studies. Comparative case studies have been proposed as an effective method of illuminating context (Rousseau & Fried, 2001; Bate et al., 2014). Comparing differences and similarities in different cases can lead to a better understanding of variations in the phenomenon related to the different contexts in which it manifests. In this study, I employed this three-tier approach to enable analysis comparing different contexts and their impact on implementation.

3.6.3 Why qualitative design?

The systematic review of reviews (Chapter 2) found that historically, many implementation studies employed a quantitative approach using a questionnaire. Several issues were found in relation to the use of questionnaires to study context:

- Questionnaires may not cover all the key elements of context;
- Questionnaire design usually lacks depth and omits details of context.

For example, participants are often asked whether they thought there was strong leadership and then provide a response on a scale. This question lacks details about the kind of leadership, who is the leader and how the leader does what she/he does to influence organisational behaviour and in turn, influence implementation success. Further, this design does not account for organisational history, which had been found to be important in explaining implementation success.

Qualitative methods are more sensitive than quantitative methods to the context in which phenomena occur (Flick, 2008; Sarantakos, 2005). Miles and Huberman considered qualitative research as a "source of well grounded, rich descriptions and explanations of process in local contexts" (Miles & Huberman, 1994). Qualitative methods are particularly suited to answering a how- or what-type question. Therefore, I chose qualitative methods as the most appropriate approach to achieve my research aim of understanding the complex social processes and dynamic relationships involved in implementation.

In summary, this research applies a qualitative paradigm using comparative case studies as the main approach of enquiry.

3.6.4 What is ethnography and focused ethnography?

Chapter 3 (Section 3.2.1) had highlighted a number of issues associated with the study of context in relation to implementation, which influenced my choice of study method.

Qualitative methods such as semi-structured interviews aim to seek participants' views and perceptions about a given topic, and can provide important insights into how and/or why a particular intervention is implemented. However, the literature suggests that employing one single research method alone e.g. semi-structured interviews is likely to be insufficient to capture information on context, because:

- Context changes over time - this indicates the need for a longitudinal study design in order to gather data over time to capture change;
- During interviews, participants tend to raise various 'barriers' that they believe prevent implementation, but that these barriers are usually socially constructed, and may not reflect the cause of why implementation failed or

succeeded (Checkland et al., 2007). Therefore, a multifaceted research approach is recommended in order to look beyond the narrative provided by participants. Methods such as ethnographic methods utilising observation techniques have been increasingly employed to better understand the context in which change happens and underlying social relations that give rise to these reported barriers.

Ethnography originates from traditional anthropology, where the researcher spends an extended period of time in the field observing and carefully documenting their understandings. This leads to a deep understanding of social and cultural processes (Yang & Fox, 1999; Jeffrey, 2004). Ethnography involves studying situations in real-time as they occur in their natural setting to gain an in-depth perspective and understanding, in essence learning *about* people by learning *from* them (Higginbottom, Pillay, & Boadu, 2013; Roper & Shapira, 2000). A particular strength of ethnography is the role that the researcher plays in identifying cultural and social behaviours via observation and then enquiring about the meaning of the behaviour via informal and formal interviews. Ethnographic research is a detailed way of witnessing human interactions and events in the natural setting in which they occur (Hammersley & Atkinson, 1995). Ethnographic research typically comprises a combination of observation, interviewing, and the use of documents, all of which focus on text rather than numbers. This feature of using multiple methods is particularly relevant and useful to address my research question because it not only includes individual participants' narrative accounts, but also my observations and experiences in the field (as a researcher). In addition, the use of multiple sources of data can enhance the credibility and transferability of the findings drawn from the data. Field work is pragmatic and flexible; therefore, it is important to "follow the phenomena" (Atkinson, 2015).

Traditional ethnography usually requires immersion over an extended period of time. Because of the time constraints associated with this PhD, I chose to undertake a focused ethnography (FE), as it involves short-term, intermittent and purposeful field visits (Higginbottom et al., 2013). A FE requires careful preparation and planning to ensure relevant data are collected over a relatively short period of time. A key feature of a FE is that data collection is targeted and the topic very specific (i.e. problem-focused). This approach suited my research due to the problem-focused nature (i.e. implementation and context). Ethnographic approaches are being used increasingly within health services research as they enable a context-specific understanding of behaviour around health care delivery and professional practice (Morden et al., 2015; Bate et al., 2014; Higginbottom et al., 2013). This is vital in investigating variations in the different contexts and their influence on implementation.

Table 4 shows the key characteristics of a FE and a conventional ethnography.

Table 4: Key characteristics of FE and conventional ethnography

Focused ethnography	Conventional ethnography
○ Focus on particular aspects, with purpose	○ Entire field studied
○ Intermittent and purposeful field visits	○ Immersion, long term field work
○ Background information usually informs research question	
○ Researcher gains knowledge from participatory involvement in the field	○ Researcher gains knowledge from participatory involvement in the field
○ Use of multiple methods, e.g. audio-recorders, gathering documents	○ Largely narrative

Adapted from Higginbottom et al., 2013

3.6.5 Observations

Observation forms a fundamental component in ethnographic research; it is a method of data collection that enables direct experience of the setting to be gained (Mason, 2002). It can be used to study a dynamic situation, and observe what people do, rather than what they say they do (Lambert & McKevitt, 2002). In this study, nonparticipant observation was employed. It is a research technique whereby the researcher watches the participants of his or her study, with their knowledge, but without interacting directly with them (Atkinson, 2015). This approach is relatively unobtrusive and allows participants to perform their daily tasks and activities, thereby having less burden on participants. This reduced burden was considered to be important in busy general practice settings.

3.6.6 Research process and steps of data collection in a focused ethnographic study

Data collection was divided into an initial exploratory stage and the main field work. Data collection methods associated with FE involve observations, formal and informal semi-structured interviews and gathering of relevant documents. There are four key steps involved in collecting ethnographic data proposed by Morse and Richards (Morse & Richards, 2002). These steps are outlined in Table 5. Details of how each step was applied are provided in the Methods section (Section 4.9).

Table 5: The four phases of collecting ethnographic data

Phase	Description
Phase 1: Entering the setting	The researcher enters the setting and is a stranger to the setting. The primary task is negotiating access. The researcher tries to fit in and may feel uncomfortable in the unfamiliar setting. During this phase, the researcher needs to become familiar with the layout of the environment and identify the informants in the setting. During the initial

	observation phase it is important to record initial impressions and observations.
Phase 2: Familiarisation	The researcher becomes familiar with the participants (their routines and responsibilities) and the setting itself. He/she is able to initiate a rapport with the participants and some informal interviews might take place as he/she is immersed into the setting (i.e. becoming a participant observer). The researcher begins to establish acceptance and trust within the setting and has an active role in the study. Data collected from these informal interviews will be recorded in field notes.
Phase 3: Verification	When the researcher has gained rapport and trust, formal interviews will be conducted. He/she will resolve any ambiguities and verify data previously collected.
Phase 4: Exiting the setting	The researcher will exit and stop collecting data and focus on the data analysis

3.7 Theoretical underpinning

3.7.1 Importance of the application of theory

Theory provides complex and comprehensive conceptual understandings of how and why things happen (e.g. how organisations operate, why people interact in certain ways) and it can be used to guide research process and illuminate findings (Reeves, Albert, Kuper, & Hodges, 2008). Theories are systematically organised knowledge applicable in a relatively wide variety of circumstances and give researchers different lenses through which to look at a range of complicated and social issues (van Ryn & Heaney, 1992). Theories are explicit, hence open to question and can be challenged. The use of theoretical approaches is recommended in implementation research; it can provide better understanding and

explanation of how and why implementation succeeds or fails, and this could help predict the likelihood of implementation.

3.7.2 Different types of theoretical approaches to implementation

Implementation researchers apply different theories and frameworks from a wide range of disciplines to suit their research aim/questions and their background. Many of these theories and frameworks have been derived from disciplines such as sociology, e.g. Normalisation Process Theory (May & Finch, 2009); and psychology e.g. behaviour change theory (Michie et al., 2005) and organisational theory (Weiner, Lewis, & Linnan, 2009). There are numerous theories, frameworks and models that can be applied in implementation science. Tabak et al. (Tabak, Khoong, Chambers, & Brownson, 2012; Moulin, Sabater-Hernandez, Fernandez-Llimos, & Benrimoj, 2015) identified, reviewed and analysed theories and frameworks related to dissemination and implementation research and found a total of 49 different frameworks and models. In a recent debate paper, Nilsen (Nilsen, 2015) proposed five categories of theoretical approaches to address three key aims (also illustrated in Figure 8):

1) Describing or guiding the process of translation – process models;

2) Understanding or explaining what influences implementation outcomes – classic theories, determinant frameworks and implementation theories;

3) Evaluating implementation – evaluation frameworks.

This taxonomy was useful and helped inform my decision as to which theoretical approach was most suitable for this research. The aim of this research was to understand and/ or explain what influences implementation outcomes. Therefore the

second category ("understanding and/or explaining what influences implementation outcomes") was deemed most relevant.

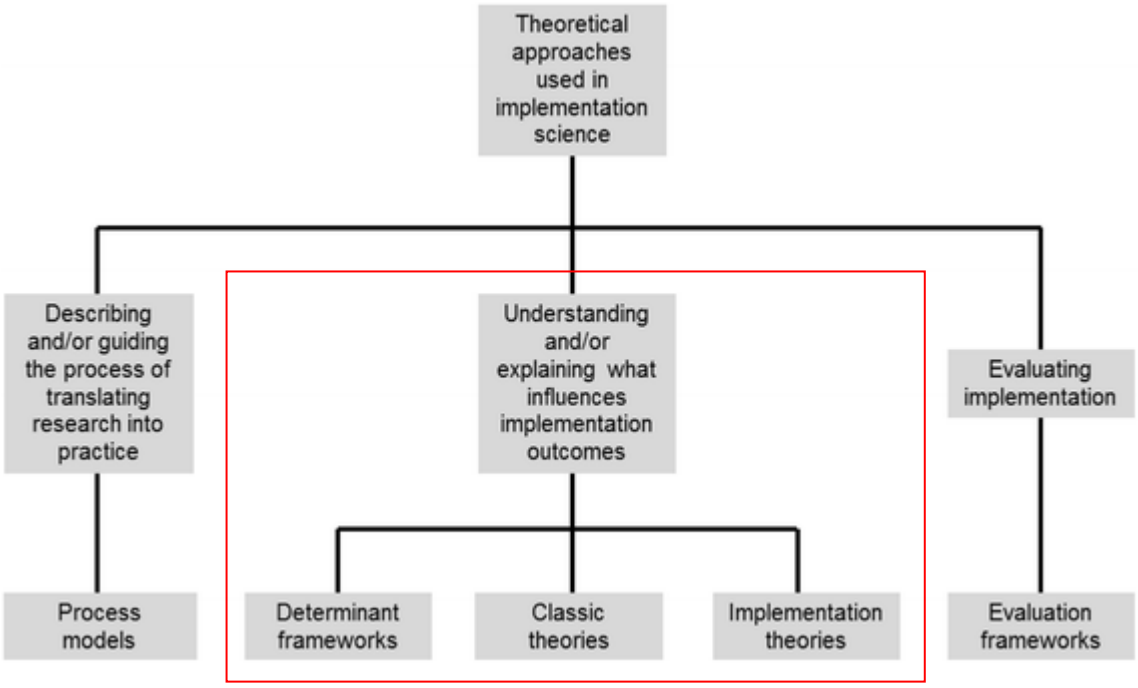


Figure 8: Three aims of the use of theoretical approaches in implementation science and the five categories of theories, frameworks and models (adapted from Nilsen, 2015)

3.7.3 Choice and rationale of theoretical approach for explaining context in relation to implementation

Having critically reviewed the different types of theories, frameworks and models, I made the decision to apply the framework derived from my systematic review of reviews reported in Chapter 2 (Figure 6).

This decision to apply the Systematic Review (SR) conceptual framework was made based on the following considerations:

- Fit with the aim of research:
    - The SR framework falls under the category "determinant frameworks" (Figure 8), according to Nilsen's paper. Determinant frameworks are

appropriate for addressing the aim of this research, i.e. to understand explain how context influences implementation;

- Ability to address multi-level complexity and dynamic relationships between factors:
    - The SR framework implies a systems approach to implementation as they point to multiple levels of influence and recognise that there are complex relationships within and across the levels. These features have been found to be important for studying context. Implementation is a multidimensional phenomenon; therefore, a multilevel lens is needed that can ensure accuracy in exploring the multifaceted nature of the implementation of complex interventions in general practice;
- Rigorous development process:
    - The development process of the SR framework was rigorous. It was developed via an inductive approach by undertaking a systematic review of reviews (further information about the quality of the systematic review can be found in Chapter 2) and subsequently published in a leading implementation journal. The systematic review synthesised not only the results from empirical studies of barriers and facilitators for implementation success, but also the interpretations of the authors who reviewed these studies.
- Flexibility and generalisability:
    - Empirical studies included in these included reviews focused on the implementation of a wide range of complex interventions. This led to two main advantages: the framework covers a broad range of factors, which makes the framework robust and comprehensive; and it is highly flexible and can be applied for a wide variety of topics and complex interventions;

- Relevance/ applicability
    - The framework was developed from the empirical literature based in the primary care/ general practice setting, which makes it most applicable to this research given the focus is context.
- Consideration of other theoretical approaches, e.g. other determinant frameworks, implementation theories:
    - Comparison with other determinant frameworks: the content of the SR framework is comparable with other determinant frameworks such as the CFIR (Damschroder et al., 2009);
    - Comparison with implementation theories: NPT is a middle-range theory, developed by May et al. (2009). The theory identifies four elements of normalising complex interventions in practices: coherence (sense making), cognitive participation (engagement), collection action (operational work) and reflexive monitoring. One limitation of the NPT is the limited presence of context; therefore, it may not be sufficient when examining the influence of context.
- Comprehensive framework:
    - The SR framework is comprehensive. By applying the framework to empirical research, it provides an opportunity to test how it may work against primary data, and its application may lead to the discovery of new insights.

3.8 Chapter summary

This chapter articulated the rationale for undertaking the empirical research on the implementation of multiple complex interventions, paying special attention to the role and influence of context. After speaking to the study participants, it was apparent

that patient access is one common area they all wished to improve upon. Hence, I had chosen to study various interventions that aimed at improving access. The chapter has also presented the rationale for the use of qualitative research methodology and the SR framework to answer the research questions posed in this thesis.

4 Method

4.1 Broad overview of study

This is a focused ethnography exploring the role of context in implementing multiple complex interventions to improve patient access, conducted in three GP practices. Two London GP practices and one non-London practice were recruited. The primary research methods were non-participant observation, informal and formal interviews, and review of documentation. Data collection took place from August 2015 to May 2016. Non-participant observation was conducted in GP practices, in various practice meetings, and shadowing practice managers and administrative/reception staff. Informal interviews were ongoing during the period of observation to clarify my understanding. Formal interviews with key members of practice staff were undertaken after the period of observation and with one primary care commissioning expert.

4.2 Sample – how general practices were identified

General practices have different characteristics; the patient populations they serve are also different. Therefore, by only sampling one GP practice, the results of this study would have limited external validity and transferability. Comparing more than one practice could lead to richer data and more robust findings and allow an in-depth examination as to how different contexts influence implementation. However, due to the time available and the complexity of implementing multiple interventions, I was not able to gather data from a large number of practices. Therefore, the sampling approach utilised was purposive; the plan was to recruit three practices with different characteristics.

4.3 Initial sampling strategy, recruitment challenges and subsequent changes

As described in Chapter 3.2.5, the initial plan was to identify practices through a research-based intervention for which implementation was ongoing, to help facilitate recruitment. After meeting with the research team, I identified a total of 18 GP practices in three CCGs, some of which were already using the intervention and some were about to implement the intervention. However, despite my best efforts (April-June 2015), I was not able to recruit; many of these practices did not respond and only three replied and explained their lack of time to take part in a research study. Because of this, it was clear that studying this research-based complex intervention was no longer feasible and I had to change the sampling strategy.

Subsequently, I decided to draw the study sample from two CCGs, one of which is a London-based CCG with a total of 48 member practices; the other was situated outside London with 12 member practices within one of the localities. The reason for choosing two different CCGs is the London population is very different from the rest of England. It is younger, more ethnically diverse, more transient and growing more rapidly (Raleigh, Tian, Goodwin, Dixon, & Thompson, 2012). Therefore, hypothetically, the contexts in which implementation takes place in these two geographical areas would be different.

The cases sought were selected for their ability to provide information to inform the research questions (Hammersley & Atkinson, 1995; Silverman, 2001). The GP practices were selected to satisfy the following criteria:

- A minimum of three complex interventions were being implemented;
- Willingness and interest of practice to grant access for the study;
- Willingness of practice staff to be observed and interviewed for the study.

4.4 Setting

The three practices taking part in this research study were:

1) Practice 1: an inner city practice based in London (CCG 1)
2) Practice 2: a suburban practice based in London (CCG 1)
3) Practice 3: a suburban practice outside London (CCG 2).

These three practices have different characteristics and populations. Further information about the participating practices is available in Chapter 5.

4.5 Sampling within cases

In ethnography, the researcher wishes to observe every activity that is taking place. However, this was often not possible in the general practices. Therefore, I had to decide what activities I was going to sample, and this had to be constantly negotiated with the practices. This is further explained in my reflective account in Section 4.15. Observation was carried out at different times of the day and on different days of the week to capture and experience the diversity of activities taking place in these settings.

4.6 Participants

To further enhance the breadth of observations and represent the full range of activities involved, my sample included a mix of general practitioners (GP partners, salaried GPs, trainee GPs), practice managers, reception managers/ staff and other administrative staff; as well as those involved in the CCGs e.g. primary care commissioning experts. For the qualitative interviews, a snowball sampling approach was used where early informants (usually practice managers) sent the

recruitment invitation to other members of staff. In addition, I approached potential interviewees directly during observation.

4.7 Interventions

I explored three complex interventions in this research:

1) Online access

Online access was first introduced in 2013 (NHS Commissioning Board, 2013), and online systems currently used in GP practices include online appointment booking systems, online prescription requests, access to summary medical records and websites for accessing practice information. Although online services may not be 'new' complex interventions going into general practice, policy documents (see Table 18) suggest the implementation and delivery of online access are ongoing.

2) Telephone access

There are two main types of telephone services in GP practices, one of which is the initial telephone contact with receptionists. The role of receptionists at the point of entry to general practice has been the subject of little research. They act as 'gatekeepers' and shape patient access to health professionals (Hammond et al., 2013; Offredy, 2002). Another type of telephone service is telephone triage which represents one strategy to manage demand for same-day GP appointments. All patients contacting the practice initially speak to a receptionist and request a same day face-to-face appointment. They are offered a call back from a doctor or nurse in an attempt to assess whether an immediate face-to- face appointment is necessary. For those who do not require

a same day face-to-face appointment, the problem(s) is resolved on the telephone; or a routine appointment is booked.

3) Named GP scheme

The Named GP scheme was originally formed as part of the commitment to more personalised care for patients with long-term conditions aged 75 or over to promote continuity of care. There was an agreement made in 2014-15 to provide a named accountable GP for this group of patients (NHS Employers, 2014). The named GP requirement was extended to *all* patients in 2015/16 (NHS Employers, 2015). The contract remains 'practice-based', so overall responsibility for patient care has not changed. The contract requires the named GP to take responsibility for the coordination of all appropriate services required under the contract and ensure they are delivered to each patient where required. This requirement was introduced to reassure patients that they have one GP within the practice who is responsible for ensuring that the work is carried out on their behalf.

4.8 Recruitment

Recruitment was carried out at three levels: recruitment of the practices; staff; and CCG commissioners.

4.8.1 Practice recruitment: strategies

Due to the initial recruitment challenges, I devised and applied different recruitment strategies from late July to August 2015. These strategies included the following:

1) I continued to contact the 18 initially identified practices; if the invited practices did not respond after one week, a second email was sent and/or a telephone call was made to each of them;

2) I sought recruitment support from the NIHR Clinical Research Network (CRN) and local CRNs by getting the study adopted to the NIHR study portfolio;

3) I made an attempt to contact the CCGs, and following a short discussion with one CCG commissioning lead (CCG1) over the telephone, he kindly forwarded the study invitation email to all the member practices (48 practices) encouraging participation. It is important to note that many of these practices were not initially included, as they did not implement the chosen research-based complex intervention;

4) I approached all individual practices from CCG2 by sending a study invitation email explaining the research Appendix 13.

A total of eight GP practices responded and expressed initial interest in the research; an email was sent to these practices to arrange an initial practice meeting. In these meetings, I was able to explain the details of the research by describing what the study involved, and I answered any questions they had.

Of the eight practices, one practice responded and asked for further information; however, they decided not to go ahead with participating in this study after discussing at the practice meetings. Another practice expressed initial interest but did not respond to further correspondence about arranging an initial meeting, despite my efforts.

Initial practice meetings took place in six practices, where I met with the practice manager who acted as gatekeeper, with or without the presence of a GP partner or nurse practitioner. The practice manager then discussed with the rest of the GPs

before making a decision on whether to take part in the research. For one practice, I presented my study at a GP lunch meeting. One of the most common questions from these practices was how long I would require to observe. I had to be flexible and open about my intentions by stating I would observe as many times as possible in a range of settings without disrupting day-to-day practice. Following these initial meetings, three practices declined to take part.

I made an attempt to find out why these practices declined to take part. The most common reasons included the lack of time and resources, e.g. the practice had no practice manager and they were in the process of hiring one; or the practice was exceptionally busy and did not feel they had the capacity to support the study. Practices were reluctant to commit as my study required repeated visits to the practice. By the end of August 2015, I had met the target of recruiting three practices into my study.

Figure 9 summarises the recruitment of GP practices.

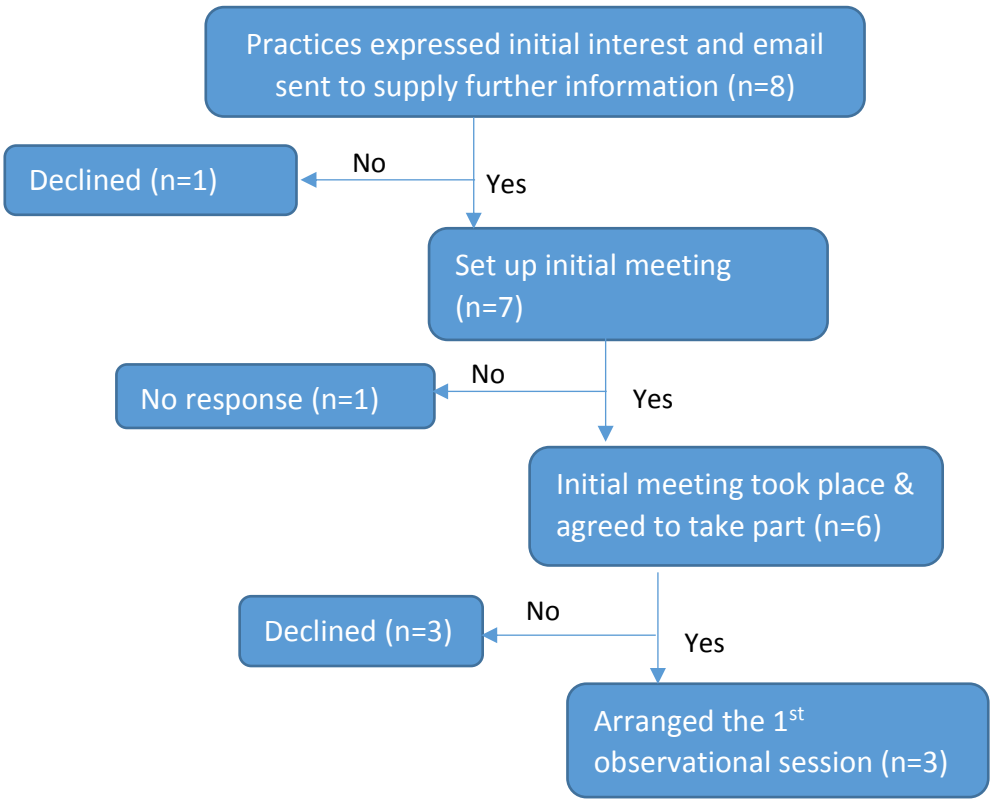


Figure 9: Process of recruitment of GP practices

4.8.2 Entry into the research practices – initial practice meetings

The process of negotiating entry into the research sites began with initial practice meetings about the proposed work. Consent was negotiated at several levels. A few days before each initial meeting, a copy of the participant information sheet and consent form (Appendix 14) were sent to the practice manager. To gain agreement to participate, I met with the practice manager (and in one case with both practice manager and nurse practitioner). In the meeting, I presented the study, explained what would be involved and answered any questions they had about the study. The practice manager then discussed the study with the doctors. As I was proposing to

observe a variety of meetings, information sheets and consent forms were circulated to all clinical and non-clinical staff, through practice managers. Once I had approval to go ahead with the research, I then arranged my first observation session with the practice manager and discussed how best to introduce the research to staff and obtain written consent to make general observations in their practice. A participatory approach was adopted in order to work with site participants to develop site-specific approaches to data collection and minimise the burden on staff involved.

4.8.3 Recruitment of participants from the CCG

I decided that I wanted to recruit participants from the CCG, with an attempt to get a view from a broader perspective, particularly regarding decision making about access in the wider context.

To recruit commissioners into the interview study, I initially identified a few potentially relevant individuals from the information provided in the CCG websites. I then approached them via emails, including a brief introduction about me and details of the research (including the aims and information about taking part), and this was sent along with a copy of the participant information sheet. However, the response rate was poor. Because of this, I decided to try to recruit during CCG public meetings. In CCG 1, whilst listening to their discussions in the public meetings, I identified individual(s) who would be interesting to speak to. I then approached these individuals when the meeting closed.

For CCG 2, I met the project officer of the CCG during a public meeting. I explained my study to her and asked her to suggest and introduce me to appropriate persons before the meeting started. On this occasion, the project officer helped facilitate the identification of key individuals and the introduction of my role as a researcher. If

they expressed interest, I then asked for their contact details. On the following day, I sent an email to formally invite them to take part in the study.

4.9 Data collection

As mentioned in the methodology chapter (Chapter 3), this case study inquiry relied on multiple sources of evidence: non-participant observations, semi-structured interviews and document analysis. The three data collection techniques used in this study enabled a better understanding of the context within which the different methods of access were implemented. Data collection was originally set to run from January 2015 to January 2016. Due to the recruitment issues described in Section 4.3, the case study was delayed and subsequently took place between August 2015 and May 2016 (duration: up to 10 months). Data collection and analysis were conducted simultaneously, with further analysis ongoing after exiting the research settings.

The study was piloted in one practice (Practice 1) initially and then conducted in two other practices (Practices 2 and 3). This research was developed iteratively.

4.9.1 Phase 1: Entering the setting

At the start of data collection, the practice manager was asked to complete a short form to collect brief information about the GP practice (Appendix 15). Initial observational sessions were relatively unstructured. I often asked to sit in a team meeting such as a general staff meeting, reception meeting or clinical meeting where I was introduced by the practice manager. This helped facilitate my entry into the setting. Participants (usually practice managers) were asked to complete a fact

sheet to capture background information such as type of practice, practice list size, team size, organisation structure, teaching practice (yes or no), level of deprivation, staff turnover in the past five years, turnover of patients and information on types of meetings. While the participants completed the questionnaire, I encouraged them to discuss and explain their responses to items, which acted as useful triggers for obtaining a richer insight into the characteristics and history of the organisation, and what else was going on in the practice, such as practice priorities. I also used this initial visit as an opportunity to find out the details of practice meetings, including types, dates and times. I then asked to attend some of these meetings and negotiated those I was permitted to attend. All of this information, along with other details, such as the layout of the practice, my initial impressions and observations about individuals I met and what I saw/ heard whilst sitting in the waiting room were recorded in my field journal.

4.9.1.1 Communication with the practices and format of observations

I always contacted the practices a few days before a visit to confirm my attendance, and I was then informed of any changes, such as re-scheduling meeting dates due to staff unavailability or other competing priorities. I usually arrived at the practice half an hour before the meeting and asked to sit either in the waiting area or the common area (e.g. administration office), to speak to different people, find out what they were doing and observe their interactions with one another. After the meeting ended, again I usually asked to sit in the administrative office to write up my notes, whilst undertaking further observations. A visit also sometimes involved speaking to one or two participants to clarify some issues discussed during the meeting.

I produced an observation guide (Appendix 16) that was partially informed by the systematic review of reviews (Chapter 2) and had been pilot-tested in one site. The

main purpose of the observation guide was to allow me to focus on what was likely to be relevant to the research question. An activity log of all the visits including initial meetings, observations and interviews was maintained and information including date, time, duration, type(s) of event or activity and any additional comments or notes was documented in the log. Details of field note-writing will be described later in the chapter (see Section 4.10).

On the basis of these initial observations, I derived some preliminary working ideas in terms of what information I needed to look for and how I could obtain this information.

4.9.2 Phase 2: Familiarisation

As the study progressed, I became more accepted and known within the GP practices, and rapport and trust were established. Observational sessions during this phase initially involved sitting in a diverse range of formal group meetings. As I gained familiarity with the participants, I became more comfortable in the setting. Some informal sessions consisting of one-to-one task-oriented and focused observations were undertaken to understand how participants carried out certain tasks. These sessions also focused on how access issues were broadly conceived and the form of the appointment structure.

A list of “objectives” was prepared prior to each session, including information I needed to collect for the research (e.g. find out more about the appointment structure, urgent/ routine slots) and a few reminders (e.g. speak to practice manager about what will happen next and to arrange interviews). This was achieved by reading past field notes and reviewing the study objectives. As the study was iterative, the focus was initially broad, becoming more focused and specific over the course of the research.

Prior to my first observation session in practice 2, I wrote in my field note journal:

- *Familiarise myself with the setting*
- *How do they function as a practice? Individual roles*
- *History, e.g. performance*
- *Find out if there are any changes since the last session, or if they are doing anything new*
- *What are their priorities or what do they see as important issues?*
- *Identify key informant*

In one of my later observational sessions, I wrote in my field note journal:

- *How they implement Named GP and their views on it*
- *Who is leading it?*
- *What else is going on?*

4.9.2.1 Observation type: meetings (formal encounters)

During the data collection period, I observed a variety of meetings with different actors. In each practice, there are a number of formal activities which may be related to patient access, such as:

- Reception staff meetings – e.g. discussions about delivery of appointments and implementation of online services
- Clinical staff meetings to discuss appointment availability/ demand
- Any other relevant meetings.

I was able to directly observe the different dynamics involved in these meetings and get a sense of the working style of the practices. For example, how the practice works as a team, relationships and communication among staff, and how individuals present themselves in different situations. During my observations of meetings, I considered the following:

- Who led the meeting
- Who was more/ less vocal about his/her views (level of contribution and authority)
- What was said and by whom
- How decisions were made
- How tasks were allocated to individuals
- Self-presentation: their body language (including postures and facial expressions)

All of this information was extremely valuable in understanding the organisational context, which was important in determining readiness for change and the success or failure of implementation.

In addition to observing formal meetings in the practices, I also attended public CCG governing body and primary care co-commissioning meetings to gather data on what was discussed during these wider CCG/ locality/ area level events.

4.9.2.2 Observational type: informal interactions or encounters

Only observing formal activities where issues related to patient access were discussed would mean I could miss valuable information related to patient access. Therefore informal interactions were considered equally important.

I usually had opportunities to observe informal interactions before and/or after a formal meeting. These informal interactions, activities and encounters are important to observe as many could be directly related to patient access, such as:

- Behind the reception counter – e.g. face-to-face appointment booking

- Administrative office – e.g. how different members of staff handled telephone calls regarding appointment booking and other queries from patients
- Communal areas such as kitchen and coffee room – e.g. to understand the organisation of the practice and how they communicated with each other.

4.9.3 Shadowing and contextual interviews

When I felt more comfortable and familiar in the setting, I asked to spend a couple of hours or up to a whole day "shadowing" several members of staff , namely practice managers, reception staff and the clinical administrative manager, which allowed for detailed exploration of their role, work and practice and provided the opportunity for informal discussions. This was always facilitated by the practice manager. More task-oriented activities were observed, such as appointment booking, and generating reports and prescriptions requests.

Because context is dynamic and can be difficult to study, other research methods such as contextual inquiry (Bate et al., 2014; Holtzblatt & Jones, 1993) and video-recording were considered in the original study protocol to gather more detailed data and enable a more in-depth analysis. Contextual inquiry is a specific type of ethnographic interview, focusing on particular tasks undertaken by an individual. It usually involves the researcher spending a short period of time (approximately 1 to 2 hours) one-on-one with the participant observing what he/she does and occasionally asking questions. The participant often takes a more active role in leading this type of inquiry, and because the data is yielded from observing real work where it is normally done, some issues not previously recognised could be identified (Rosenbaum, 2000). The researcher then shares her interpretations of the events with the participant and he/she can expand or correct the researcher's understanding. A key advantage of this type of interview is the participants are

interviewed in their context when demonstrating and talking about their tasks and interacting with colleagues (Bate et al., 2014).

Contextual inquiries (Bate et al., 2014) were undertaken during shadowing; that is, I would ask participants to explain what they were doing, how and why. Ad-hoc informal interviews with staff were carried out to ask the participants to share their perceptions about the different interventions related to access. They were also conducted to clarify my understanding and/or what was said by the participants. If the contextual interviews were complex or contained a lot of detail, I asked for permission to audio-record them and collect hard copies or snap shots of what was shown to me, e.g. GP roster, appointment screen.

In my initial research proposal, I included video-recording as one of the potential data collection methods, particularly if it was judged there was too much detail to cover in detailed note-taking and that level of detail was necessary for the analysis. However, I discovered soon after data collection started that it would have taken so much more time and effort to negotiate with the practices and there were concerns related to patient confidentiality and privacy. Therefore, this was not possible to do for this study. Instead, when there was too much detail to cover in note taking, I asked to audio-record the conversation and requested for meeting minutes or reports to supplement my field notes.

4.9.4 Documentary sources

Practice level sources

Another source of data was documentary evidence (collected with permission). For practice 1, I acquired minutes of a variety of meetings including clinical meetings,

staff meetings and service development meetings. For practice 2, I obtained various reports and patient participation group meeting minutes that are publicly available on the practice website. For practice 3, I obtained meeting agendas; printed copies of appointment screens or GP/ nurse rosters as appeared on staff computers; administrative data on online registrations and use e.g. number (%) of online registrations; bookings online; normal telephone bookings; online prescription scripts requests between April 2015 and January 2016; and additional internal documentation such as CQC inspection reports (Care Quality Commission, 2017).

Another important source of data came from the practice websites. They provided valuable information as to how each practice communicated or engaged with their patients in terms of the type of information (content), the amount of information and its presentation.

CCG level sources

In addition to documentation from the participating practices, I also gathered minutes of CCG governing body meetings and primary care co-commissioning meetings in order to obtain information about changes at the wider context (CCG and wider policy) level. These documents are publicly available.

All documents were scanned and converted into electronic form for analysis along with all other data.

4.9.5 Other relevant sources

Other relevant sources were identified and considered: 1) NHS Digital (formerly known as HSCIC) quarterly data on the number of registered patients at GP practices, which can provide a rough indication of the level of demand (NHS Digital,

2017); and 2) GP Patient Survey (GPPS), a national survey to collect data on patients' experience and satisfaction about access to GP services (NHS England, 2017b). The survey contains questions related to helpfulness of reception staff, use of online services, and ease and timeliness of booking an appointment. The datasets are available to download from the website, and data specific to each practice can be extracted. I initially wanted to analyse the GPPS data over time. However, after further exploration, I found out that the response rates of these questionnaires were poor and the number of respondents for some of the questions was too small to allow any robust analysis and produce any meaningful results. However, as all of these were important sources of information, I included them in order to provide a richer contextual background.

4.9.6 Informal interviews

During my time at all three practices, I conducted a number of informal interviews and conversations with practice staff. These were used to clarify what had happened, raise queries about issues arising, explain their actions as they were carrying out a task, or explore individuals' views on certain issues related to patient access, on an ad-hoc basis. These conversations were recorded in my field notes.

4.9.7 Phase 3: Verification

4.9.8 Formal interviews

A number of formal semi-structured interviews were arranged with staff at all three participating sites. The interviews provided multiple accounts of people's perspectives on patient access as well as eliciting views on the role and influence of context in implementing various interventions for improving patient access.

The sampling strategy for interview participants was purposive (Hammersley & Atkinson, 1995; Silverman, 2001), in the sense that individuals with different roles (e.g. GPs, practices managers and reception staff) were sought in order to build a rich and holistic understanding of the phenomenon under study (Sandelowski, 1996). The interviews were individual sessions with each selected member of staff, depending on who was available on the day. They were conducted at a convenient time in a quiet non-threatening space (e.g. unoccupied consultation room or office) where possible. The process of the interview involved explaining the purpose of the interview and the type of questions that would be asked. Their familiarity with me and trust that had been built during the observation phase of the study appeared to put participants at ease.

The actual format of the interview was tailored to the individual interviewed, depending on their role and the previous observations. For example, practice managers were important sources of data related to teamwork issues, and relationships between groups. Reception staff were interviewed to explore their understanding of the context of their work in relation to access. To guide the conduct of the interviews, I developed separate interview topic guides for GPs/ practice managers, CCG commissioners and receptionists/ administrative staff (see

Appendix 17). Their development was informed by my observations, findings outlined in Chapter 2 (systematic review of reviews) and my reading around context and patient access. Each topic guide set out the key areas of interest I wished to explore, with a list of prompts to facilitate exploration of each topic. Feedback and comments on the topic guide were sought from my primary supervisor and colleagues, who are experienced qualitative researchers in my department.

4.9.8.1 During the interview

Prior to the interview, each participant was given a copy of the information sheet and consent form (see Appendix 18), with consent reconfirmed. I explained that the interview could be stopped and resumed at any time upon his/her request. Participants had the opportunity to ask questions before signing the consent form. I then asked them to fill out a short fact sheet (see Appendix 19), which captured basic information such as his/ her role, years of experience since qualification, and number of years or months spent working in the organisation.

I then asked permission to record the interviews. I opened each interview by asking about their broad views and understanding of patient access as a whole. The main body of the interview covered their views and understanding of each of the chosen complex interventions. Interviews focused on the perceived usefulness/benefits, driving force, challenges, implementation process/ delivery strategies of the appointment system, telephone services, online services and the Named GP scheme. Finally, in the interviews I asked about participants' broad views around implementing change in general and the use/role of evidence with reference to patient access. At the end of each interview, I thanked each participant for their participation.

All semi-structured qualitative interviews were audio-recorded and transcribed verbatim. Data were transcribed by a professional transcription company. Transcription was conducted as close as possible to collection to allow ongoing data analysis. When I received the transcripts, I first ensured that they were fully anonymised and then checked each of them for accuracy by listening to the recordings. I also noted some inaudible speech, such as laughter, short/ long pauses and any uncertainty.

4.9.9 Phase 4: Exiting the setting

Following study completion, I thanked all the participants and exited the setting. Each practice was reimbursed £480 in appreciation of their help and contribution to this research.

Ideally, I wanted to follow the implementation process from start to end in a prospective manner i.e. real-time. However, feasibility needed to be considered in the dynamic general practice setting, where different interventions were implemented at different times across different practices. Therefore, it was likely that at the point of data collection, complex interventions were being implemented at different stages. Some retrospective investigation was required in some sites. This was done by analysing retrospective documents and conducting qualitative interviews for retrospective accounts of the introduction and effects of different interventions, which may provide useful information about context.

4.10 Writing and preparing field notes

Field notes were a vital element of data collection. I used Spradley's nine dimensions of descriptive observation (Spradley, 1980) to help immerse myself into the setting during the initial phase:

- Space – physical setting
- Actors – characteristics of the people involved
- Activities – various activities of the actors
- Objects – e.g. furniture
- Acts – specific individual action/ behaviour
- Events – particular occasions, e.g. meetings
- Time – the sequence of events
- Goals – what the actors try to achieve
- Feelings – emotions in particular contexts (both actors' and my emotions).

Construction of my field notes for each observational session followed the same structure. Information such as date and time of arrival, location, type of activity and who was present were documented. Coleman and Collins highlighted the importance of geography and the use of different spaces in shaping people's actions (Coleman & Collins, 2007), for example the waiting room provided a measure of how busy the practice was and reflected the level of demand on a particularly day. Further, different practice had very different configurations. Therefore, diagrams were drawn to illustrate the setting (and props) and indicate where individual participants sat, where possible.

Taking field notes involved three stages and each of these are presented in the next section.

4.10.1 Stage 1: Note-taking

The first stage was note-taking during interactions. The amount of note-taking at this point largely depended on the type of interaction I was observing. Detailed notes of each observation period were overtly taken. However, on a number of occasions it felt inappropriate to write extensive field notes, as it would potentially hinder the natural flow and the content of the meeting. For instance, when I was observing activities and interactions at the front reception desk, or I was sitting in a meeting where no one was writing anything or when the participants were discussing a complex topic which required my full attention in order to understand the content. On these occasions, I tended to make mental notes and write down words or short sentences during or immediately after the meeting ended. At practice 1, I was given a desk (or a space) in the back reception office to allow notes from the day's observations to be written when they were still 'fresh' in my recollection of the day. I could sometimes quickly scribble down a few questions to clarify with the participants at a later date. At practice 2 and 3, this was done in the waiting area.

This stage was often 'messy', because I was listening, watching (participants' reactions and facial expressions) and writing (content, my feelings and questions) simultaneously.

4.10.2 Stage 2: Expanding

The second stage involved expanding the notes I had and starting to fill in the details; this stage usually took place on the train. I would note down words, quotes, points of discussion, who said what, my impressions and feelings towards what was said, and some details of the interactions observed that I did not have the

opportunity to write down at the time. The sequence in which the events occurred was considered at this stage.

It is vital for the researcher to be reflexive and think carefully about how the research is being carried out and under what conditions. How observations are recorded or written and what impact these might have on the findings produced also needs to be considered. I also acknowledged that research participants have some influence over the research and how it is presented. Personal observations and reflections were recorded in the field notes journal. They were made before or during the event, as well as post-session. The journal was only accessible to me and it was secured and locked in the office cabinet when not being used.

4.10.3 Stage 3: Converting handwritten notes into electronic field notes

This last stage involved typing up or converting my handwritten notes into full field notes on the computer; these included verbatim or near verbatim statements. Notes were usually typed up on the same day of observation, and these files were saved in separate folders for each participating practice. These typed field notes were more structured and logical and the way in which the data were recorded, organised and presented was dependent on my interpretation of everything that had taken place during the observation session. They were my accounts of the events, and not the participants'. As Atkinson describes, "the creation of field notes is in itself an act of reconstruction" (Atkinson, 2015).

The first thing I did was to draw the setting in which the observation took place by re-creating my rough sketches of the setting and participant location with as much detail as I could remember. This sketching can help the researcher to remember details of local spatial arrangements (e.g. general layout, room size, who was present and where each participant sat, positions of the windows/ doors/ desks/

computers/ shelves, distance between me and participants) and allow better recall of the observed events (Atkinson, 2015; Brewer, 2000). I then typed up what else was happening as I entered the setting each time, e.g. patient was speaking to receptionist, the amount of people in the waiting area.

Following this sketching, I went through my handwritten notes line-by-line and typed up each line as completely as I could. In these notes, I focused on particular phrases that had been used and concepts discussed. If there was anything I wasn't sure about, I usually looked it up using external sources (e.g. websites, online reports). Any relevant external information included in the field notes was marked with URL links or references for two reasons: 1) to distinguish from data collected internally; and 2) to ensure good audit trail and data management. If I collected some relevant internal documents, such as Reports or minutes, I would make a note of the kind of document(s) collected. After typing up the field notes, I read through the whole set again, as this prompted thoughts, analytic ideas and reflections related to areas that I needed to explore and possibly follow up in the next observation session. It also gave me the opportunity to fill in more details. Each set of field notes usually ended with some post-session reflections and ideas. While reading through the set of field notes again, I started to do some initial in vivo coding. I also devised my own system to distinguish between different types of text within the field notes:

- Exact quotations = " "
- Paraphrasing = ' '
- My feelings and views = [ ]
- Ideas = comment box (inserted next to corresponding text)
- General observation = no markings

4.11 Data analysis

A descriptive approach was adopted to gain an understanding of the three practices with regards to context and influences on implementing and delivering various types of access-related change. An interpretative approach was then adopted to help understand the similarities and differences between the three participating practices (i.e. cross-case analysis). Finally, the SR framework was used to gain a more in-depth interpretation of the data. The following section will provide detailed description of the analysis process.

4.11.1 Ethnographic data

Field notes were the primary source of data. These were supplemented by appropriate documentation and interviews with the participants. All the data were read repeatedly to gain familiarity. Data analysis in an ethnographic study is an on-going process. The analysis was carried out using a mixture of inductive and deductive approaches, which helped focus data collection, while being open to emerging issues. Data were imported into, coded and organised using NVivo, a computer-aided qualitative analysis package.

As demonstrated above in Section 4.10, the process of preparing field notes was complex and their development process was iterative. It was impossible to record everything that happened in the field, and I had to be selective. Therefore, the data are always partial versions of the observations. The researcher is constantly making choices about what to register and what to leave out (Miles & Huberman, 1994). What I observed were fragments, part of a picture and not perfect knowledge.

4.11.2 Approach to analysis

There are no clear rules as to how to analyse this complex data, because ethnography is diverse and the process of analysis is slightly variable in different types of ethnography (Brewer 2000). The ethnography literature suggested some basic guidelines, which involved coding, formation of patterns and categories and exploring relationships between these concepts or categories. My analysis of the ethnographic data began concurrently with data collection, i.e. an iterative analytical approach was adopted. I have described below my process of analysis, which is divided into a number of stages.

4.11.3 Coding of data

I initially analysed all data sources, including field notes, interview transcripts and gathered documents/screen shots through systematic reading and open line-by-line coding. Because I was looking at more than one intervention, data were sorted according to each chosen intervention, namely appointment structure, telephone services, online services and Named GP scheme, to facilitate analysis.

During my initial reading and re-reading of the field notes, I constantly wrote down my thoughts, highlighted statements/texts that appeared to capture key meanings related to the research questions and developed descriptive codes that summarised the highlighted text. Reading through the transcript also prompted thoughts, ideas and reflections related to areas that I needed to explore and possibly follow up in the formal interviews. This coding process was an on-going process which progressed with the data collection. Its key purpose was to explore what was in the data and start to structure the data. As more data was collected and coded, these codes changed and new ones were added. The codes were recurring phrases used by the

participants during the field work (also known as ‘in-vivo’ codes) or derived by me, the researcher. These codes evolved inductively and became clearer and tighter through refinement. New codes were generated when I started field work in a new GP practice. When this happened, I re-examined whether these codes were also present in all of the other field notes by re-reading. Following this, a list of the codes that emerged from the transcript was put together in a table and reviewed alongside the quotations associated with these codes, to ensure the codes truly reflected the meaning of the text or quotations. This process was applied for every set of field notes and each interview transcript. At this stage, these codes remained in a long list, rather than being categorised into a ‘tree’ (or hierarchical) system. Memos were written to aid analytical thinking and were often unstructured; they recorded the process of analysis and my thoughts on the process. They also helped generate new ideas and areas to explore further.

4.11.4 Generating concepts and categories

The next step involved generating concepts and categories. Through stage 1, it became apparent that some codes belonging under a particular category subsequently became a concept. Some other codes could become categories in their own right. At this stage, I rearranged, re-phrased and collapsed codes as I went through the data (Brewer 2000; Hammersley and Atkinson 2007). Codes, categories and concepts were developed as the field work continued. Towards the end of the field work in each practice, qualitative interviews were undertaken with key staff members. This data was initially analysed separately following the same steps for analysing field notes (see above).

This type of analysis acknowledges the importance of within-case analysis and cross-case analysis as a strategy to define patterns (Eisenhardt, 1989; Ayres, Kavanaugh, & Knafl, 2003). In this analysis, I particularly focused on the following:

- Comparing data collected using different methods: observation data vs. interview data vs. documents (an example is given in Table 6)
- Comparing different actors' perspectives
- Comparing between practices
- Comparing between interventions

To aid this process, I organised all the codes, categories and concepts that emerged from each set of data for each practice and intervention in an Excel Spreadsheet. This resulted in a total of 12 data matrices covering three GP practices and four interventions. I then analysed these individual site data matrices separately for each intervention by displaying primary data and quotes next to each corresponding theme.

A constant comparative approach (Glaser & Strauss, 1967) was used to explain and understand the similarities and differences between the practices and the different complex interventions. Memos were written throughout the analysis and provided a detailed account of thought processes and amendments as new data was added.

Table 6: Integration of datasets during the analysis process

Code	Illustrative quotations
Monitoring	Observation field note: *In November, about 200 appointments were booked online. The practice business manager said he will look into the "effectiveness" of doing things online. This should largely reduce the number of phone calls. (Field notes from staff meeting, Dec 2015)* Interview transcript: *I have to run a report for him every month so he can see how things [use of online services] are moving, and it is growing. I can show you that particular report if you like. So, I run this report every month. [Looking at the report together] So number of online bookings in April 2015 is 117, and it's just grown to 252. Look, so no, it hasn't, no sorry, sorry. No, that particular month, there was 117 online bookings. This month – and it is getting- it is getting more and more as we go…* *(contextual interview with clinical admin manager)*

4.11.5 Intervention-specific inductive analysis

By utilising these 12 data matrices, I went on to produce narrative descriptive contextual summaries to explain how context affects implementation, presented separately for each intervention (see Chapter 7). If the data were largely congruent across the three practices, the findings were combined and presented together and any variations were highlighted. Conversely, if the data were variable across the practices, the findings were presented for each individual GP practice.

There were three advantages to doing this: 1) help establish any relationships between different contextual factors; 2) highlight the important contextual factors, both of which were crucial in examining context; and 3) allow comparisons between practices and identify any variations as well as possible patterns. This part of the analysis focused on the dynamics of the features of context, rather than a more static model of barriers and facilitators i.e. presenting them as isolating factors.

Through comparing and contrasting these matrices and narrative summaries, I was then able to determine the "fit" between the intervention and context (see Sections 7.5.11, 7.6.11 and 7.7.9), a finding emerged from the first systematic review of reviews (Chapter 2).

4.11.6 Interpretive analysis across multiple complex interventions: inductive and deductive analyses

Because this PhD thesis was about multiple complex interventions, it was important to reflect this in my analysis by conducting higher level of analysis for all the interventions, combined. This was done for two reasons: one was to reflect what is likely to be happening in the real-world; and more importantly, to produce

interpretive accounts by identifying key overriding themes, patterns and concepts about the role of context in implementing multiple interventions, whilst highlighting any variations between these interventions.

This part of the analysis was inductive as well as deductive. All the data and inductive themes were compared across the different interventions. A deductive analysis was carried out using the multi-level SR framework, whereby the summarised data and themes for each intervention were mapped to the broad and sub-constructs of the framework. This was carried out to first examine how the framework could be used in an empirical study by applying it to the data, and particularly to look at whether it worked well with the data. Where an obvious fit of the data to the model did not exist, this was highlighted in my discussion.

4.11.7 Rigor of analysis

To ensure rigour in my analysis and to include multi-disciplinary and expert input and perspectives, a two-hour data clinic was held in June 2016 where three selected sections of the observation data and one set of interview transcript were discussed. I also prepared a brief document introducing the study including background and objectives. The group consisted of PhD, post-doctorate, senior researchers and my primary supervisor, who come from various background and disciplines (e.g. implementation science, medical sociology, social anthropology, health services, health psychology, public health and mental health). During the meeting, the participants provided their views and interpretation of the selected data and I occasionally probed to obtain deeper information.

I shared all the transcripts and field notes from observations with my primary supervisor. The analytical process and the emerging themes and codes were discussed with my supervisors to ensure a thorough analysis had been carried out.

In addition, findings of this case study were presented at a National conference (The Society for Academic Primary Care conference, July 2016) to seek further feedback.

4.12 Data confidentiality and storage

A number of strategies were adopted to ensure that data were stored securely and confidentiality was maintained throughout the study. This research was compliant with the UK Data Protection Act 1998. All participants and GP practices remained anonymous. Confidentiality was assured by the researcher. During transcription, the practices had pseudonyms assigned to them. The recordings were saved on an encrypted audio file and erased from the Dictaphone once transferred to the UCL server. The transcriptions were saved as password-protected word files and the computer was password-protected. Audio recordings were listened to only by me and by the transcribers. After completion of the study, the files were archived and kept on the UCL secure server for 2 years. After this, the files will be sent and archived to UCL's records office (UCL policy).

4.13 Ethical approval and sponsorship

The study was granted ethical approval by University College London Research Ethics Committee on the 14th January 2015 (Project ID: 6165/001). University College London accepted the responsibilities of sponsorship.

4.13.1 Ethical considerations and concerns

One key ethical concern was the issue of informed consent for those who became involved in the research through their presence in the setting in which I was observing. A copy of the study information sheet and consent form was circulated among the team by the practice manager. At the start of each meeting, I was introduced to the meeting participants and they were able to ask questions before agreeing to my presence in the meetings. Consent was obtained from all

participants who attended the meetings. If a staff member did not feel comfortable with being included, I would not attend meetings at which he or she was present. However, this did not happen and I was able to obtain consent from all known participants. In ethnographic research, consent is an ongoing process, i.e. it's not a simple signature on a consent form. As Atkinson describes in his book, "the great majority of ethnographic research projects depend on the successful negotiation and maintenance of access" (Atkinson, 2015). He then further describes access as more than physical access to a given research site. In my case, access had to be re-negotiated constantly and adapted as the research developed and new situations happened unexpectedly. It was not always possible to obtain consent in advance and I experienced a number of situations which led to potential ethical difficulties. Examples of these situations will be provided in Chapter 4.15, under reflections on my experience and my reflexive accounts during field work.

Because observations took place in various common areas such as waiting area and behind reception counters within general practices, some interactions between staff and patients were observed. This issue was flagged during the research and development governance application. However, the patients were not being recruited as research participants. The focus was the organisation and its staff. The study sponsor, UCL, had sought confirmation from the Health Research Authority, responsible for NHS REC and they had confirmed that this was not within NHS REC remit and UCL REC approval was sufficient. No observations occurred in consultation rooms. Neither the identity of individual participants nor the included practices under consideration was revealed.

4.14 Overview of data collected from fieldwork

Table 7 provides an overview of data collected in all three GP practices, to demonstrate the diversity of activities that were observed.

Table 7: Overview of data collected in included practices

	Practice 1	Practice 2	Practice 3
Data collection periods			
Initial meeting	August 2015	August 2015	August 2015
Data collection period	September - May 2015	December-May 2015	December-April 2015
Data collection methods			
Observation			
Staff/reception meeting	X	✓	✓
Clinical meeting	✓	X	✓
Service development meeting	✓	N/A	N/A
Patient participation meeting	X	X	✓
Other meetings, e.g. pharmacy meeting	N/A	N/A	✓
Administrative office	✓	✓	✓
Waiting area	✓	✓	✓
Front reception	X	✓	✓
Shadowing			
Practice manager	X	✓	✓
Receptionists and admin leads	✓	✓	✓
Document review (e.g. meeting agendas, minutes, CQC reports)	✓	✓	✓
Interviews			
Formal	✓ (n = 4)[a]	✓ (n = 3)[b]	✓ (n = 3)[c]

[a]Practice manager, assistant manager, GP, clinical pharmacist; [b]practice manager, receptionist and GP partner; [c] Practice manager, deputy (reception) manager, GP partner

4.14.1 Observations

Table 8 presents the details of the activity log in the study practices. A total of 24 observational sessions were undertaken, ranging from 30 minutes to seven hours per session. Overall, I was able to collect a great amount of data over a relatively short period of time. The observational sessions were intermittent and spread over the data collection period of 9 months. Relatively few hours of observation were carried out in Practice 1, as there were difficulties accessing the practice manager to seek approval for my attendance, and this will be discussed later in this chapter.

A total of three contextual interviews were carried out, one with the practice manager in Practice 2; and two in Practice 3, one with deputy practice manager and the other with clinical administration manager. The contextual interviews usually lasted around one-and-a-half hours.

Table 8: Details of activity log: activity recording in the study practices

Document code	Date	Day	Time	Duration (hours)	Setting	Activity	Practice
3Ob1	28/07/15	Tue	9.55am	0.5	Meeting room, waiting area	Initial meeting	3b
1Ob1	03/08/15	Mon	10.25am	0.5	Meeting room, waiting area	Initial meeting	1
2Ob1	12/08/15	Wed	11.00am	0.75	Consultation room, waiting area	Initial meeting	2
1Ob2	15/09/15	Tue	12.00pm	4.0	Meeting room, admin office	Clinical meeting, general observation	1
1Ob3	27/11/15	Fri	12.45pm	2.0	Meeting room	Service development meeting	1
2Ob2	01/12/15	Tue	10.30am	3.0	Telephone room (back office) + practice manager's office	Shadowing receptionists	2
3Ob2	02/12/15	Wed	1.00pm	1.5	Waiting room	Staff meeting	3a
2Ob3	08/12/15	Tue	9.30am	7.0	Practice manager's office	Shadowing practice manager	2
3Ob3	15/12/15	Tue	6.35pm	2.0	Waiting room	Patient involvement meeting	3a
2Ob3	17/12/15	Thurs	10.00am	2.5	Reception counter	Shadowing receptionists	2
2Ob3	17/12/15	Thurs	1.00pm	2.0	Meeting room (kitchen)	Reception meeting	2
3Ob4	18/01/16	Mon	12.45pm	1.75	Office	Clinical meeting	3b
Ob1CCG1	19/01/16	Tue	14.30pm	2.0	Meeting room	CCG meeting	CCG1
3Ob5	22/01/16	Fri	11.00am	2.08	Office	Observing clinical admin manager	3a
3Ob5	22/01/16	Fri	1.00pm	2.0	Office	Observing deputy practice manager	3a
Ob1CCG2	27/01/16	Wed	10.30am	2.00	Meeting room	CCG Joint primary care co-commissioning meeting	CCG2
3Ob6	17/02/16	Wed	11.30am	3.05	Meeting room	Pharmacy meeting	3b
1Ob4	15/03/16	Tue	11.00am	4.0	Admin office	Shadowing receptionists	1
Ob2CCG2	21/04/16	Thurs	9.30am	3.0	Meeting room	CCG Joint primary care co-commissioning meeting	CCG2
3Ob7	28/04/16	Thurs	9.30am	0.5	Waiting area	Waiting area – general activities	3b

Ob2CCG1	11/05/16	Wed	2.00pm	3.0	Meeting room	CCG governing body meeting	CCG1
1Ob5	24/05/16	Tue	10.30am	0.5	Waiting area and admin office	General activities	1
2Ob4	25/05/16	Wed	12.00pm	0.5	Waiting area and admin office	General activities	2
1Ob6	26/05/16	Thurs	12.00pm	0.5	Waiting area	General activities	1

4.14.2 Formal interviews

I originally planned to conduct formal interviews at the end of February 2016, following some initial analysis. However, all three practices explained that February/ March was the busiest time for them as it was towards the end of the financial year (i.e. QOF). I made my second attempt and sent another email at the beginning of April, along with numerous telephone calls to the practices. Subsequently, the interviews at Practice 3 were undertaken in late April. For Practice 2 and 3, the interviews did not take place until late May.

I conducted a total of 11 semi-structured interviews with clinical and non-clinical staff at the participating sites: three with GPs, three with practice managers, three with assistant practice managers/reception managers and one with a practice-based clinical pharmacist. In addition, I conducted a telephone interview with a member from an expert in primary care commissioning who held a number of contracts with NHS England and CCGs across England. Interviews with GPs were generally shorter; they usually lasted around 15 to 25 minutes. Interviews with practice managers and administrative staff were longer, lasting around 35 to 50 minutes.

As demonstrated in Table 9, the characteristics of the participants were very diverse.

Table 9: Information about interviewees

Position Title	Main role/ responsibilities	Background/ Special interests	Duration of working in the practice	Experience since qualification/ training (Years)
		Practice 1		
GP	GPST3, finishing registrar		6 months	N/A
Clinical pharmacist	Medicine management and prescribing	Community pharmacist, prescribing admin, commissioning	1 year	12 years
Practice manager	Maintain financial records and staff management		2 year 7 months	10 years
Assistant practice manager (APM)	Managing rotas, inputting/ sending off monthly data/ claims, administration	Promoted from lead administrator to APM	1 year 3 months	5 years
		Practice 2		
GP	GP Principal, partner	Minor surgery, Turkish speaking	9 years 11 months	10 years
Practice manager	Managing general running of practice & finances	Attend practice manager forum & CCG business meeting	19 years 3 months	--
Reception manager	Manage reception and administration	Promoted from receptionist to reception manager in April 2016	7 years 7 months	7-8 years
		Practice 3		
GP	GP partner	Substance misuse	1 year 6 months	20 years
Practice manager	Running of the practice	Sit in locality committee and PPG representative	2 years 2 months	13 years
Deputy practice manager	Managing staff		1 year 1 month	1 year

4.15 Reflexive accounts

Being reflexive is an important part in research, ensuring the researcher is aware of their impact on the research setting and findings. I agree with Hammersley and Atkinson (Hammersley & Atkinson, 1995) that the researcher plays a key role in qualitative data collection and that he/she is a part of the social world that they study. The researcher acts as an instrument and plays an important role in the research, shaping the data collection as well as interpretation. This is especially important to note in an ethnographic study; the 'researcher' effect is more noticeable where the researcher is present in the setting. Furthermore, conducting focused ethnography made reflection on my own research especially important, to ensure the research was moving forward and the opportunities for data collection were maximised within a relatively short period in the field.

4.15.1 Reflections of self in the research process

Who I am, e.g. the way I look/ present myself, my personality and my background, may affect how the participants "see" me, which in turn have an influence on the data I have collected.

In this study, all participants were aware that I was a researcher/ PhD student in health services research. I was an outsider and not a member of the organisation, which means access to study sites required constant negotiation (see 4.15.3.1). I was treated politely and welcomed in all three practices, participants generally acted so as to assist me and my research (see 4.15.12). Like any research, this study may be prone to social desirability bias, which refers to the tendency of participants to over-report "good behaviour" or under-report "bad or undesirable behaviour" (Holgraves, 2004; Tourangeau, Rips, & Rasinski, 2000). By doing observation (in

addition to interviews), I was able to “witness” some of the naturally occurring events, good and bad. In addition, some participants had opened up and shared quite personal and sensitive information and feelings. This information was not included in this thesis.

As I was not a member of the organisation and I am not a GP, I did not have the same understanding as to how practices normally operate (except from my experience as a patient/ service user); a medically trained researcher would have gathered different data (Richards & Emslie, 2000). I used this to my advantage as my outsider status allowed me to and lack of prior knowledge by ask detailed questions and seeking clarifications which meant I was able to gather views and understandings from staff which were unsaid and may have been assumed by someone with more knowledge of the setting.

Building rapport and trust with participants was key to facilitate data collection (section 4.15.10), and I found this relatively easy to achieve. This might be explained by my enthusiasm and interest from the start in finding out about the participants (as individuals) and their environment, and learning about how interventions were implemented in their setting as well as the fact that I am a female and appear younger than my age, which coupled with my friendly approach was likely to have made me appear non-threatening.

4.15.2 Reflections during recruitment

Recruitment of GP practices was challenging. The initial approach of using existing departmental contact links, i.e. the research-based complex intervention, to help facilitate initial access did not work as intended. The total number of practices that I could recruit from was relatively small and the response rate was poor. This

consequently led to the application of a number of different recruitment strategies. Out of all four recruitment methods (see above), I found the method whereby the CCG sent an email to invite its member practices to take part to be most effective. It was essential to engage the CCG and get their buy-in in order to facilitate recruitment. The CCG was an enabler, motivating its member practices to take part in the research. Initial practice meetings involved delivering a 'pitch' to practice managers and GPs, which required a lot of preparatory work and practice. There was no guarantee that the practice would take part even after a good initial meeting. Perseverance and active efforts to follow up after these initial meetings were crucial.

Another lesson I learnt from this process was the importance of involving participants in shaping the research, which led to better practice engagement through exploring issues that were relevant to them and were of their interest. Through speaking to the practice staff, I was able to identify 'access' as an important issue and challenge across all three organisations.

4.15.3 Reflections during field work

Considerations of access to the field including practical problems in planning and doing observations are discussed in this section. Other challenges I faced when establishing this type of research in the setting and some strategies used to address these challenges are also discussed.

4.15.3.1 Negotiating access

The study required repeated visits to the recruited practices, and without access the research could not be done. This type of research requires skilful negotiations and renegotiation (Brewer 2000). Negotiations of access continued even after the practices agreed to take part. I found circumstances changed all the time in general

practice and decisions often had to be made on the spot in terms of who to observe, what to ask and what to write down. As much as I tried to plan my fieldwork, adjustments had to be made throughout the process.

4.15.3.2 Role of practice manager in the research

Negotiations were frequently done with practice managers and they played a vital role in my study. They were often the first point of contact and acted as gatekeepers. Gatekeepers are individuals who have the power to grant access to the field (Brewer, 2000). Email was the primary communication method between me and the practice manager. However, I found it easier to 'have a chat' face to face following an observational session as part of which I tried to schedule my next visit. This was not always possible, so on occasion I needed to contact them by telephone, although it could be difficult to get hold of them. After a visit was scheduled, I usually sent a confirmation email, followed by a reminder email a few days prior to the visit, which worked well with all three practices.

Practice managers acted as key informants; after observation of each meeting, I was often able to speak to the practice manager informally in order to clarify some of the issues discussed and gain further insights. They also took on the role of introducing me to the rest of the practice team, including GPs, nurses and reception or administrative staff, as well as other individuals participating in the meetings. In addition to this, they helped shape the direction of the research, by giving suggestions as to who to speak to and offering opportunities to observe different types of events and activities. All my visits to the practices were planned. The practice managers judged what was acceptable and appropriate for me to participate in or observe. For instance, I was not able to observe clinical meetings (doctors' meetings) in Practice 2, and the main reason given was that individual patient cases were often discussed in these meetings. It was thought that there may

be a potential risk of breaching patient confidentiality, despite my emphasis that the focus of the studies was on the organisation itself and the staff within it; and any details of patients would *not* be noted in my field notes. Nevertheless, I was able to sit at the front reception and observe the interactions between reception staff and patients, as well as shadowing the practice manager and a number of reception staff. I realised later that there was a lot of demand on the doctors in this practice and the practice manager did not want to put any 'additional' burden on them. I was not permitted to attend the partners meetings where business and financial issues were discussed in any of the three practices.

Practice managers also played a role in deciding who I should speak to and for how long. Towards the end of data collection, I sought to undertake some formal interviews with the GPs. In one particular practice, I was informed that the GP principal is extremely busy and I only had no more than 10 minutes to conduct the interview. During the interview, he was very pleasant and willing to share his views with me. After 15 minutes, the practice manager quietly came into the room and noticed we were still talking. She 'didn't say anything but her finger was pointing at her watch indicating I needed to wrap up quickly so that the doctor can go back to work. She then left the room. When we finished the last question from the topic guide I asked if he got time for one more, he smiled and nodded. In the end, the interview lasted around 25 minutes'.

4.15.4 Brief description of my experience in each practice

I started my field work in Practice 1. This was the first time I carried out observations, so I was uncertain and learning as I progressed. Getting access at this practice was reasonably smooth at the start, with the practice manager arranging

my visits. I managed to build a good rapport with the GPs, clinical pharmacist and lead administrator and collected some relevant data. They were all supportive of my research at the practice. However, the observational period at this practice was interrupted when I went on a one-month secondment to China. After that, communication became difficult as the practice manager was frequently absent. I was not able to arrange to visit the practice, and the rapport that had been built was lost. As a result, I did not achieve the same level of relationship as I had in Practices 2 and 3.

When I started my field work in Practices 2 and 3, I was more confident as I had gained a good understanding about how general practices operate, built up experience collecting data and negotiating access, and had generally learnt from my experience in Practice 1. I knew how to act around different people with different roles. As I felt more comfortable and self-confident in the setting, the participants felt more at ease. Overall, I felt I had acquired a good sense of the social structure of the setting.

4.15.5 How I was introduced to the practice team

Some introductions were more formal than others. One practice manager took on a more active role in formally introducing me at every meeting, and he had grasped a good understanding of my study. For instance, he described me as the practice's 'new recruit' and that 'she wants to look at how the NHS implements change and is particularly interested in patient access in GP land' to everyone, in one of the first meetings I attended. Everyone, both within and outside the practice (e.g. pharmacists, CCG members), seemed to be aware of me and my role as a researcher in all the meetings I went to even before I was introduced. Whereas for the other two practices, the introduction seemed a lot more informal; they often

introduced me as a researcher from UCL and it was my responsibility to inform the participants who I was and what I was doing in their setting.

I felt very welcomed by the practice staff most of the time during the research process. One GP from Practice 1 said to me after the clinical meeting, 'it's good to have someone who is doing research and let me know if I can help with anything', and the practice manager commented that 'we liked having new people around'. On the other hand, the receptionists' attitudes towards my study were mixed. Some were curious about my work and some showed little interest; there was variation between practices. When I was in the practices, many staff members were happy for me to stay and 'hang around' in the waiting room or administrative office.

The extract below illustrates how I was introduced in a practice meeting involving external members from the CCG, which took place during the later phase of field work:

> As soon as we sat down, he [practice manager] said he wanted to introduce some new people here and there are some new faces. He looked at me and said 'do you want to tell people who you are?' I introduced myself as a researcher from UCL based at the Royal Free Hospital, looking at how GP practices implement change as part of my PhD study. I then explained I have been going to a few practices, sitting in meetings and talking to various people. Then he added 'Rosa came to our clinical meeting and PPG meeting… what else? [I said also staff meeting] so she knows our practice very well…she will sit in the background and observe our meeting today.'

This extract demonstrates a certain degree of trust; he allowed me to introduce myself and then reassured everyone at the table that I 'know' the practice very well and it's okay to have me there. He also gave a clear message that I would not be actively participating in the discussions.

4.15.6 Participants' interpretations of the research

Undertaking ethnography is an iterative process, and the research question(s) became more developed and focused over time. When I initially explained the research to the participants, the topic was relatively broad - I was interested in exploring how the practice implemented change and understanding what influences the way in which certain things are done. I was explicit and informed them that this is the nature of this type of research, starting broad and then narrowing the focus.

It was very interesting to find out the different interpretations participants had about this study at the beginning of the research. Two practices perceived this as an opportunity to share what they thought was going well or what they were "proud of", and associated this study with 'performance'.

Below shows an exemplar from my field notes:

> I explained the importance of this research, how it may generate important findings for both the practice and the CCG and they [the practice] might be interested in what other practices are doing and may give them ideas in terms of how they can do things differently. The nurse practitioner responded by saying "we may not be unique but we are very forward thinking" and then went on to give various examples of the type of things that they are currently doing, e.g. having a GP trainer, bringing in a pharmacist, involving patients, "ultimately delivering and providing good patient care". Then I nodded and said "yes, part of this study is about identifying things that can be shared between practices and learn from each other".

While some thought the research was about performance, one practice thought the research was about pressure or resilience and 'workload', which I thought was interesting, as this information also illuminates context.

4.15.7 Where I sat in the room during meetings

I always asked the participants where they would like me to sit before the meeting started. In two of the practices, I was always asked to sit at the same table as everyone else in any meetings, including both formal clinical meetings and less formal reception meetings, and I instantly felt less of an outsider and more of a member of the group. For one particular practice, where I sat varied according to the nature of meetings. In less formal staff meetings and patient participation group meetings, I was able to sit with everyone, whereas in more formal clinical meetings or pharmacy (with CCG representatives and community pharmacists) meetings, I was given a space to sit outside the table (not with the group). It was a practical decision as it took place in the practice manager's office and the room was small. I was able to 'see' better what was happening, e.g. group dynamics and individual reactions towards issues discussed at the meeting.

4.15.8 Issues related to ethics

It was not always possible to obtain consent in advance and I handled these situations as well as I could. During meetings, I was usually introduced at the beginning and everyone was aware of my role as a researcher as well as the purpose of my research. However, it was not always feasible to ask the participants to sign the consent form before the meeting started; therefore, this was usually done after the meeting ended. I always asked them to read the consent form carefully and told them they could withdraw if they wished.

With regards to interviews, sometimes the practice manager gave permission on other participants' behalf, but they may not have had the same level of understanding of the research. Therefore, I always treated any participants as if they had no knowledge about this research, talked through the information sheet, asked

if they had any questions and re-confirmed their consent. Fortunately, none of the participants withdrew from the study.

4.15.9 Disclosure of my views and feelings

One key contrast between interviews and observations is that qualitative interview is a method of inquiry, and research participants expected to be asked questions about their views and perspectives. However, for an ethnographic study, it is often less formal, and the participants had opportunities to ask me questions, as I spent a relatively long time in the field, which was something I had to get used to. Participants in all three practices actively sought my feedback and opinion towards the end of each observation session. Their usual questions were the following: How did you find the meeting? Was it alright? How did we do compared to other practices? On a few occasions, I found myself being tested or pushed towards disclosure. I often tried to play down my personal beliefs, values and commitment and then clarified the intention of this study was not to determine performance or quality assurance but to highlight variation for further exploration as to 'how' and 'why' they are different. The aim is to illustrate 'good' practice. I found this particularly difficult at the beginning, as the idea or concept of my research was not as refined, and the participants did not understand the iterative nature of the process. I tackled these issues by being as open and honest as I could, which I believed helped building rapport with the participants. Many participants, particularly clinical staff and practice managers were interested in what would come out of this research; for example, one practice manager asked, "was that all interesting for you? What are you going to do with all of this information?"

4.15.10Establishing trust and relationships with participants

Building rapport and trust is crucial in establishing an ethnographic study. Initially, there was a lot of work involved in 'breaking the ice'. I usually asked some questions that may not be relevant to the research; for example, questions about how they spent their Christmas or how their holiday was. After they felt more relaxed, I then ask some straight-forward, easy questions, such as "what are you working on these days?", "what have you been working on since the last time I saw you?", or sometimes simply "how have you been? Busy?" I found these questions very effective as the responses often gave some useful information about context and whether there had been some changes. Many participants were approachable, open and told me what they were doing or what's been going on. The majority of my observational sessions went smoothly, as I showed interest in what they do.

The extent of my participation in the research setting changed over time as the study progressed and varied depending on the type of activity observed.

As time went on, I got to know the practices relatively well, although the relationship varied between practices. In terms of my relationships with the practice manager in Practice 3, we always focused on the work of the practice and did not veer into details of life outside of work. I went into their environment with a key goal to learn about what they are doing, how and why. However, I got to know some members of staff fairly well. For instance, whilst shadowing the deputy practice manager, one of the younger GPs walked past, he noticed me, came over, smiled and said "hello'" before going back to the consultation room. They all wanted to help as much as they could as 'good' informants, providing me with useful information. I became accepted by the participants in the field and felt more like one of them. However, I was never completely a participant in all three practices, as I am not a clinician or a true member in the organisation.

Practice 2 was different. I spent relatively more time with the receptionists and the practice manager; subsequently, I had gained a good understanding of their roles, what they do and how they work. Only when I read my field notes following the initial data collection phase, I realised my relationship with participants in this particular practice was quite different – I felt more involved (as a member of the team) and comfortable around them. A lot of laughter was recorded in my field notes, especially in discussions around Christmas (early December 2015).

> Practice manager said: these girls next door [referring to the receptionists] always play this radio station [name of radio station] and it's constantly playing these songs [name of a young singer], what's wrong with the old classics like [names of two very popular singers] … [and started singing] … do you know this? You are probably too young to know this one….
>
> (Field notes from shadowing practice manager, Practice 2)

I had also experienced different emotions and saw different sides of my participants, from frustration, stress, to excitement and passion. They would share their personal stories with me and were open about how they felt towards certain issues; and I felt I could be 'myself' around them. When I was told that the reception manager was leaving the practice in March 2016, I couldn't help but empathise with them as she had worked there for a long time. Patients like going to her and the practice manager commented, "[name of reception manager] likes spending time in the front reception". I have presented below one quotation from my field notes:

> [Name of reception manager] said "you got to love your job to do it for so long. All the patients know me and ask for me all the time."
>
> (Field notes from shadowing receptionists, Practice 2)

In Practice 1, staff's attitudes were mixed. The receptionists seemed 'suspicious' of me and my role in their practice. The doctors were friendly and curious about my research. Again, my relationship with the practice manager was less formal, and we occasionally had conversations about things outside of work. After observing each

meeting, the GPs, pharmacists and practice manager were happy to speak to me, and our discussions were always related to issues around these meetings or my PhD.

4.15.11Audio-recorder as an obstructive object

The 'Hawthorne effect'

The 'Hawthorne effect' is the process where participants become self-conscious and change their behaviour because they are being observed (McCambridge, Witton, & Elbourne, 2014). Using an audio-recorder potentially enhances this effect and individual accounts may subsequently be more rehearsed and selective, through self-monitoring of their speech and behaviour.

The below extract clearly demonstrates this effect:

> Towards the end of the initial meeting, I explained to the practice manager that I wanted to undertake some recorded interviews at a later stage. She commented "I better watch what I say when it is recorded, you are not recording now are you [laughs]?"

Because of this, I did not audio-tape any formal meetings, as I wanted to observe these meetings in their 'naturalistic' form, so that the participants could speak and behave how they normally would. I believed that putting an audio-recorder (as a physical object) in the middle of the room would obstruct these natural social interactions. After the meetings, I sometimes asked for a copy of the meeting minutes and a brief 'catch-up' with one or two members of staff (often the practice manager), in order to answer some questions I had from the meeting.

Using the audio-recorder for practical reasons

There were a few occasions where I found it difficult to note down everything I was observing, particularly when I was being shown something that I had not seen before or was not familiar with, or the participant(s) was/were providing a large amount of technical information in a short period of time and I struggled to record every detail. To overcome this issue, I would usually ask if I could use my recorder. Many participants did not like it initially, but after I explained my reasons, they all agreed to allow me record the conversation/discussion. Additionally, I realised where I placed the audio-recorder could be challenging for two main reasons: 1) participants could be showing me a range of printed reports or folders and there was no space to place the audio-recorder; and 2) a few participants did not feel comfortable. In these circumstances, I tended to place the recorder further away, but at the same time, ensure that the recording quality was clear and sufficient.

> The participant was showing me her day-to-day work (i.e. her key roles and responsibilities). She was talking very fast and at the same time, clicking on different things on the screen, also switching back and forth between the computer screen and the reports on the desk. It was too difficult for me to take detailed notes on everything while watching her, so I asked if I could record our discussion. At first she was nervous about it [embarrassed] and it was a bit awkward. I then had to explain the reasons for doing this [apologetic], i.e. to ensure I got an accurate account that reflects what she does and that I am mainly interested in what she does and her views on various things and there is no right or wrong. After she understood the reasons behind the audio-recording, she agreed and I quietly took the audio recorder out of my bag and placed it on the desk, [purposefully] not too close to her. It was an awkward negotiation.
>
> (Field notes from shadowing clinical administration manager, Practice 3)

4.15.12 Fulfilling their role as 'good' research participants

Social desirability refers to situations where participants present themselves in a favourable manner (Collins 2005). They may over-report behaviours that agree with values deemed socially acceptable and under-report those deemed socially undesirable. It happens in both qualitative and quantitative research.

My study participants were generally friendly. Many were curious about the research. The below extracts illustrate how the participants wanted to be a 'helpful' informant.

> "I am just frightened to give you the wrong information, or confuse you…"
>
> (Contextual inquiry with Administration Manager, Practice 3)

> The practice manager has made the effort to explain to me what she was doing throughout the day. She has given me a real insight into her day-to-day job and how this practice functions. Initially, it was mainly her giving me lots of information and after a while, it was more like a two-way conversation/ discussion…
>
> (Field notes from shadowing practice manager, Practice 2)

> Deputy practice manager said "what else can I tell you? Is there something else you want to know [she kept looking over my field note journal]?
>
> (Informal interview with deputy practice manager, Practice 3)

4.15.13My presence in the setting

As described above, the role I adopted in the setting shifted constantly depending on the situation and the type of observation undertaken.

One concern raised in relation to focused ethnographic research is that the presence of a researcher may potentially interrupt natural interactions and lead to a change in the behaviour of those being observed (Lambert et al 2008). Despite my efforts to minimise this, I recognise my presence cannot be removed entirely, particularly during group meetings. There were a few occasions where one or more

participants said “close your ears Rosa” or “don’t write this down”. The extract below illustrates how my presence was noticed but conversations were not necessarily suppressed by my presence and could be said to create a space for people to air their opinions about change. .

> The doctors were discussing a new frailty intervention clinic (the idea came from the CCG). One of them looked directly at me [with a smile] and said, “this all sounds good in practice, but the work always comes back to us eventually…”
>
> (Clinical meeting, Practice 3)

I aimed to be minimally intrusive behind the reception counter; for example, I chose to sit slightly outside of the interaction between the receptionist and patients (i.e. behind where the receptionist sat, away from the patients) and only participated minimally (i.e. making eye contact, smiling during conversations, taking discrete notes and avoiding extensive note-taking in front of the patient). When there were no patients and I asked the receptionists to show me how to do something, I would move my chair forward so I could see everything clearly. When the observation was one-to-one (e.g. shadowing practice manager or clinical administration manager), I would actively ask questions and interact with the participant(s), as well as laughing in response to jokes and taking part in their usual conversations.

Overall, I felt what I had observed was quite well-balanced. At times, the practices used this research as an opportunity to tell me what they do well. There were also times where they talked about specific challenges and struggles. I have selected two examples and presented these below:

> Reception manager: “do you want to have a copy of the Friends and Family monthly report [offering voluntarily without me asking]? Did [name of practice manager] give one to you? We did very well on this one…”
>
> (Field notes from observations at front reception, Practice 2)

> Today I shadowed the receptionists. There was a lot tension in the telephone room, and staff in the room showed signs of stress and frustration. The telephone didn't stop ringing and one receptionist told me that she was so stressed that she could smoke [later I found out she doesn't smoke and it was her way of expressing her stress].
>
> (Field notes from shadowing receptionists, Practice 2)

During the more formal meetings, the participants were often open about their views, and sensitive issues were discussed. For instance, the doctors had an educational session on vitamin B12 deficiency and some felt they "undertreated a lot of them". On another occasion, in a clinical meeting, the doctors were discussing whether or not to take up Map of Medicine and some overtly shared their views on NHS England.

4.15.14Doing primary research in the current context of general practice

It was challenging to conduct primary research, particularly ethnography, in the general practice setting. Negotiations became increasingly difficult, especially during the later formal interview stage, which was towards the end of financial year, when practices were preoccupied with QOF payments. In addition, morale was low as the junior doctors' strike took place in late April 2016 (also reflected in my interviews with GPs) and there was a reduced capacity in the Emergency Department (A&E), which led to an increased demand in GP practices. The practice managers took on the key role of judging the circumstances of their own practice and decided whether they had the capacity to have a 'researcher' in their setting at different time points of the research.

As described previously, there was a lack of response from Practice 1 and 2 despite repeated attempts via emails to arrange the interviews. In Practice 2, this was due to a demanding workload caused by the reception manager leaving the practice. I tried

calling the practices, but it was extremely difficult to get through to the receptionist/ practice manager on the phone in Practice 2 and the practice manager in Practice 1 was often absent.

As both emails and telephone calls failed to work, I decided to go to the practices physically. I went to Practice 1 three times; the first time was on a Wednesday morning around 11.00am. I tried to avoid Mondays, or any early mornings during the week as these times were usually busier. Both practice manager and assistant practice manager were not around, I spoke to the nurse whom I met in my previous visits and asked her to pass my message onto the practice manager. After this, I still did not hear from the practice manager. During the second time (on a Tuesday morning around 10.30am), the practice manager was not around but I met with the assistant practice manager. I managed to conduct an interview with her and the clinical pharmacist. The assistant practice manager asked me to come back again on Thursday as the practice manager should be around. Therefore, I went back the third time to interview the practice manager and the GP.

This was the more 'challenging' practice in terms of access. Therefore, a lot of effort was put in to create connections and familiarity with the participants before the interviews to ensure they did not feel uncomfortable. This was done on two levels: 1) a more personal level – I would remember some of the things they told me about themselves; and 2) I would talk about issues discussed in the meetings I attended, in order to demonstrate that I had some knowledge about their practice and 'remind' them of my trustworthiness. As a result of this, the participants were positive about my 'unexpected' visits and willing to meet my demand (i.e. took part in the interviews).

Similarly, when I visited Practice 2, the practice manager seemed surprised I was there initially, but then quickly apologised that she was not able to respond or arrange the interviews. She was also able to juggle, prioritise and arrange some ad

hoc interviews on the day. Interviews with the GPs were usually conducted during their lunch breaks when they finished their session.

4.16 Discussion

This chapter has demonstrated the complexity of conducting focused ethnography in the general practice setting. Despite a lot of careful strategic planning, I faced the common challenge of recruitment and had to subsequently change the way in which I approached the research. Reflexivity throughout the process was important in ensuring good practice in the conduct of the research. My initial approach was to be as accommodating and flexible as possible with the practices. This worked to some extent, especially when there was good engagement during the earlier phase. However, during the later stage there were challenges related to the retention of the sites with respect to study engagement, and prolonged engagement was difficult to achieve in general practice. It appeared that some practices were so busy that it was impossible for them to plan ahead. Many interviews were conducted ad hoc, especially those with GPs. Given that my PhD study was about patient access, I thought I should reflect on my own access to these GP practices, as a researcher. I realised I was competing for the same resources as many others, for instance, when I rang the practice I was competing for the same resources with the patients who wanted to speak to the receptionists. When I conducted the interviews with GPs, I was taking away their time in which they could have had spent on administrative work.

During the later stage, as it was difficult to get in touch with the practices, I decided to ‘drop by the practice’ in order to get the interviews done. This method only worked due to two main reasons: 1) carrying out repeated observations helped create

familiarity and relationships with the participants; and 2) my unexpected visit to the practice created a sense of urgency and I presented my work as a priority.

I felt when I was in the field I did not find it too difficult to engage or build rapport with participants, or to understand people's perspectives and situations. I learnt to manage people's expectations/needs, as well as mine, and to not lose sight of my own priorities and needs in order to achieve my goals. There were issues and situations that were not anticipated and known; patience, perseverance and flexibility were vital and last-minute adjustments were made.

5 Findings part 1: Characteristics of study practices and their CCGs

5.1 Chapter overview

Before presenting the analyses of the individual interventions, it is crucial to describe the setting in which these three GP practices were situated.

This chapter provides information related to the Clinical Commissioning Groups (CCG), which the study practices were part of. Information about CCGs is described in Box 1. The characteristics of the three participating GP practices e.g. setting, physical layout, team structure, roles and relationships/ communication are also presented in order to help facilitate the readers' interpretation of the subsequent data presented.

Most of the data in this section came from observational field notes and informal interviews. Other sources of information were also used for two main purposes: 1) to provide a richer contextual description and/or 2) to cross-check some of the data collected from observations and informal interviews. They included the following:

- Practice and CCG websites, for general information about the practice/ CCG (e.g. structure, missions and priorities), meeting minutes (e.g. patient participation group meetings, public / private CCG meetings), relevant reports (e.g. financial and performance reports);
- GP networks website, for information about their roles and how they function;
- NHS Digital database (previously known as Health and Social Care Information Centre or HSCIC) (NHS Digital, 2017), which provides 1) quarterly information about the number of registered patients at each practice, as a rough indication of the level of demand and 2) QOF performance for each practice;

5.2 Overview of the study practices and their CCGs

The characteristics of all three GP practices and their CCGs are highly diverse; from patient list and demographics to team composition, IT system, and performance.

Table 10: Comparison between different study practices

	Practice 1	**Practice 2**	**Practice 3**
Setting	London inner city	London suburban	Non-London suburban on two sites
CCG	1	1	2
Overall CCG performance	Inadequate	Inadequate	Good
Part of GP network/ federation	Yes (Network A)	Yes (Network B)	Yes
Patients -Number -Any change in size (trend)	 5,311 Rapid increase	 7,348 Transient – high turnover of patients (but total number stable)	 11,755 Total number stable
-Deprivation	Deprived	Affluent	Site A = affluent; site B = deprived
-Population	Ethnically diverse (Predominantly Turkish)	Large older population Historically largely Caucasian (British), has become more diverse	Site A = larger older population; site B = younger population Mostly Caucasian
-Four most prevalent health conditions	Hypertension (19.4%), depression (7.9%), diabetes mellitus (7.0%) and asthma (5.6%)	Hypertension (12.7%), asthma (5.6%), diabetes mellitus (5.3%), and chronic kidney disease (3.7%)	Hypertension (16.5%), asthma (6.2%), depression (6.2%) and diabetes mellitus (5.2%)
Team composition Total N	 18	 18	 24
GP	4 (2 P/T salaried, 1 P/T trainee, 1 locum)	5 GP (3 partners - 1 F/T; 2 P/T; 2 salaried - 1 F/T; 1 P/T)	7 (5 GP partners: 3 F/T and 2 P/T; 1 P/T salaried and 1 F/T trainee)
Nurse	2 (1 nurse practitioner)	2 (1 nurse practitioner)	4 (1 F/T and 3 P/T; one of whom was a nurse practitioner)
Practice manager	1 P/T		1 F/T (plus 2 deputy managers)
Reception	4 P/T (1 assistant practice manager)	1 F/T 8 (2 F/T & 6 P/T) & 1 reception manager	15
Others	1 P/T clinical pharmacist, 2 x		

	health care assistants	Health care assistant	
Staff turnover in past 5 yrs	15	8 admin staff 4 doctors	5 doctors; some reception staff retired
Teaching practice	Yes	No	Yes
Relationship & communication	Open communication between clinical and non-clinical staff	Practice manager as key communication person; Communication via Daybook on Vision.	Good communication among reception team and clinical team
Informal/ formal interactions Informal communal space Formal interactions Formal meetings	 Back administrative office Meeting room Staff meetings; management meetings; clinical meetings; PPG meetings	 Kitchen Kitchen GP meetings; reception meetings; PPG meetings; business meetings	 -- Site A, waiting room; site B, practice manager's office Staff meetings; clinical meetings; business meetings; PPG meetings; pharmacy meetings
IT system	EMIS	VisionOnline	SystmOne
QOF performance (2014/15)	461.59/ 559 QOF points (82.6%)	556/ 559 QOF points (99.5%)	553.02/559 QOF points (98.9%)
Total NHS payment 2014/15	Data not available*	~£937,000	£1,380,000

**No information available due to the recent move to new premises*

Information about the CCGs and individual practices are described in further detail in this chapter.

5.3 CCG 1

The section describes the characteristics of the practice's CCG, with regards to its population, organisation and structure, key priorities and any information related to improving access. The information presented is mainly derived from the documentation gathered from the CCG, discussions with the three participating practices and observations of CCG public meetings.

5.3.1 CCG population

Both Practice 1 and 2 were member practices within CCG 1. CCG 1 has an estimated population of 326,700. Over 60% of its population came from ethnic minority backgrounds with over 100 languages were spoken in the borough. 32.8% of children under 16 years lived in poverty (6th most deprived borough in London). There was health inequality in the borough; men lived 8.7 years less and women lived 8.6 years less in areas of high levels of deprivation. Greater London Authority data showed the borough was expected to see a 5% increase in population over the next 8 years, between 2015 and 2023.

A meeting was held in October 2015 to discuss issues related to patient access in the area. Reports presented at the meeting described key challenges for GP services in the borough which included population growth and access to appointments. The borough had a slightly lower than average GP Full Time Equivalent (FTE) per 1000 patients, with an average practice list per GP of approximately 1800.

5.3.2 Organisation and systems

5.3.2.1 Structure and communication within the CCG

As already mentioned earlier, CCG 1 was made up of 4 locality groups, with a total of 49 member practices. Practice 1 was part of locality A (a total of 13 member practices) and Practice 2, part of locality B (a total of 10 member practices). In addition to having formal locality meetings with its practices, CCG/ locality manager visited individual practices and discussed performance as well as ways of improving their service.

There were two GP networks in the CCG. Within the CCG's primary care strategy, one of their objectives was to maximise collaborative working across practices within the network arrangements and this could be achieved by piloting, evaluating and implementing new ways of working to address demand for GP services. This included the use of technology to improve efficiencies and better information for patients to manage expectations. During the period of observation, the CCG was looking to integrate the two networks and form one single federation to facilitate better working.

5.3.2.2 Primary care joint co-commissioning structure and priorities

Following the NHS Five Year Forward View (NHS England, 2014b) to deliver a new deal for primary care and propose GP-led CCG to expand their role in primary care commissioning (as of April 2015), a Primary Care Joint Commissioning Committee was formed and made up of representatives from 5 different CCGs, one of which was CCG 1. The CCG committee worked with the NHSE to jointly commission primary medical services for the people of CCG 1, i.e. Level 2 co-commissioning. Purposes of co-commissioning and different models are briefly explained below:

Co-commissioning for primary care is defined as the increased involvement of CCGs in commissioning, management, procurement and monitoring of primary medical services (PMS) contracts (NHS England, 2017d). There are three co-commissioning delegation models: Level 1: where CCGs have greater involvement in primary care decision-making and the statutory decision making responsibilities remain with NHSE; Level 2: where the CCG(s) involve in decision-making with NHSE in a joint committee and Level 3: the CCG has full responsibility for commissioning local GP services and NHSE oversees the CCG committee and has

legal liability for primary medical commissioning performance (NHS England, 2017c).

Towards the end of the observational period, there were discussions about moving to Level 3 which would “allow greater flexibility and local decision making”.

> Later this year, the CCG would send an expression of interest to NHSE and plan to start level 3 delegated commissioning from April 2017.
>
> (Field notes, joint co-commissioning meeting)

One of the roles of the joint committee was to design and develop enhanced services and local incentives schemes (as an alternative to the QOF) that were aligned with CCG’s strategic intentions. Some of the local improvement schemes would be short term and focused on payment incentives in order to improve the quality of services or outcomes for patient registered at the GP member practices.

Co-commissioning meetings were held in public every quarterly (3 months). There had been a total of four co-commissioning meetings during the time of field work, since November 2015. A typical primary care joint commissioning meetings involved reviewing the quality and performance report. There were certain reporting requirements, one of which was to report patient satisfaction data from the GP Patient Survey, Friends and Family Tests, QOF Performance, CQC practice inspections at the CCG level, and not individual practice level.

An illustrative diagram has been drawn to show where the two participating practices sit within the CCG and the wider operation of the CCG (Figure 10).

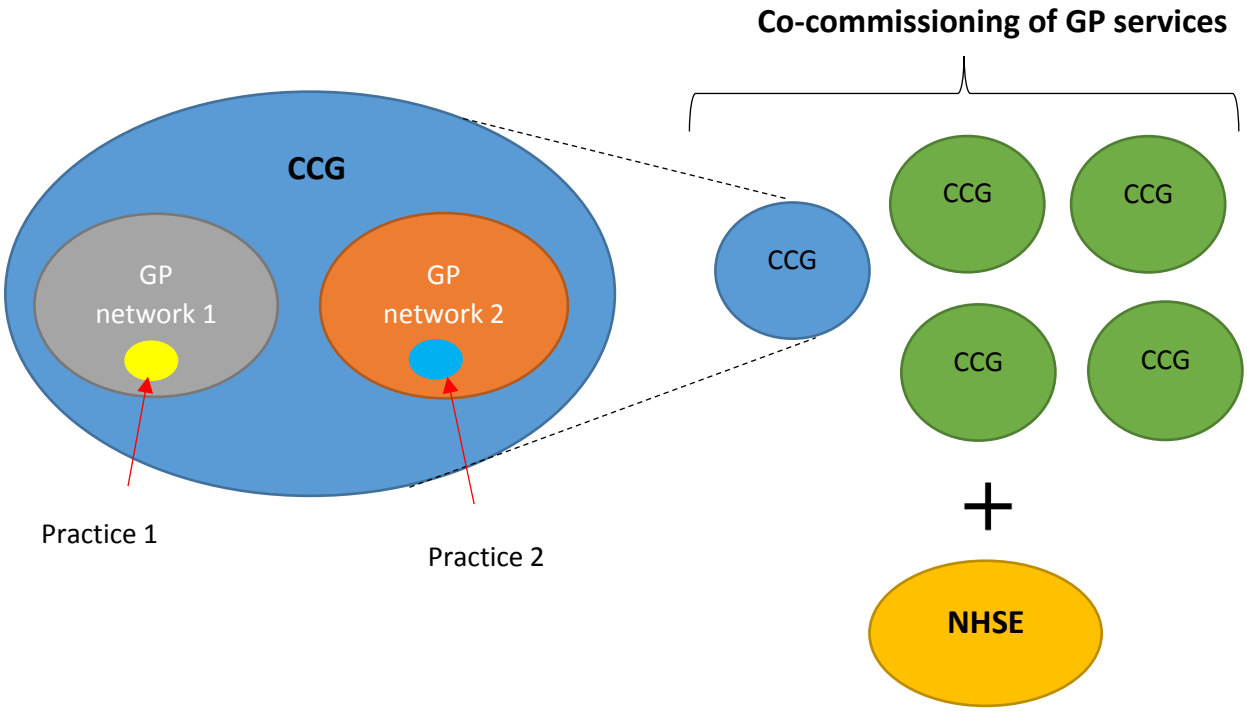


Figure 10: Diagram illustrating the structure of CCG1

5.4 Practice 1 "London Inner City Practice"

5.4.1 The setting

Practice 1 was a London-based inner city practice and a member of a GP network (network 1) in CCG 1. It was located on the ground floor of a newly constructed purpose-built community centre (beside the main road), which was a shared service centre incorporating a GP practice, a community dental practice, community library and community hall. The practice moved to the new premises in January 2015 and came under the management of a GP-led limited company. All of their staff were employed directly by this organisation.

5.4.2 Layout

The front reception and waiting area was completely open plan. It was well equipped with wheelchair access. The area was light, spacious and very clean. The room was not overwhelmed by the amount of leaflets on the wall, unlike the other two practices. There was a white board on the wall behind the reception area showing the GP and nurse rota. For example on 7 September 2015, there were three doctors and one nurse practitioner on duty. Patients checked in with the receptionist and they were called for their appointment via a large electronic display screen. Towards the end of data collection, they placed a self-service check-in kiosk opposite the front reception. However, it was not visible when the patients first walked in, so it was not used. Instead, patients went directly to the front reception and checked in with the receptionist. There was also a blood pressure monitoring machine in the waiting area. The below figure presents the waiting room and reception area of the practice.

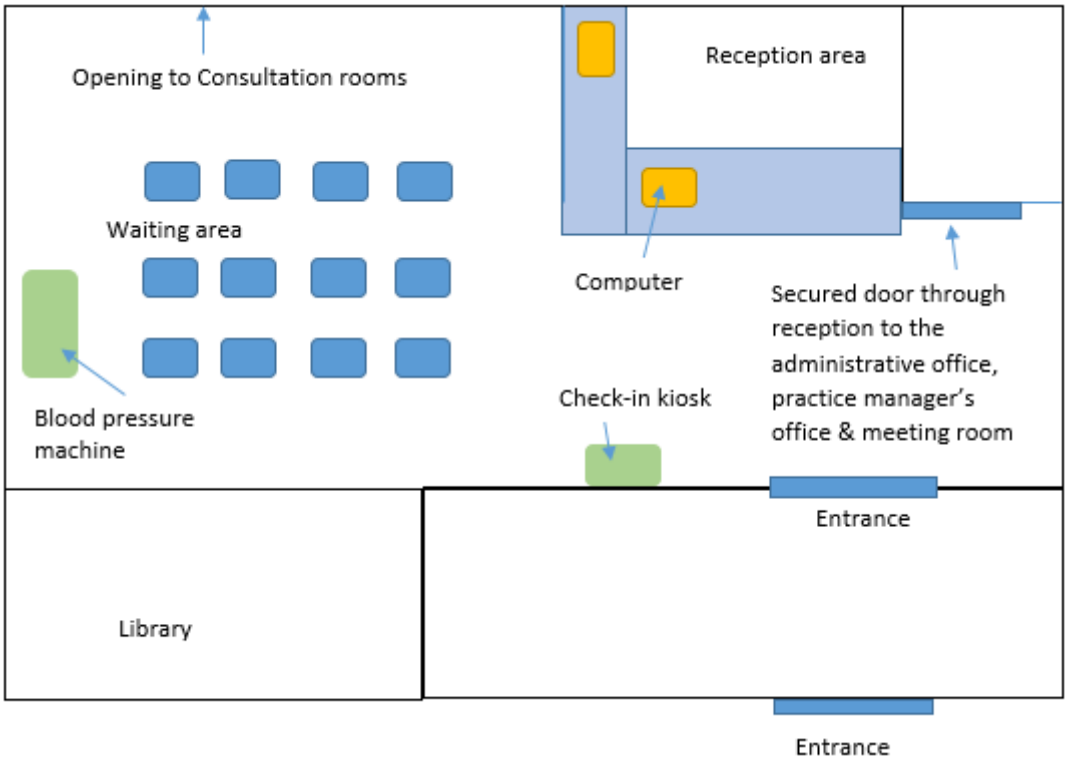


Figure 11: Illustrative diagram of waiting room and reception area of Practice 1 (not to scale)

The practice had five consultation rooms and a counselling room. There was a large back administrative office, with four computers, two printers, and four telephones arranged along the worktop on both sides of the room. Like the reception area, the room was in a good order and very tidy. There were usually at least two members of staff working in the room at any one time, mainly processing prescription requests and referrals.

5.4.3 Space of interactions/ communications

There was no coffee room as such in the practice. The kitchen was a small area at the end of the corridor; there was no communal space for staff. Hence, the back administration office (Figure 12) was an important part of this practice's

communication. This space also served as a communal hub where everyone including doctors and nurses came to have a “chat” or had their lunch. The back room provided the GPs with an opportunity to have informal catch-up with the nurses, practice manager and the practice pharmacist. Communication between staff is important and the back administration office was an important space for communication.

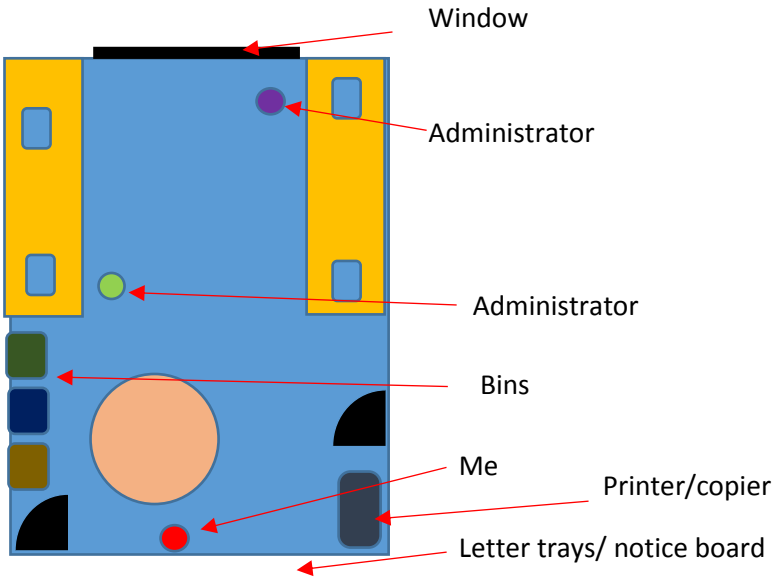


Figure 12: Illustrative diagram of the back administration office (not to scale)

5.4.4 Total number of registered patients (January 2015-April 2016)

Between January 2015 and April 2016, there was a rapid rise in the total number of registered patients in Practice 1. In April 2016, the total number of registered patients at this practice was 6,137, of which 47.3% were male. As described in the methods chapter, there are a number of issues to consider when interpreting these data. This number represents the total number of registered patients, which means it does not indicate how many existing patients left the practice and how many joined.

Nevertheless, for this practice, there is no doubt the patient list was increasing rapidly – with a consistent increase of approximately 400-550 patients every quarter.

Table 11: Total number of registered patients in Practice 1 (January 2015-2016)

N (%)	Jan-15*	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16
Total N	Not provided	4283 (100%)	4838 (100%)	5311 (100%)	5735 (100%)	6137 (100%)
Male	Not provided	2104 (49.1%)	2317 (47.9%)	2519 (47.4%)	2718 (47.4%)	2904 (47.3%)
Female	Not provided	2179 (50.9%)	2521 (52.1%)	2792 (52.65)	3017 (52.6%)	3233 (52.7%)

**No data provided for January 2015 due to the move.*

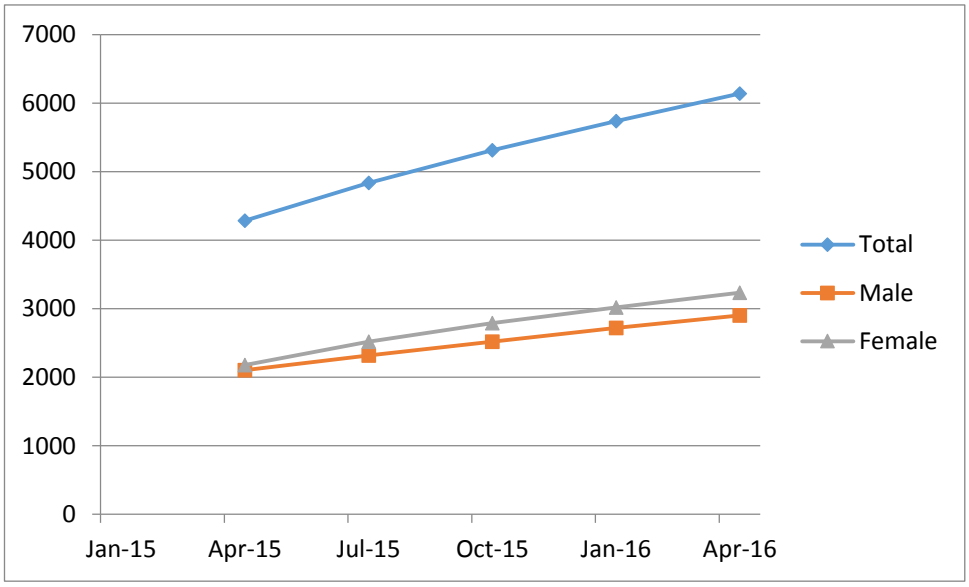


Figure 13: Graph showing the number of registered patients in Practice 1, total and by sex between January 2015 and April 2016

5.5 Practice 2 “London Suburban Practice”

5.5.1 The setting

Practice 2 was a well-established city suburban (London-based) practice, and a member of a GP network (GP network 2) in CCG 1. It was located in an old two storey purpose built building, about 15 minute walk from the nearest underground station and situated not far from the main road, within a residential area.

5.5.2 Layout

The front reception and waiting area was open plan. The overall space of this practice, compared to practice 1 and 3, was small. There were plenty of information leaflets and posters on all the walls, as well as on the main door outside the surgery. Similar to Practice 1, patients checked in with the receptionist as they entered the practice and they were called for their appointment via the display screen in the waiting room. There was also a blood pressure monitoring machine in the waiting area. Behind the front reception desk, there were document or letter trays allocated to individual GPs and nurses. On the reception desk, there was a pile of printed Friends and Family Test (FFT) forms (FFT is a feedback tool for patients to provide feedback on their experience of the service), a box for putting completed forms in, a visitor log book and a prescription box for dropping in prescription slips. As shown in Figure 14, the reception area was divided into two parts: the front reception desk to the left and a private reception area to the right, with a partitioned plastered wall to separate the two. This private reception area was designed and constructed in response to patients’ feedback regarding confidentiality and privacy. This area was relatively dark and not visible to patients.

Observations revealed that when the reception manager was working in the private reception area, some patients who were familiar with the reception manager

sometimes came to voice their feelings and concerns about their health problems and have a chat about their personal life whilst waiting for their appointment. This clearly demonstrated the reception manager was popular amongst some patients and there was a positive and trusting relationship between them. She was described as “the front of house” and all the patients “go to her”, revealed by later observations. However, the importance of space was also highlighted here. This ‘private area’ allowed patients to open up their concerns. Furthermore, this space allowed the reception manager to oversee the front reception by listening in all the conversations between the receptionist and the patients; in the meantime, she could carry out her tasks without getting disturbed. She could offer help and/or take over if deemed necessary. For instance, on one occasion a patient wanted the doctor to sign his form and provide him with a sick certificate and the reception manager had to interrupt and negotiate with him.

Most of the telephone calls were taken upstairs in the ‘telephone room’. Documents showed reception telephones had been relocated to the first floor to provide a calmer environment and create a greater level of confidentiality for patients downstairs. Observations and informal interview with the practice manager further revealed that this practice faced a particularly high demand compared to the other two practices, in terms of the volume of incoming telephone calls. The atmosphere in the telephone room was tense and hectic, with occasional interruptions by the practice manager and sometimes the doctors.

There were always two receptionists working at the main front reception desk at any one time, mainly dealing with patients face-to-face. There was a separate telephone room in the upstairs office, again, with two receptionists working in the room at any one time. The room was dark with the skylight blinds drawn all the time. There were two other offices on the same floor, one of which was the practice manager’s office. The practice manager shared her office with the QOF manager.

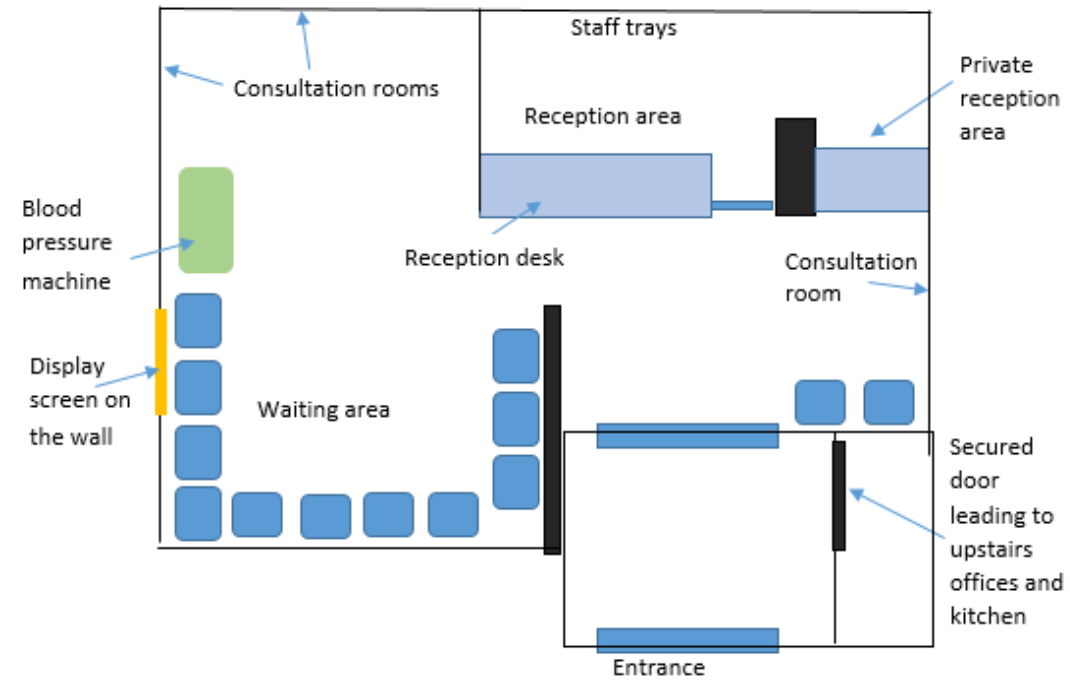


Figure 14: Illustrative diagram of waiting room and reception area of Practice 2 (not to scale)

5.5.3 Space of interactions/ communications

There was a large kitchen located on the first floor and it had multiple purposes. After some initial observations, it quickly became apparent that the kitchen was the communal area where a lot of the informal interactions took place, e.g. a GP talked to the practice manager about the medicine management meeting she attended and how their practice was performing in terms of prescribing, or chats about the Infection Control Audit. The kitchen was also used as storage space (i.e. filing cabinets, boxes), as well as a meeting room, there was a large table in the centre of the room.

5.5.4 Total number of registered patients (January 2015-April 2016)

As Figure 15 indicates, the total number of registered patients fluctuated slightly (i.e. slight decrease and increase) but remained relatively constant over the period between January 2015 and April 2016. In April 2016, the total number of registered patients was 7,441, of which 50.9% were female. Observations and informal interviews with the practice manager revealed the high turnover of patients in this practice (see Section 6.3.2).

Table 12: Total number of registered patients in Practice 2 (January 2015-2016)

N (%)	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16
Total N	7423 (100%)	7346 (100%)	7344 (100%)	7348 (100%)	7432 (100%)	7441 (100%)
Male	3628 (48.9%)	3580 (48.7%)	3584 (48.8%)	3593 (48.9%)	3646 (49.1%)	3652 (49.1%)
Female	3795 (51.1%)	3766 (51.3%)	3760 (51.2%)	3755 (51.1%)	3786 (50.9%)	3789 (50.9%)

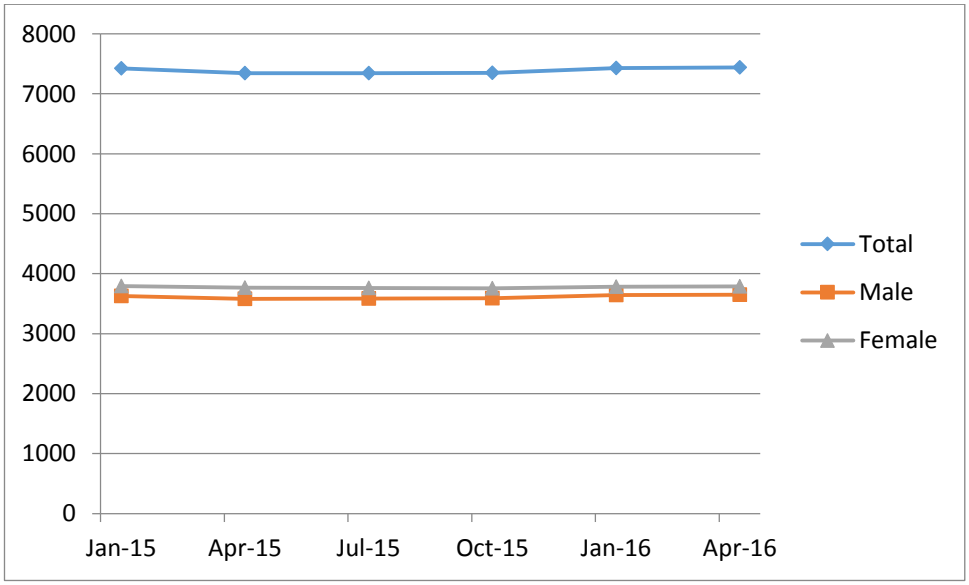


Figure 15: Graph showing the number of registered patients in Practice 2, total and by sex between January 2015 and April 2016

5.6 CCG 2

5.6.1 CCG population

CCG 2 had an approximate population of 580,000. The population was growing and also ageing, with the number of people aged 65 and over predicted to increase by 75% by 2035. For people aged 60-74, the largest proportion is likely to be in the locality in which Practice 3 is part of. The population was predominantly White British (over 80%) although there was indication of an increase of minority ethnic groups. Age-related conditions such as dementia will pose an increasing challenge to the health system over the coming years. The people of CCG 2 were generally comparatively prosperous and levels of deprivation were low. Overall, it ranked in the lowest 20% of deprived areas nationally. There are differences between the most affluent and most deprived areas. Cancer, heart disease and stroke, lung disease and liver disease are the main causes of premature deaths. Dementia and Alzheimer's disease are increasingly becoming a major cause.

5.6.2 Organisation and systems

5.6.2.1 Structure and communication within the CCG

The CCG is made up of 6 different locality groups, with a total of 60 member practices. Practice 3 is one of the 12 members within one of the locality groups. Each locality group has an allocated budget and meets monthly or every 2 months. The locality meetings tended to focus on topics and operational/ technical issues specific to individual practices, e.g. practice targets, GP education, local commissioning, integrated programmes. Two representatives from each practice attended these locality meetings, usually one GP and the practice manager. In

addition to these locality meetings, there were also practice manager meetings and target meetings. These meetings were not open to the public.

CCG governing body meetings were high level meetings, where wider NHS issues were discussed (including secondary care commissioning, CCG level financial positions, CCG level performance, etc.). In these governing body meetings, minutes of other meetings such as locality group meetings and co-commissioning meetings were circulated and specific issues arose during such meetings were discussed.

In addition, there were six locality patient commissioning groups, where membership consisted of patient and carer representatives from each of the Patient Participation Groups. A patient and a GP champion co-chair the locality patient commissioning meetings, along with practices managers. The patient co-chair also participates the GP locality meetings. The CCG became a 'Vanguard' site for the new NHS care models programme with an aim to support integration of health services.

The locality in which Practice 3 is part of, is also a GP federation. The federation provides opportunities to share resources and best practice, and to work in partnership (informal working relationship) to deliver a range of services to its patients. It also provides educational sessions for clinicians and non-clinicians.

5.6.2.2 Primary care joint co-commissioning structure and priorities

Like CCG 1, CCG 2 also worked with the NHSE to jointly commission primary medical services for the people of CCG, i.e. Level 2 co-commissioning (NHS England, 2017d). Co-commissioning meetings were held in public every 4-5 months. Information presented and issues discussed varied from meeting to meeting. However, every meeting usually involved reviewing the quality report which included patient satisfaction data from the GP Patient Survey and Friends and Family Tests at *both* CCG and individual practice level, along with CQC practice inspection

reports. Other common issues discussed included updates on premises, PMS procurement update. Quality reports were generated in each locality, also known as locality information packs. There were discussions around how data should be used and presented.

An illustrative diagram has been drawn to indicate where Practice 3 sit within the CCG and the wider operation of the CCG.

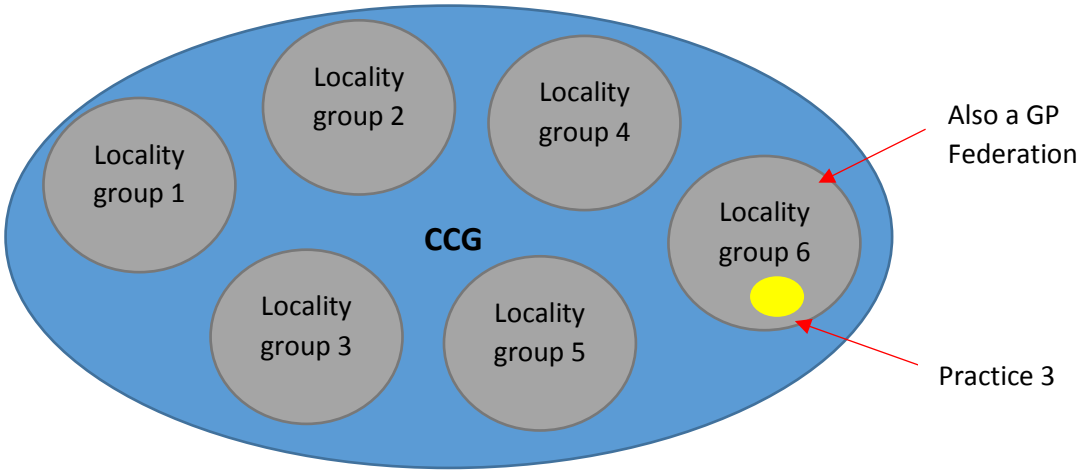


Figure 16: Diagram illustrating the structure of CCG2

5.7 Practice 3 "Non-London Suburban Practice"

5.7.1 The setting

Practice 3 was an old suburban practice, and part of CCG 2. The practice had two sites in different geographical locations – site A was located 5-7 minute walk from the railway station, off the high street where the shops and restaurants were; site B was in a more rural area, 20 minute drive from the railway station and located in a residential area.

5.7.2 Layout

In site A, there was an enclosed waiting room separate from the front reception. The reception area had floor-to-ceiling wooden shelves at the back and side of the room, filled with patient medical records. Opposite the reception area across the corridor, there were stairs leading to the first floor, where there were three additional offices, one of which was the clinical administration team office. During the period of observation, the practice introduced a self-service check-in kiosk in the corridor by the entrance, where patients entered the building and checked in using with machine, instead of speaking to the receptionists. This machine minimised the direct interaction between patients and receptionists. Unlike Practice 1, some patients in this practice used the machine, both younger and older patients. After checking in, the patients went into the waiting room where there were ample information leaflets on the walls all around the room. There was a moderate sized round side table by the door, with more leaflets and questionnaires such as the Friends and Family Test. There was a display screen in the waiting room, which acted as a visual communication tool to inform the patients that the doctor or nurse was ready to see them in his/her consultation room. This room was often used for staff meetings around lunch time and patient participant group meetings. When patients were speaking at the reception counter on arrival, they could also see the administrative area of the practice, where receptionists were handling paper work. However, patients usually did not spend much time there; they went into the waiting room next door and waited to be called to go to see the doctor.

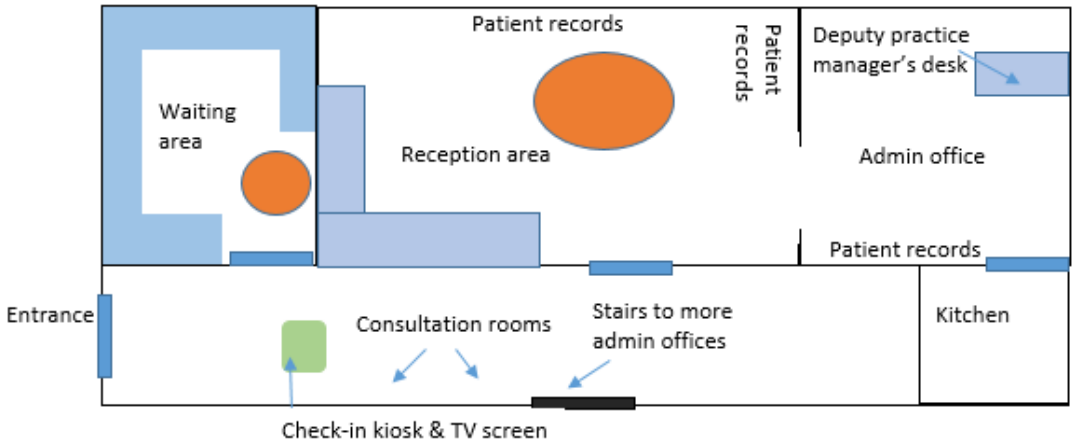


Figure 17: Illustrative diagram of waiting room and reception area of Practice 3A (not to scale)

In site B, the waiting room was open plan. Similar to site A, there was a TV screen, an older model of the blood pressure monitoring machine, lots of information leaflets on various topics around the room, and a round side table in the corner. There was a cupboard, in a way acted as a semi-partition, separating the waiting area from the corridor and reception. I sat near there once (indicated in the below figure) while writing up my notes from a meeting and I noticed that is where they placed the visitor log book and other questionnaires, including those developed by the practice (or patient group) to find out more about the needs of its patients. However I noticed the questionnaires were hidden, and put underneath the visitor log book and the patients wouldn't have noticed they were there. At my next visit, the questionnaires were visible. At the end of the corridor to the left, it was the business manager's office. This was also the room where the clinical meetings and pharmacy meetings were held.

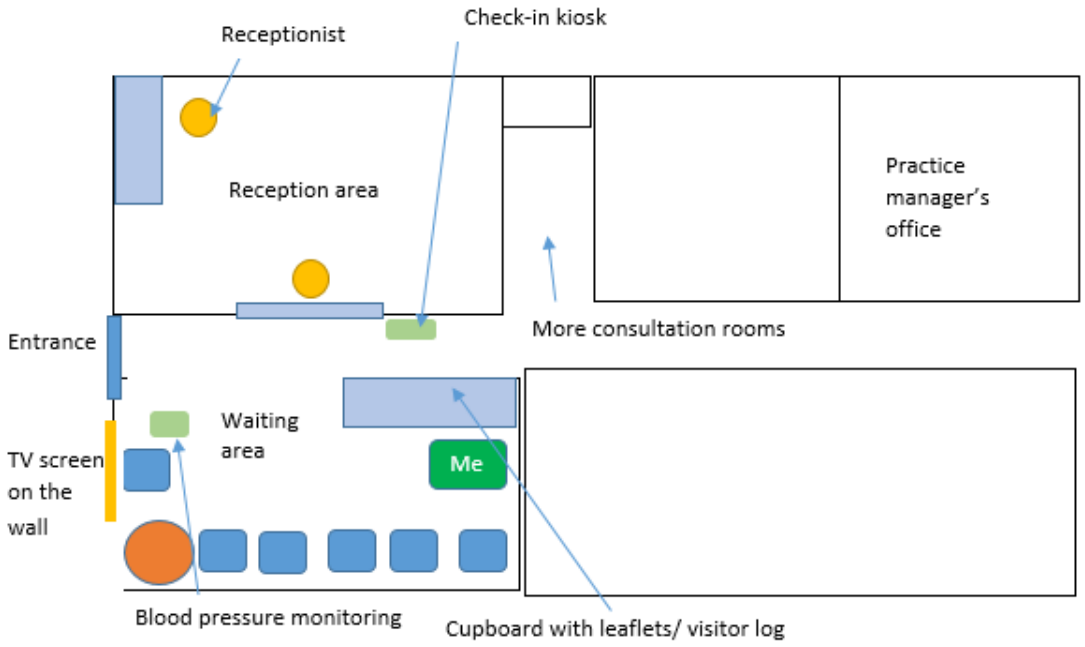


Figure 18: Illustrative diagram of waiting room and reception area of Practice 3B (not to scale)

5.7.3 Space of interactions/ communications

5.7.4 Total number of registered patients (January 2015-April 2016)

As Figure 19 indicates, the total number of registered patients increased very slightly over the period between January 2015 and April 2016. In April 2016, the total number of registered patients was 11,878, of which 49.0% were male.

Table 13: Total number of registered patients in Practice 3 (January 2015-2016)

N (%)	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16
Total N	11650 (100%)	11653 (100%)	11671 (100%)	11755 (100%)	11833 (100%)	11878 (100%)
Male	5718 (49.1%)	5716 (49.1%)	5718 (49.0%)	5750 (48.9%)	5798 (49.0%)	5821 (49.0%)
Female	5932 (50.9%)	5937 (50.9%)	5953 (51.0%)	6005 (51.1%)	6035 (51.0%)	6057 (51.0%)

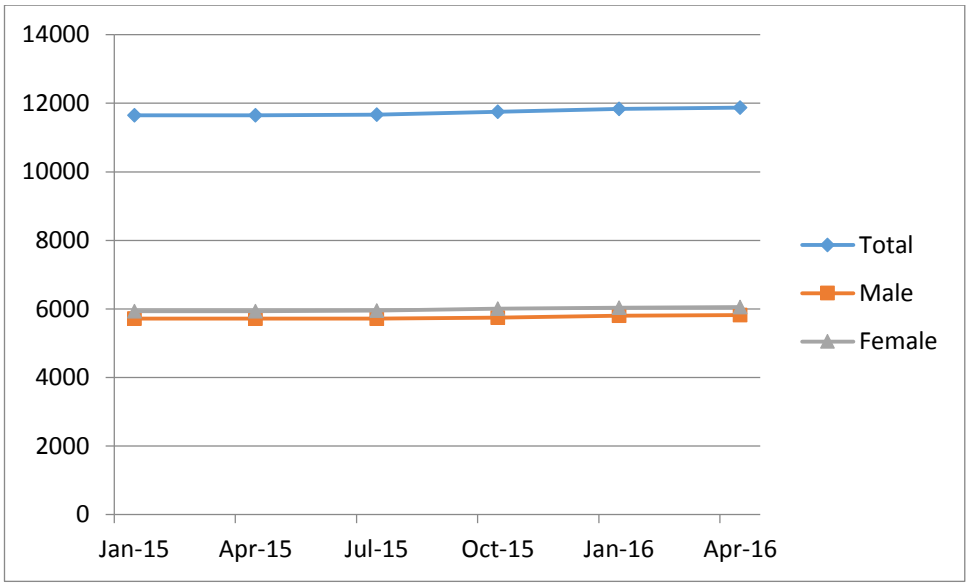


Figure 19: Graph showing the number of registered patients in Practice 3, total and by sex between January 2015 and April 2016

6 Findings part 2: Challenges in General Practice and Staff Perceptions of 'Access'

6.1 Chapter overview

This chapter describes information related to staff's experience of working in general practice, and their views and perceptions around patient access, for example what access means to them, what drives access, and challenges of improving access. This chapter serves as background and sets the scene by providing contextual insights into the problem. It is important to keep these contextual insights in mind when interpreting the study findings in Chapters 7 and 8.

6.2 Challenges in general practice

> *"The workload is increasing, but the, kind of, the resources are the same resources, or less. Less. So, with the increased demand, increased demand from the NHS or from the CCG, it's difficult to, kind of, meet that demand with these resources. So, it's a problem."*

The challenge faced by general practice is a common topic of debate within the NHS and amongst politicians, discussed in numerous policy reports and national surveys (British Medical Association, 2015; Nuffield Trust, 2014; Baird et al., 2016; Royal College of General Practitioners, 2015b). My data suggested that there were various sources of demands and pressures externally and internally. The following key challenges were identified through observing and speaking to clinical and non-clinical staff:

- Pace of change;
- Funding challenges;
- Wider infrastructure changes;
- Staff workload;

- Workforce challenges;
- Demand from patients.

6.2.1 Pace of change

All staff recognised the pace of change within general practice. Their views and attitudes towards these rapid changes were mixed. Some staff expected change as part of their job presenting change as the norm in the NHS.

> *"It's just expected with the job. You've just sort of go along with it." (Interview with lead administrator, Practice 1)*
>
> *"Because that's what happens in the NHS. It's not as though you're having a totally stable, you know, this is what we've done for the last five years and this whirlwind comes in and everything changes. Every day things are changing. So it's just the norm. And so people, fundamentally, their whole mind-set is just expecting it." (Interview with practice manager, Practice 3)*

However some staff felt that the pace of change was too rapid. For example, one felt that external changes to the NHS structures "*has been forced quite quickly*" and the "*time scales*" given to implement the changes had made it "*very hard*" for them to implement sometimes.

> *"[Laughs] I mean, obviously, every year we are, kind of, dictated or bombarded with, kind of, changes coming from the CCG and from NHS England." (Interview with GP partner, Practice 2)*
>
> *"I think since the collapse of the PCTs, there has been far too many changes too quickly to a point of where the left hand doesn't know what the right hand's doing." (Interview with practice manager, Practice 2)*

Changes in the NHS were perceived as something that were "*completely political*", often with no "*real justification in what they say or do sometimes*". Some staff found

these changes "*frustrating*" and felt they are sometimes "*struggling to meet the changes or meet the demand from the NHS or CCG*".

> 'It's frustrating on occasion. Because sometimes you might be doing one thing one way for so long and then all of a sudden no, you can't. It does change the way things go.' (Field notes from speaking to assistant manager, Practice 1)

> *"I think, to some extent, there's some fatigue amongst some practices about change, because, you know, a government's come along, and a new government comes along and comes up with new ideas." (Interview with primary care commissioning/ access expert)*

6.2.2 Funding challenges

As mentioned in Section 1.6, the funding for primary care and general practice has decreased during this period. This finding was also found in my interview data with study participants.

Changes in the wider financial structures such as the national funding mechanism (i.e. retirement of QOF and introduction of Key Performance Indicators (KPIs) and a gradual reduction in local funding were found to significantly impact on individual practices. One-to-one observation sessions and informal conversations with practice manager revealed that 'QOF is a large chunk of income for any practice'; there were plans to "*retire*" some of the QOFs which will then become part of the core GP contract. This means while the core contract funding will only increase slightly they 'still need to record the data and do the work' and 'recording data takes time'.

> *"In the past we used to have QOF points now they removing QOF points and, kind of, bringing in KPIs. That's changing every year, almost every year." (Interview with GP partner, Practice 2)*

> *"There's no doubt that the resourcing in general practice has contributed to that, I think, over the last few years that there's been a period of relatively*

low contract value growth which is a contract value which obviously funds the service which is at each individual practice level." (Interview with primary care commissioning expert)

At the public governing body meetings of both CCGs, there were concerns about whether all the money saved will be re-invested back into general practice. A similar view was found among staff in the three GP practices.

"Any money that's allocated to GP gets swallowed up by the hospital because the hospitals sort of come first in the pecking order." (Interview with GP Partner, Practice 3)

Another challenge was the financial position of the CCG which these practices were part of. Observations of CCG public meetings revealed CCG 1 (Practice 1 and 2 were its member practices) was particularly "*financially challenged*" and faced "*accumulated [historic] deficit*" over the years. Priority was placed towards the development of a financial recovery plan which includes transformation of services and efficiency savings through medicine management and monitoring the prescribing budgets. Relatively less focus had been allocated for improving access.

"I think it's mainly financial challenges, the squeeze, you do feel like you're being squeezed and it's hard to [pause] manage that whilst, you know, ensuring that, you know, you're providing quality to the patient and you're not affecting their quality." (Interview with Clinical pharmacist, Practice 1)

6.2.3 Effects of wider infrastructure changes

Following the Health and Social Care Act 2012, there had been rapid reorganisation throughout the NHS. There were constant changes in the wider structures i.e. NHS England and CCG. "*The CCG structure is constantly changing. They don't even*

know who does what, let alone us!" The effects of these wider changes trickled down from the NHSE to the CCG, to the individual GP practices. Below illustrates some small examples of how wider changes can have a direct and/or cumulative impact on all three practices.

Technical issues and temporary down-time of the referral system were perceived to *"impact greatly"* on the operation of practice activities.

> *"Last week for example, NHS Mail which we use now to send referrals, and quite a lot of communication to hospitals, and two week referrals for cancers, was down for three days because they were doing an upgrade or something. No one could tell you what was going on. […] The only thing you could find on the website was, NHS Mail is not working, we do not have a time scale for its resolution. That's all the information you got. So we couldn't send referrals. Stuff like this. No one cared." (Interview with Practice manager, Practice 2)*

Communication with external agencies was perceived to be poor due to the constant change, for example changes in staffing or a change in telephone number. This again had a great impact on the operation of practice activities:

> *P1001 An example is that the [local] Referral Service changed their telephone number, and nobody was informed. So all of our referrals were being faxed as normal, and they were all coming back as rejected. And when we were calling them, their phone was completely busy all the time, we couldn't get through. So it's the escalation process for the staff. If I'm not here, the… What do you call those? You know the charts that show chief executive…*
>
> *They don't know who to contact. So I've given them the title of the person they need to speak to, because the people change constantly. You know, they try to contact them and they're not there, or it's an answering machine. So it's a really difficult situation. (Interview with practice manager, Practice 1)*

In Practice 3, a similar issue was found in relation to the administrative system for reimbursement:

> So you have to send one lot of claims off to one groups off to one group of people, and another lot of claims off to another group of people, another lot of claims off to another group of people. And another problem that we have is, I think, more in [name of CCG] or even, NHS England. There's like a large turnaround of staff, so when you send your claims, that person's email address is no longer live and you've sent your claim off, and then you get the reminders from them saying well why haven't you sent your claims. Well, we actually have. Ah, well that email address is no longer live. They don't tell you, or if they do tell you it's just a- it's then changing things once again. (One to one observation with Clinical administration manager, Practice 3)

6.2.4 Staff Workload and competing demands

There was a common perception that the staff workload had increased significantly. This increase in workload was perceived to come from different sources. A lot of care previously delivered by secondary care was perceived to be transferred primary care. GPs felt that they are required to "*deliver the out-of-hospital agenda*", which led to the additional burden on general practice.

> *"They're [NHS England] trying to offload hospital work to GPs. GPs don't have the time to do half the stuff they send. Like last week we had a consultant who said he felt that atrial fibrillation should be entirely dealt with by general practitioners, which I suppose on paper it could be. But when? [laughs] You know? You can see why he feels that's something that the hospital shouldn't deal with, but there'd be no extra funding for the tests and the time and the appointments it takes up to deal with it." (Interview with GP partner, Practice 3)*

> *"A lot of money goes to secondary care, but they move everything and more work in primary care." (Interview with Practice manager, Practice 2)*

An increase in *"paperwork*" was also thought to be a major source of demand. Staff reported the need to "*audit trail"* everything and that formed their "*evidence*". *"If it's not written down, it didn't happen"*.

> *"It has become a tick box exercise and there is so much paperwork, we should be doing the 'real work' and focus on the patient, as a whole person, to improve patient care. It was not like this many years ago. It has changed so much. We have all these work to do and by the end of March, it's the QOFs again." (Interview with Practice manager, Practice 2)*

The table shown below lists some examples of competing demands which took place in the study practices. These activities i.e. multiple interventions were implemented simultaneously in the same GP practices. Findings about multiple interventions are presented later in Chapter 9, Section 8.8.

Table 14: Examples of competing demands and activities took place in study practices

Reception work	Before the reception team meeting, I asked a receptionist who stood next to me 'how's your week been, busy?' She replied and said yes, especially prescriptions [before Christmas]. (Field notes, December 2015, Practice 3) Mondays are usually the worst [demand on telephone lines]. The practice manager will help and take some phone calls in the morning, so there are three of them. (Field notes, Practice 2)
QOF	'We have all these work to do and by the end of March, it's the QOFs again.' (Field notes, Practice manager, Practice 2) At the reception team meeting, the clinical admin manager mentioned the red outstanding alert for QOF and they need to start preparing for QOF. (Field notes, Practice 3, 2 Dec 2015) [Name of clinical admin manager] said "let me show you QOF. We work on QOF all year round but from January, we need to really work on them, so they will be ready for March. If you want a copy of any of these reports, let me know. The figures don't change anymore as we look 3 months ahead. Amber means we are working on it, green is ok. We are doing very well… look [pointing at the screen]. What I do, I run the reports when [name of business manager] asks me to, and then it goes to the doctors and they talked about what they could do. (Field notes from shadowing clinical admin manager, Practice 3)

Friends and Family test	I was watching the interactions between the receptionists and patients. I noticed the receptionists were 'pushing' Friends and Family test, by asking patients to complete the Friends and Family tests and put them into this wooden box after their consultations. (Field notes from observing behind front reception counter, Practice 2) There's no need to push the cards [Friends and Family test] when patients come in, as the text message service seems to be working very well. A report will need to be produced mid-month. (Field notes, Practice 3, 2 Dec 2015)

This problem of workload is constant and it was perceived to affect all levels of staff.

> *"… just the workload in itself has increased significantly. And it's just the time in the day to get it done just isn't there. So from that point of view, that is a big impact." (Interview with receptionist manager, Practice 2)*

During observation, I witnessed high levels of demand in Practice 2 and the stress faced by practice staff:

> [Name of receptionist] showed signs of stress and frustration. She turned to me and said today has been so stressful that she could smoke. Then she told me she never smoked and doesn't know how to hold a cigarette… then she said maybe a drink. [Name of reception manager] said if they [receptionists] are not answering calls, they'd be doing day book. These are tasks set by the doctors, things that need doing within the team. They also need to deal with work (practice) emails. (Field notes, telephone room, Practice 2)

This problem was perceived to affect GP partners particularly:

> *"It's busy all year round, because on paper you'd say, well summer would be nice and quiet, but it's not, because doctors go on holiday to have their breaks, it's just as busy in winter when everyone's there. It's as busy all year round." (Interview with GP partner, Practice 3)*

> *"This is a less problem for the salaried doctors or locum doctors, because they don't have the responsibility. They just come to their, kind of, daily routine, and then go home. But the partners or the principal has to take the*

responsibility of the workload. That's the problem." (Interview with GP partner, Practice 2)

Staff also thought that increasing access generates more work for staff.

"Majority of patients they see generates something for them to do. So, you know, it generates work. It's not all just coughs and colds." (Interview with practice manager, Practice 2)

"It's not just the access, there's also the background work that you've got to keep on top of. Because, yes, you're dealing with what's coming in from the patients but you've also got to deal with what's coming in from the hospital, social services and everything else." (Interview with practice manager, Practice 2)

6.2.5 Workforce challenges and low morale

Workforce is a national challenge across all GP practices in the UK (see Section 1.6). Staffing, not only GPs but nurses and non-clinical staff was found to be a significant issue across all three practices. At the time of observation (up to 9 months), one of the two salaried GPs left Practice 1 (he made lots of contributions to shape the services at clinical meeting); one GP, a specialist respiratory nurse and the reception manager who had worked in the practice for 15 years left Practice 2. Staff retention and recruitment was perceived to be a challenge. Morale was particularly low in practices 2 and 3.

Practice Manager: we wanted to recruit a GP and spent a lot of money advertising on the BMJ. The post offers possible partnership opportunities but so far only one showed interest… and back in the days, there would be [silence] [puts both her hands up indicating 10]. That's because no one wants to work as a GP anymore, it's too much work. (Field notes, Practice 2)

She [Practice Manager] went on to say 'I am planning an early retirement myself… [I look surprised] in two years' time. I can't keep on doing this. It's killing me. We get paid £X an hour, you can work in a supermarket for the same amount of money with no stress and responsibility. The workforce is going to collapse if this carries on. It's not just the GPs, it's us as well… and the receptionists. […] It's constantly breathing down my neck. I struggle to sleep [pause] you know, restless nights. It's too much.' (Field notes, Practice 2)

"There's just no concept that people... NHS England and the hospitals assume that general practitioners just shake it all out and they can't because the number of GPs is going down, not up, because they're all retiring. It's getting to a critical mass. My friend who's joining, their surgery is likely to collapse. […] I'll retire in 15 years' time, then I won't care. But then that's what GPs start to think is, you know, I'll just retire." (Interview with GP partner, Practice 2)

6.3 How access is perceived among staff

It is evident from numerous reports that there is a strong external drive to provide better access for patients (The Patients Association, 2017; Iacobucci, 2014; House of Commons, 2016). This agenda has also received a lot of political interest nationally (see Section 3.2.9). This plays a significant role in driving the implementation of interventions to deliver better access. Because all the chosen complex interventions under study shared the same goal of improving access, it is crucial to explore how access is perceived among staff in these three different practices.

6.3.1 External pressures

All three practices collectively acknowledged the demand to deliver better access. They understood that this demand to improve access is multifaceted, driven by a number of factors including the "*media*", political agenda and changes in public expectations.

> *"NHS England, government, CCGs. They're driving access …" (Interview with Practice manager, Practice 2)*

Some mentioned the increasing pressure from secondary care including hospitals and A&E. They felt the practice was being "*penalised*" for their patients going to A&E. In addition, a GP partner also described what happens when patients did not get seen by a doctor soon enough and the consequences related to liability.

> *"If they [patients] are unwell and something happens, it'll fall on the doctor's neck. So the doctor ends up seeing them. And if they get a complaint, the health authority and the area team and the LMC [local medical committee] will say, well why didn't you see them? So they can't use that as an excuse." (GP partner, Practice 3)*

"In this industry, you're dealing with people's lives and health so it's not something that you can dismiss and: Oh, we'll leave that another day. You've just got to try and deal with it..." (Receptionist, Practice 2)

6.3.2 Rising patient demand

In addition to top-down pressures, staff at all levels collectively felt there was a rising patient demand, "*the number of appointments has gone up and up*"; and increased patient expectations, "*people would like to come 24/7*".

"I think there is now, you know, a bigger push for people to be... You hear a lot of things about people complaining about appointments and things like that. And issues about getting urgent appointments. So I do think the patients expectations are changing over the years." (Interview with GP, Practice 1)

One GP thought that patients were given "*false*" information from other sources that *"they can have access to see their GP whenever they want, which is not correct*".

In all practices, they felt that they have more people to deal with, more diverse in terms of ethnicity. In Practice 1, they had a lot of patients where English is not their first language and this is major challenge to providing good access. Whereas in Practice 2, they had a big population (more than 500) of older patients over aged 75 years and transient patient population:

> You've got lots of people moving around, which again increases our workload because you're forever dealing with people joining the practice, dealing with people leaving the practice, dealing with people joining the practice. So that's increased our workload a hell of a lot. (Practice manager, Practice 2)

Practice 2 in particular was shown to be most demanding and this is illustrated in the below example:

> Today the waiting room was full. A male patient in his late 50s, left his seat and walked to the front reception. He asked the receptionist how much longer he had to wait for the doctor. He was not happy. [Name of receptionist] checked the appointment screen and said "Dr x. is running 45 minutes late and there is one more patient in front of you". The patient went "one more? Still?" and walked away. (Field notes, front reception, Practice 2)

6.3.3 Limited availability of appointments

She [Practice Manager] said 'the bottom line is… everything is subject to availability. They [NHS England and the government] keep talking about access, they need to understand… it's like cutting a cake. You can keep cutting thinner and thinner slices, but in the end there is nothing left. There is only certain number of hours per day. We can't do more unless we have more staff. Something has got to give otherwise.'

A challenge frequently raised by staff was the availability of appointments they were able to offer as a practice, and this is one of the key underlying issues to delivering better access.

> All the urgent (same day) appointments were gone for the day. They were all booked within 20-25 minutes [after they were released]. After this, every time a patient rang and asked to see the doctor, the reception staff had to repeatedly tell the patients all the urgent appointments were all booked, and they would advise them to go to the urgent care centre. 'There's no more appointments left for today. Call back tomorrow at 8am, or dial 111 after 6 or go to an urgent care centre.' (Field notes, telephone room Practice 2)

Both the decrease in funding and GP workforce challenge have a direct effect on patient access. "*They [NHS England] want to increase access, at the same time reducing the number of doctors.*" This issue related to staffing can affect access in two main ways: firstly *"if a practice can't recruit doctors, they're usually the ones that are most challenged with access to patients. If they're running a vacancy and they*

can't recruit, say, a part-time locum, they can offer less appointments. If there are less appointments then even if the opening hours were extended, you know, they haven't got slots to offer to patients".

> *"[…] the fact that there aren't enough doctors who want to be GPs. So the doctors that are left get overworked with paperwork and that makes less time for appointments […] which is why the waiting time gets worse and worse and so you get a vicious circle forming." (Interview with GP partner, Practice 3)*

Increasing access might have negative consequences around patient safety:

> *"A GP can't sit and see 50 patients in a morning, it's just not possible. You know they have to have a break, they've got to work safely, they've got to be able to… You know they can't keep rush, rush, rush, rush, rush." (Practice manager, Practice 2)*
>
> *"Because we are, kind of, human beings. We don't have, kind of, power to meet the endless demands." (GP partner, Practice 2)*

6.3.4 What are the important aspects of access?

Data from interviews with staff revealed the complex notion of access. When the participants were asked about what they believe is important to achieve in terms of access many talked about the availability of the practice regarding different services, for instance getting hold of *"medical care services"*, "*appointments, for emergencies, for prescriptions and for queries*", "*being able to talk to their doctor or nurse*" and "*advice*". Some mentioned physical access related to location, building and transport links, availability, timeliness of care, waiting time and actual use of services.

My data suggested that there were two key goals of improving access through implementing different interventions/ services; one was to help the practice to manage demand better (i.e. good for the practice). The other goal was to improve patient satisfaction (i.e. good for the patients). There could be a trade-off between

the two e.g. if the main objective is to manage demand, it may not necessarily improve patient satisfaction (or vice versa). It appeared that there was a much greater focus on the latter goal:

Access was described as providing "*a really good service*" for the patients as a practice and "*making it easy for patients to be able to interact with the practice*", this includes "*answering the phones as quick as we can, offering as many appointments as we can*". One salient concept came from the observations and interviews with reception staff in all three GP practices; there was a strong need to "*please" patients or "keep them happy*". This came up several times in my field notes and interview transcripts; and it was expressed in different situations.

> *"I mean, I've been here nearly eight years and I've seen a dramatic increase in the demand to see a GP, you know. And it's just not possible to please everyone in trying to get an appointment for them." (Receptionist, Practice 2)*
>
> *"Yes, it's taken a long time. It is trying it because, at the end of the day, you're never going to please everybody, but I think the complaints have definitely gone way down." (Deputy practice manager, Practice 3)*
>
> *"When they [patients] want something, they get it." (GP partner, Practice 3)*

These quotes demonstrate the amount of power the staff believed patients have and the need to satisfy patients as a customer. The term "*customer service*" was explicitly discussed at staff meetings in Practice 3, it was presented as one of the key areas to improve upon in 2017. In Practice 2, staff were sent on telephone customer care courses and the receptionists have a "*telephone script*" to ensure all the calls are being dealt with "*the same way*" i.e. standardisation of the way in which they work as a practice. Staff also expressed that many changes made within the practice was to "*make sure that we are consistent in our care and that we have happy people all around, or at least as happy as they can be*".

Another recurring concept was the importance of providing a variety of different models of access and interactions. Access was perceived as providing patients with "*as many options as possible*", in order to achieve "*good communication*" whether the practice was open or closed. All levels of staff from all three GP practices acknowledged the provision of multiple ways of access is "*the way that we're [the practice] moving" and "the more ways the better*".

> *"A lot of people within it don't see this need for access in a very wide definition that I've explained about being able to deal with people being able to interact effectively." (Practice manager, Practice 3)*
>
> *"It's not just face-to-face or phone. We've got fax, we've got the email, we've got the electronic, you know, online service. And they also need to be able to access a GP of some kind when we're not around. Because obviously we're not here 24 hours a day. And making sure that they're aware of how to access the services when we're closed so good communication i.e. on the website, around the practice, in the windows." (Practice manager, Practice 2)*

This idea of providing many ways of access and the significant focus on patient satisfaction are strong driving forces behind the adoption of any access-related complex interventions and approaches.

6.4 Chapter summary

The first half of this chapter described the reality and the current constraints of general practices. There were constant rapid changes and many challenges related to funding, workload, changes in wider infrastructures and workforce. These changes and challenges could often introduce uncertainties and even disrupt day-to-day activities within the practices. There was a strong political drive coming from the

government, NHS England and the CCG to increase access in general practice. Staff collectively acknowledged the importance of providing patients with many methods of access, as a way to ‘increase’ or ‘improve’ access by improving patient experience and satisfaction. However, the pace of change and other national challenges in general practice was a big obstacle for individual practices. Staff believed these changes brought upon significant impact on their ability to provide patients with good access in terms of appointment availability, as well as their performance as an organisation.

7 Findings part 3: Analysis of individual complex interventions

7.1 Chapter overview

The structure of this chapter reflects the multi-staged approach taken in the analysis.

I present the individual analyses of each chosen intervention, by GP practice. The three chosen interventions were online services, telephone services and Named GP scheme.

For each intervention, I first present information related to the degree of implementation for each study site and results from the National General Practice Patient Survey (GPPS), a national survey which collects data on different aspects of patient experience and satisfaction related to access, where appropriate.

I then present the analysis of the role and influence of context in the implementation of these complex interventions, and the explanations as to why or how they were implemented. This consists of the following components:

1. Descriptive summaries structured by inductive themes
2. Analysis using the multi-level systematic review (SR) conceptual framework (Figure 6), consisting of a large number of factors that may influence implementation of any complex interventions in primary care and general practice. The rationale for applying this framework/ model in order to guide my analysis and interpretation of the empirical data was outlined in Section 3.7.3.
3. Use of the SR model to examine the 'fit' between the intervention and context in order to explain variations in the degree of implementation.

My analysis focuses on the following:

- Explaining the differential uptake of the chosen interventions;
- Exploring the *interplay* between the different levels of context;
- Examining the relationship between 'fit between the intervention and context', and the degree of implementation.

7.2 Definitions used in the case study

Context

As described in Section 3.2.2, the main problem of studying context is that it is an ambiguous term that encompasses everything. I therefore operationalise context according to the SR conceptual model, and categorised context into two main levels:

- "Internal" context which includes
    - Organisational context, defined as the immediate organisation i.e. the GP practice.
        - Factors that affect the way an organisation (general practice) operates such as the resources available, organisation norms, history and identity, readiness to change;
    - Professional context, defined as the individuals within the GP practice, both clinical and non-clinical staff;
- "External" context, defined as the context outside of the GP practice; this includes the wider social structures, such as the wider NHS (including CCG and GP networks or federations), and its policies and infrastructure.

Degree of implementation

The degree of implementation or how well an intervention is implemented has been defined as follows:

1) Had the intervention been implemented to any degree?
2) If yes, to what extent had it been implemented?

For online services, the degree of implementation was determined by the *range* of online services provided by the practice i.e. the wider the range, the higher the level of implementation. I had considered using usage as a measure e.g. the number of patients registered with online access and the number of online appointment booking, however, there were two main problems associated with this: 1) the GP practice may or may not monitor this data therefore it was not feasible to gather this data; 2) the number of online appointments booked is highly correlated with the number of online appointments released by the practice which varies between sites, which is also dependent on the level of demand and patient needs.

For telephone services, the focus is on telephone GP triage (see Section 7.6 for further information about its rationale) hence the degree of implementation was determined by whether or not telephone GP triage had been implemented.

For Named GP, implementation was defined as carrying out the policy requirement which is explained later in the chapter (Section 7.7.1).

7.3 Assessment of fit between intervention and context

A key finding of the first systematic review of reviews (Study 1) was the proposition of “fit” between the intervention and context, as an explanation of implementation results, which required empirical testing.

The assessment of “fit” involved conducting a deductive analysis using the multi-level SR framework (Figure 6) to determine:

- Step 1: how well the intervention fits with the external context (level-specific)
- Step 2: how well the intervention fits with the internal context (level-specific)
- Step 3: based on results from Steps 1 and 2, I then assessed the **overall** fit between the intervention and context.

In order to come to a decision as to whether the intervention has a *very good (++), good* (+) or *poor* (-) fit with the external and internal context, I considered the following:

- For each level, how favourable was each contextual element of the intervention? Which (and how many) contextual element(s) hindered its implementation?
- To decide on the level of fit with each level, I also looked at the relative importance of these elements and their impact on implementation.
- The assessment of context is not *static*, therefore any changes were reflected in the analysis where appropriate.

7.4 Findings for individual complex interventions

Five overarching themes emerged from the inductive analysis:

1) Drivers for change: external and internal
2) Challenges related to implementation/ delivery
3) Availability and allocation of resources
4) Patient role and involvement in implementation
5) Use of evidence in implementation

There are also themes and/ or sub-themes specific to the individual interventions, which will be presented and described, as appropriate.

Table 15: Description of overarching themes

	Description of theme (including definitions)
Drivers for change	External driver for change can be a policy, an influential organisation, incentivisation awards and public awareness and values. Internal driver for change can be individual(s) within the practice. He/ she has a major role in influencing implementation, this includes: • Taking the lead on the implementation process (leadership) • Champion the intervention and influence others • Decisions on resource allocation Internal driver for change is very complex, and is shaped by a wide range of factors, such as how the intervention is perceived, leadership, communications, relationships, organisational buy-in and shared vision.
Challenges related to implementation/ delivery	Barriers that prevent the implementation of the intervention.
Availability and allocation of resources	Typically resources are equipment, human resources such as staff, money and intangible resources such as time and knowledge. This theme includes the availability of resources, as well as the allocation/ mobilisation of resources.

Patient role and involvement in implementation	The role and the level of involvement of patients in implementation. This theme overlaps with drivers, as patients can be a driving force; and also overlap with use of evidence, as patient views and feedback can be used by the practice to inform and support decisions.
Use of evidence in implementation	Evidence in this case study is defined as information used to inform and support decisions involved in implementation. Observations and interviews revealed that the role and use of evidence in shaping implementation decisions and processes is complex and variable at many levels: • Types of evidence used • Importance of certain types of evidence perceived by individuals • What evidence is used for and how.

7.5 Intervention 1: Online services

7.5.1 Information related to implementation

Observations revealed all three practices provided their patients with various means of online access, such as the practice websites, email, the online appointment booking system and repeat prescription requests. Table 16 shows the extent to which online services were offered in each GP practice. When comparing the three practices, Practice 3 offered the widest range of online access tools. On top of the mandatory IT requirements, Practice 3 implemented additional online services, which included online appointment booking for blood tests, viewing test results and medical records online, and communication with the practice via email. Furthermore, they introduced a Facebook page during the period of observation. Practice 2 came second in terms of the range of online services they provided. There was a gradual increase in implementation for online appointments.

'We increased it recently to I think like 40% of our online appointments for our doctors, because it is only for the doctors. And it's only the ten minute appointments.' (Observation transcript)

All three practices had a website, as per the contractual requirement. However, the quality of the website was highly variable between the GP practices. For instance, the website for Practice 2 was cluttered, compared to Practices 1 and 3. Observation data revealed that many changes which took place during the study period, for example change in consultation length or staff did not get updated on the website for Practice 1. Both Practice 2 and 3 updated the content of the website periodically. Of all the practices, only Practice 3 reviewed and made improvements on their website e.g. its content and layout, during the period of observation.

Table 16: Provision of online services, by GP practice

	Practice 1	Practice 2	Practice 3
Appointments booking • Routine with GP • Same day with GP • Blood test	✓	✓	✓ ✓ ✓
Access to test results			✓
Summary medical record (e.g. medications, allergies)	✓	✓	✓
Full medical record			✓
Appointment booking via email to staff			✓
Practice website			
Information provision • How to access/ interact with the practice • Educational tool to navigate patients to appropriate care • Publication of PPG meeting minutes	✓	✓ ✓	✓ ✓ ✓
Online form • Prescription requests • General feedback/comments • Translation of website content	✓	✓ ✓	✓ ✓ ✓
Friends and family test		✓	✓
Innovative methods of interaction - use of social media			✓
Overall degree of implementation	Low	High	Very high

7.5.2 GP Patient Survey – awareness and use of online services

The results from the GPPS are summarised in Table 17. Overall, the proportion of patients who were aware of online services was below CCG average for Practice 1 (online appointments and repeat prescription requests), and above CCG average for Practice 2 and 3 (for all online appointments, repeat prescription requests and access to medical record). Similar findings were found for the use of online services. The proportion of patients who used online services was below CCG average for Practice 1 (3%, compared to 5% CCG1 average). Whereas for Practice 2 and 3, the proportion of patients used online services, particularly online appointment booking was well above CCG average (Practice 2: 12%, compared to 5% CCG1 average; Practice 3: 14%, compared to 9% CCG2 average). Only a small proportion of patients accessed their medical records online, across all three practices and CCGs.

In terms of how the appointments were made, the majority of respondents made appointments by phone (79%, 82% and 85% for Practice 1, 2 and 3, respectively), followed by in person (51%, 33% and 35% for Practice 1, 2 and 3, respectively), and online (0%, 14% and 17% for Practice 1, 2 and 3, respectively).

The responses from the GPPS survey mirrored the level of implementation, and consistent to the data collected from observation and interviews. For instance, Practice 3's proactive approach and implementation efforts led to a relatively larger proportion of patients being aware of online services as well as using online services in the past six months.

It is important to note that the data presented in the table was extracted directly from the GPPS. Confidence intervals or standard errors were not reported and the number of responses per practice was very low therefore results needed to be interpreted with caution.

Table 17: GP Patient Survey results for the three GP practices (January 2016) – online services

Domain/ question(s)	Practice 1	Practice 2	CCG 1 average	Practice 3	CCG 2 average
Appointment booking					
% of patient book appointment	(N=45)	(N=106)	(N=4545)	(N=181)	(N=8732)
- In person	51%	33%	31%	35%	28%
- By phone	79%	82%	85%	85%	86%
- Online	0%	14%	4%	17%	10%
Online services					
Awareness of online services offered by GP surgery	(N=44)	(N=104)	(N=4406)	(N=178)	(N=8525)
- Online appointments	6%	34%	20%	53%	37%
- Ordering repeat prescriptions	4%	23%	15%	28%	25%
- Accessing medical records	3%	6%	2%	7%	3%
Use of online services in the past 6 months	(N=45)	(N=97)	(N=4436)	(N=174)	(N=8553)
- Online appointments	3%	12%	5%	14%	9%
- Ordering repeat prescriptions	0%	10%	5%	6%	7%
- Accessing medical records	0%	0%	0%	3%	0%

**N= total number of responses*
Green = performed better than or similar to CCG average; red = performed worse than CCG average; black = similar to CCG average

7.5.3 External drivers for change

External drivers were found to be the same for the three practices. There was a rapidly changing health care policy landscape for online services and the government in England had made this a priority. Key policy documents revealed that incremental (progressive) changes took place over time since 2013. Every year, at least one 'new' technology-based intervention was introduced (Table 18).

Table 18: Policies related to the provision of online patient access

Year	Information related to relevant policies
2013/14	Online patient access, including online appointment booking and repeat prescriptions (setting up, adoption and registrations)
2014/15	Offer and promote to patients online appointment booking and repeat prescriptions
2015/16	Continue to offer and promote to patients these online service, plus offering online access to medical records (coded information e.g. a summary of their allergies and medications).
2016/17	Offer online booking app and access to full medical records, including blood test results, appointment records and medical histories, in addition to the summary of allergies and medications. e-referral
2017/18	NHS England to launch programme to offer practices to implement e-consultations

In terms of the financial structure associated with online access, documentary evidence and reports showed it changed over time. Initially, a non-recurring annual payment (as part of the enhanced service) was provided to GP practices for the successful preparation and adoption of electronic services to deliver online patient access, in 2013 (NHS Commissioning Board, 2013). The payment structure for this enhanced service was mainly concerned with registrations, i.e. single payment per patient registered for online booking and repeat prescriptions; and a fixed payment if a proportion of registered patients were issued with passwords for accessing services online (NHS Commissioning Board, 2013). As from 2014/15, GP practices were contractually required to offer and promote online services such as booking of appointments and ordering of repeat prescriptions, and access to information from medical record (NHS Employers (b), 2015).

The staff in all three practices recognised the importance of online services; they believed digitalising services is inevitable and "*things will move towards internet based*". Towards the end of the data collection period, staff from Practice 1 and 2 mentioned that the CCG's target "*is to offer and provide 50% of their patients with online access by 2018-2020*".

In spite of the same external drivers and all three GP practices recognising some push from the CCG to provide online services, they each responded differently and implemented online services to a variable degree.

So, how can the variations in the degree of implementation between sites be explained?

7.5.4 Internal drivers for change

The external drive to move towards digital aligned with the practice manager's long term vision and philosophy in Practice 3. He was the key **internal driver** to lead the implementation of a number of innovative technology based solutions within the practice to improve patients' access to services as well as engagement with the practice. He had the knowledge, technical background and skills to implement these interventions. He felt that online access is "driven by an organisational need" to improve efficiency and believed that not all face to face interactions with GP or nurse were necessary. Implementing online services was perceived as a way of managing demand.

> *"It's a lot of work to do on making the best use of face to face appointments with a GP or a nurse. A lot of these appointments aren't necessary. You know, we still get people coming in, making an appointment to get a repeat prescription. Which isn't necessary. We still get people coming in making an appointment to just get a medical certificate. Again, not in every case is that necessary." (Practice manager)*
>
> Deputy manager (site B) And we're not saying that that patient isn't important, but if they can just do it by clicking a button they don't need our interaction for that. Whereas... Or it could be that they're taking up a call and someone who actually needs reception interaction, they need it, and if we can't offer it to them because we're just doing minor things... (Observation transcript)

Another benefit of offering online service is patient satisfaction:

> *"… it improved patient satisfaction because they've got these different channels. They're not dependent on trying to get through to the phone at eight thirty in the morning, and until six o'clock at night. They can do things, you know, to suit them at times that suits them. […] we can reduce the number of phone calls coming in so the people who genuinely need to use the phone can get through easier. So it's got benefits for us as an organisation and it's got tremendous benefits for the patient."*

The practice manager's vision and perceived potential benefits (i.e. improve organisational efficiency/ workload and patient satisfaction) were **communicated regularly** among all levels of staff on multiple occasions.

> "I mean, as I constantly say to my staff, is that in an ideal world I only want patients coming in to the surgery who have got appointments, and not get test results or repeat prescriptions." (Practice manager)

He regularly promoted the benefits of implementing online solutions at staff meetings; 'maximise people using the online service can stop [reduce] the phone calls which in turns decreases their [receptionists] workload' (Field notes from staff meeting).

Because of this, there was a **strong organisational buy-in** and **shared vision**. Other members of staff in the practice recognised these benefits; "*if they [patients] go and see someone privately, they don't need to ring us to get a letter, they can just log on themselves and get the letter. And also it means... So if they've forgotten like, oh, did he say to take two of them [medication]? If they just log on it says there, it's really clear*." "*It reduces calls which means paperwork can get done quicker, but not only quicker, it's done more thoroughly. […] if they can just do it by clicking a button they don't need our interaction for that. Whereas... Or it could be that they're taking up a call and someone who actually needs reception interaction, they need it, and if we can't offer it to them.*" As evident by the interviews and observations, the

practice as a whole collectively acknowledged the importance of providing the patients as many ways of interactions as possible and that it is a good thing to do.

The internal driver was not as strong in Practice 2. Like Practice 3, this practice **recognised a push from the CCG** to provide online service. Practice manager said staff also collectively agreed the provision of online services was a positive thing to do and acknowledged its importance (i.e. **organisational buy-in**).

> *"On the whole I think it's helped us, in a way, be able to provide a better service to our patients." (Interview with receptionist)*
>
> *"If they've got email address that that would be easier. It frees up the lines, they can do it from home." (Interview with practice manager)*

However initially there was **no strong push internally** (i.e. from the practice manager or any members of the practice team).

> "Before, I think when it first started, because it was so new and everyone was like, I couldn't possible touch […] maybe initially a couple each doctor each day?" (Observation transcript, practice manager)

The degree of implementation increased gradually as a response to demand and patient feedback.

In Practice 1 implementation of online services was not a practice priority. Although the lead GP and practice manager acknowledged the benefits of online services, they were ambivalent about the benefits and relevance for their patients, as this practice got a large deprived population of non-English speakers and felt this was a key barrier to using online services or even accessing the practice website.

7.5.5 Challenges related to implementation

7.5.5.1 Digital divide

Staff perceived that the older patients just "*dismissed*" and could be "*frightened of*" online services because it might be "*unfamiliar and new*". Some may not have access to a computer. They might "*prefer to do things face to face*" and "*come in and have a chat face to face*". Staff from all three practices thought online access is "*not for everyone*" and it's better for the younger population or the 'new generation'.

> *"Some people just want to avoid technology and would rather use the phone which is understandable." (Interview with receptionist, Practice 2)*

A significant challenge perceived by staff in Practice 1 was their high deprived "Turkish-speaking population" who are non-English speakers.

> *It is, but again, if English is not their first language, it's difficult for them. Also, we have a lot of elderly people who don't have access to computers. So the only people that actually use our patient access are the working well. So for them it's good, but for our other patients, it's not the best. (Interview with practice manager, Practice 1)*

These patients were thought to be at a "*disadvantage*" and getting an appointment is "*getting increasingly difficult for them*".

7.5.5.2 Competing demands

In Practice 1, while the lead GP recognised there is a need to improve their online services, relatively little was done to increase the use of online services. During the informal interviews, staff said the online system *"isn't completely up and running*" as they would like because they "have been focusing on getting the appointments right. Informal interviews and routine data revealed that the practice was faced with an

unexpected rapid growth of patient list size as the practice moved to new (bigger) premises in early 2015.

> *We're registering around 250 to 300 patients a month, which puts a lot of pressure on our GPs, on our reception staff, on our administrators, on our telephones. I don't think anybody expected it to happen that quickly. But we are just trying to roll with it. We can't stop the list. We can't stop taking patients. (Interview with lead administrator)*

In addition, Practice 1 is part of a bigger GP Federation which consists of GP practices, GP extended access service and urgent care centres. Towards the end of observation, the practice manager and lead administrator were required to spend two days a week away from their own practice and went to support another GP practice. They helped the practice to set up the structure/ procedures and train the new practice manager. Taking away resources from a practice even for a temporary period of time may have an impact on the practice's ability to change and might partly explain why online service was not "up and running" in this practice.

7.5.5.3 Patient awareness and IT competency

Almost half of the patients at the service development meeting in Practice 1 were not aware of the practice website. They were also unclear about how much information they would need to enter, whether they had to put in their name and NHS number etc, to be able to log into their online accounts. The lead administrator explained that they just needed a login name and password which they could get from a receptionist.

7.5.5.4 Organisational readiness to change

Readiness to change within the organisation was essential; this could be difficult to achieve when some receptionists had been working at the practice for a long time and they are now required to change the way in which they work. "*They [receptionists] tend to say, oh, I will make you an appointment. Because that's all they could offer before".*

7.5.5.5 System-related issues

There were also challenges related to system down-time and regular updates:

> *"Things always do creep up and things go wrong. But I think with things like that it's not really us, it's like System One, the actual system provider, who would change things that improve how people can log in, which is always happening." (Interview with deputy manager, Practice 3 site B)*

7.5.6 Resources: availability, allocation and prioritisation

There was variable degree of investment and resource mobilisation across the GP practices.

A lack of time and money was perceived as a barrier to promoting the use of online services. There was "*no budget for producing leaflets and going to public meetings and explaining all these things to people [patients] and helping them and encouraging them*".

> *We don't have a lot of time to do things like that because we're trying to run the practice, and two, we haven't got the financial resources a lot of the time to put the effort into those things that we want to do. (Practice manager, Practice 3)*

Nevertheless, I found out later that two out of three practices (Practice 2 and 3) advertised the use of online services. Financial and human resources were mobilised to produce promotional leaflets and receptionists were asked to proactively promote the use of online services to their patients.

> *"We advertise that, get the staff to promote that, more and more patients are moving to online booking. Just word of mouth. You've got it… It's been on the door since we started doing it." (Practice manager, Practice 2)*

> So, this is where [name of practice manager]… he had produced these little leaflets. And these little leaflets we'd put into any mailings that we'd do. We got it on the boards. We also include it with new registration packs. So again, yes. We are being very proactive in promoting it. […], they [patients] can get a password just for our surgery, to get on there, but that's for booking appointments. As far as prescriptions, they can just go on the Web without a password and order prescriptions still, but to book appointments they do need that. (One-to-one observation with Clinical administration manager, Practice 3)

Further efforts were made in Practice 3; the staff offered one-to-one as well as group sessions to encourage and educate their patients by showing them how to log in online and book appointments. This is because the practice manager felt it was the responsibility of the organisation (this includes not only the doctors, but also practice managers and reception staff) to educate patients about face to face urgent appointments and alternative ways of interactions and accessing services.

Staff were 'encouraged to talk to patients about alternative ways they can deal with their problem' such as sending a request in online.

> "We were very proactive in trying to encourage the older people, or people that aren't familiar with computers to come and we'd have been happy to show them [...] And even downstairs in Reception, they also made themselves familiar with how to do it so they could show patients." (One-to-one observation with Clinical administration manager)

> *"I didn't come to the last one, but I think [name of practice manager] said there were ten or fifteen people that turned up which is quite like... It doesn't sound like a lot. Yes, so I think if we educate people then they know how to deal with things." (Deputy practice manager, site B)*

Another example was practice websites. All three practices had a website, nevertheless, there was a lot of variability between them. Practice 2 and 3 regularly maintained the website; whereas Practice 1 hardly updated the information on their website. Informal conversations with the practice manager from Practice 3 revealed that he felt it is important for the practice to have a good website to promote the use of online services. However there was a lack of interest and (financial) support from the CCG to develop a good website within a practice.

> *"I'm not aware of anything in our locality or CCG where we're all sitting round a table saying why don't we really look at everyone's websites and see if we're maximising the use of those to encourage people to use online or interact online." (Practice manager, Practice 3)*

Despite the lack of support from the CCG and the lack of financial resources, the practice went ahead to implement a new website "*to make it more about using online services. That's all coming out of the practice budget*" and to make it more patient friendly. One of the deputy managers was assigned to work with an external consultant on developing the website. It was evident that significant amounts of work were put into developing their website, when compared to the websites of the other two practices. On the contrary improving the practice website was not a priority for Practice 1 and 2. The practice manager in Practice 2 felt not many people look at the website and therefore relatively little investment in terms of time or money was allocated to improve and maintain the website. She saw the website as "*another thing to maintain*".

"The majority of the patients don't even look at your website, in fairness they don't. I think if you were to survey how many patients actually log on and look at their doctor's website, very, very, very, very, few. And this is another thing. That's another one of my jobs now because of… The website, I've got to keep that up-to-date." (Practice manager, Practice 2)

Towards the end of data collection period, the practice manager said the CCG had proposed a target (i.e. number of online booking) for the practices to meet in order to encourage uptake in the next two to three years. Therefore, they decided to promote more of its use by word of mouth. "*People are using it more because we promote it more*".

The above examples illustrate how existing resources were mobilised and prioritised in order to enable implementation and promote the use of online services. 'New' or additional resources could be created in order to achieve implementation; this involves actively involving patients and utilising their knowledge by allowing them to lead the design and implementation (see Section 7.5.7).

7.5.7 Role of patient feedback and participation

The level of patient participation varied greatly across the three practices. Online services were discussed with patients in all three practices. Patient views and feedback influenced the practice's decision as to how much online services were implemented. In Practice 1, the lead GP made the Patient Participation Group (PPG) aware of the provision of online access at a service development meeting. There was mixed feedback from the group, with some not aware of how to access the online booking system e.g. how to login, details of login.

Despite the concerns with certain groups and populations e.g. older patients, the overall feedback from patients had been positive in Practice 2 and 3. Particularly in

Practice 3, the implementation was very much supported by the PPG. Many group members liked the fact that they were "*getting more modern*". Furthermore, the practice manager enabled the PPG to lead the design, development and implementation of a Facebook page for the practice in order to improve the practice's interactions with patients.

> *"We're now providing lots of communication streams for patients to talk to us and ask us questions and resolve issues. You're not stopping them seeing the GP or the nurse, all you're doing is providing different ways of dealing with problems and issues." (Practice manager, Practice 3)*

Members took part in building the page and designing its content, with the practice manager overseeing the process. Two patients were responsible for updating the content (e.g. uploading a questionnaire, health related video and news, information related to any changes in the practice) and monitoring the page (e.g. the number of people who joined the page and viewed the video clip).

> The group discussed the introduction of a Facebook page to improve patient interactions with the practice. A younger patient volunteered to do it and suggested they can film [name of an engagement event] and upload it onto the page. Others suggested putting the link to the online booking system on the Facebook page to promote use. (PPG meeting)

7.5.8 Use of evidence in implementation

For online access, active monitoring of uptake took place in Practice 3. This was perceived as a way to demonstrate "*effectiveness*". The administration manager in Practice 3 was asked by the practice manager to produce monthly reports on the "*number of online registrations*" and "*number of appointments booked online*".

> I [name of administration manager] have to run a report for him [name of practice manager] every month so he can see how things [use of online

> services] are moving, and it is growing. I can show you that particular report if you like. So, I run this report every month. [Looking at the report together] So number of online bookings… this month – and it is getting- it is getting more and more as we go. (Shadowing clinical administration manager)

The information was then used by the practice manager as a way to communicate and promote success by reporting regularly to the PPG and staff meetings. At a staff meeting on December 2016, as part of his "update" to staff, the practice manager reported that about 200 appointments were booked online in November 2016. And similarly during a patient participation group meeting in December 2016, he gave a similar update:

> Practice manager: There have been 300 appointments made online in the last month.
>
> Patient 1: I love the online appointment system, it's really good.
>
> Receptionist: There are a lot more than you think… [in terms of doing things online]… the elderly as well, they use the phone (keypad system) and the internet."
>
> Patient 2: We are getting more modern aren't we? [Everyone nods]

As a result of this, there were positive patient feedback which led to their continual support for "*pushing*" the implementation of innovative online solutions, to improve the surgery and its performance.

Similar to Practice 3, Practice 2 also performed ongoing monitoring but observations suggested it was carried out in a more informal way.

> We're noticing more and more [online slots booked] because it appears in *italics* on your appointment list, so you know that they've booked it from home. So, we are noticing more and more. (Field notes, Practice manager's office)

Staff saw the online appointment slots were being booked which showed there was a demand. This changed the staff's perception about the intervention and this

information was used to support and reinforce the decision to increase the number of online slots "*to 40% for the doctors*".

7.5.9 Consequences of implementing online services

Observations revealed that some patients could not access the online service and in one practice, the practice manager had to call these patients individually and resolve the problems.

> *"Quite a lot of them forget their passwords or... because it is, obviously quite confidential. The passwords run out after a while and sometimes you have to reset it if they haven't logged in for a certain amount of time, it's only resetting the password and sending it in the post." (Deputy practice manager, Practice 3)*

Implementation of online appointment system also caused confusion among some patients. The online appointment system only allowed patients to make routine appointments with the GPs.

> A patient asked "what about appointments with nurses?" Practice manager replied and said different nurses have different jobs. One does diabetes review; the other does vitamin B12 injections which takes 5 minutes. Not all deal with asthma or even blood work. You don't want people to book the wrong slot, i.e. book a 5 minute slot when they actually need longer with the nurse. It is complex… which nurse to do which service. (Observation from PPG meeting)

Practice 3 was the only practice that allowed patients to book blood test online and patients sometimes booked these slots by mistake.

> I don't think people realise what a phlebotomist is and they book, thinking they've booked in to see a nurse, maybe, but it's actually for a blood test. But, because every day before, the day before we pull the blood forms for the phlebotomist, and if there's no form we then ring the patient. We realise that they've made a mistake.

There was also potential harm of pushing online as there is no *"one size fits all"* for access. "*Pushing nationally*" for online booking of appointments was perceived as inappropriate especially that there were some practices "*where a large proportion of the patients don't want to access appointments that way and some may actually be disadvantaged*", if there are not enough appointments "*left for booking by conventional telephone*".

All the themes and related information are presented in Table 19.

Table 19: Summary of themes for implementing and delivering online services, by GP practice

Results subheading	**Themes/ subthemes**		
	Practice 3 (Very high implementation)	**Practice 2 (high implementation – gradual increase)**	**Practice 1 (low implementation)**
Drivers – external	National push to introduce online services Part of contractual requirement to offer online services Push from the CCG Target oriented approach from NHS England "Things will move towards internet based"		
Drivers – internal	Practice priorities Driven by organisational need • Improves organisational efficiency • Reduces demand on telephone calls • Paperwork can get done quicker and more thoroughly • Some reception interactions aren't necessary Practice manager's vision and leadership • Communicating the benefits regularly to staff • Different team meetings Positive attitudes towards online services among staff Improve patient satisfaction • Improve customer service • Improve communication with patients and increase engagement • Offer flexibility, choice and convenience Ease of implementation	Practice manager's role • Staff to promote more Improve patient satisfaction • Offer choice and flexibility • Providing better services Positive attitudes towards online services among staff Ease of implementation	Not practice priorities Perceived advantage of online services • Reduces demand on telephone calls • Ease of implementation Ambivalence about the benefits for patients (all staff)
Challenges	Patient • Potential inequity of access	Patient • Not for everybody	Competing priorities and demand

	• No access to computer • Lack of computer literacy Resources • Lack of financial resources and time to promote use of online services • Lack of (financial) support from CCG to improve website • Forgotten passwords System upgrade and other related issues Confidentiality/ security issues Staff initial resistance	• Patient preference • Elderly population Staff initial resistance and scepticism Switching to online can be more time consuming Resources • Forgotten passwords • Patients couldn't access online services	• Unexpected growth in patient list size • Focus on reviewing appointment system • Introduction of new services Resources • Practice part of a limited management company, practice manager/ lead administrator went to provide support in setting up another practice Patient • Potential inequity of access • "Not for everybody" • Patient population – deprived, non-English speakers • No access to computer • Lack of computer literacy • Digital divide • Lack of awareness about the practice website
Resource allocation	Mobilising staff to improve the practice website Access to resources: hiring external web consultant Promotional strategies, e.g. leaflets, mailshots, word of mouth Patient educational sessions	Promotional strategies, e.g. leaflets, word of mouth Time spent to update the website regularly	Promotional strategies, e.g. leaflets, mailshots
Patient role/ involvement	Positive feedback towards online services among patients via meetings Patient buy-in Patients to co-design and implement online services	Positive feedback towards online services among patients	Mixed feedback towards online services among patients in PPG meetings

Monitoring and use of evidence	Monitoring the number registered for online services and number of online appointments booked Running monthly reports Patient feedback	Informal monitoring – “seeing the online slots are being booked”	N/A

7.5.10 Use of the SR conceptual framework

Table 20 shows the mapping of the inductive themes on to the SR framework.

Table 20: Mapping of inductive themes on to SR framework constructs: online services

Domain	Constructs	Very high implementation – Practice 3	High implementation – Practice 2	Low implementation – Practice 1
External	**Policy and legislation**	-National push to introduce online services (Driver) -Target oriented approach to increase online access nationally (Driver)		
	Incentives	-Part of contractual requirement to offer online services (Driver)		
	Dominant paradigm	-Improving patient access (Driver)		
	Buy-in	-Push from the CCG to implement online services (Driver) -Lack of (financial) support from CCG to improve website (Challenge)		
	Technology advances	-Acknowledgement that "things will move towards internet based" (Driver)		
	Economic climate and financing	-Lack of funding at individual practice level (Challenge)		
	Public (patient) awareness			-Lack of awareness of practice website and online services (Challenge)
Organisation	**Readiness to change and organisational attitudes**	-Practice priorities (Driver) -Driven by organisational need (Driver) -Practice manager's vision and leadership (Driver) -Organisational history (Driver)	- Collective perception that implementing online services is a good thing to do (Driver)	-Not practice priorities (Challenge)
	Skill mix and Involvement	- Communicating the benefits regularly to staff (Driver) - Staff to promote online services more (Driver)	- Staff to promote online services more (Driver)	

	Resources	-Lack of financial resources and time to promote use of online services (Challenge) -Forgotten passwords (Challenge) -Switching to online can be more time consuming (Challenge)	- Time spent to help patients who had problems accessing the online services (Challenge)	-Forgotten passwords (Challenge)
		-Mobilising staff to improve practice website (Driver)		
	Processes & system		-Moving to electronic can sometimes be time-consuming (Challenge) -Implementation of online services has changed the way in which work is done	-Implementation can cause temporary disruptions to reception workflow (Challenge)
	Relationship	- Communicating the benefits regularly to staff (Driver)		
Professional	**Professional role**	-Autonomy to drive online solutions (Driver)		
	Competency	-Practice manager's background and knowledge (Driver)		
	Attitudes to change	-Positive attitudes towards online services among staff (Driver) -Recognised benefits of online services (Driver) -Improve patient satisfaction (Driver)	-Positive attitudes towards online services among staff (Driver) -Recognised benefits of online services (Driver) -Improve patient satisfaction (Driver)	-Ambivalence about the benefits for patients (Challenge)
		-Staff initial resistance (Challenge) -Staff scepticism (Challenge)	- Staff initial resistance (Challenge) -Staff scepticism (Challenge)	-Staff initial resistance (Challenge) -Staff scepticism (Challenge)

	Philosophy/ style	-Practice manager's philosophy (Driver)		
Intervention	**Nature**	-System upgrade (Challenge)		-System upgrade (Challenge)
	Use of evidence	Inform and formal monitoring - uptake and evidence of benefits -Running monthly reports -Patient feedback (Driver)	-Inform regular monitoring to see if the released online slots are being booked - Patient feedback (Driver)	-Patient feedback (Challenge)
	Implementability	-Ease of implementation (Driver) -Implementation: process is incremental and iterative	-Ease of implementation (Driver) -Implementation: process is incremental and iterative	-Ease of implementation (Driver)
	Safety & data privacy	-Confidentiality/ security issues (Challenge)		
Themes not accounted by the SR framework				
Organisation				-Organisational competing priorities and demand, particularly the unexpected growth of registered patients (Challenge)
Patient	Patient involvement	-Patient buy-in -Patient to co-design and implement online services -Positive feedback on online services (Drivers)	- Patient buy-in - Positive feedback on online services (Drivers)	-Lack of patient buy-in -Negative feedback on online services (Challenges)
		-Patient-related challenges -Lack of access to computers (Challenge) -Digital divide (Challenge) -"Not for everybody"(Challenge)	- Patient preference (Challenge) - Digital divide (Challenge)	-Digital divide (Challenge) -Large non-English speaking patient population (Challenge)
Intervention	Implementation strategies	-Promotional strategies e.g. leaflets, website -Patient educational sessions -Influencing staff via regular communications (Drivers)	- Promotional strategies e.g. leaflets, website - Word of mouth (Drivers)	-Promotional strategies e.g. leaflets (Drivers)

7.5.11 Assessing the 'fit' between the intervention and context

Details of the approach applied to determine the fit between the intervention and context can be found in Section 7.3.

Fit with external context

The intervention's fit with the external context was found to be the same for all three practices. As presented in Table 20, most of the elements were supportive of the implementation of online services. The more important elements were policy and incentives; there was contractual requirement and some push from the CCG to deliver online services. Therefore, the fit was judged to be 'good'.

Fit with internal context

The intervention's fit with the internal context was found to be variable across the three practices. For Practice 3 (very high implementation site), most of the elements within the internal context (organisation and professional levels) were supportive of its implementation, with few challenges. The more important elements were the leadership with the practice manager driving its implementation utilising his background and knowledge, resources allocated and invested into the introduction of online services, the way in which patients or the PPG was involved in the development and implementation of online services and the regular monitoring of the level of use. Therefore the fit was judged to be 'very good'.

For Practice 2 (low → high implementation site), there was a more mixed picture i.e. some drivers and challenges. Its implementation gradually increased over time as the staff noticed that the online appointments were being booked and patient feedback had been positive. This resulted in an increasingly supportive environment which facilitated its implementation. Therefore the fit changed from 'poor' to 'good'.

For Practice 1 (low implementation site), the fit was judged to be 'poor' partly because of the large non-English patient population, which led to staff's ambivalence about the benefits for patients. Further, there was a rapid growth of patient list size which had to be managed; this became the priority for the practice.

Table 21: Online services: Fit between the intervention and external and internal context

Practice 1 - Degree of implementation: low	
External context	Good fit (+)
Internal context	Poor fit (-)
Overall fit	Poor (-)
Practice 2 - Degree of implementation: gradual increase	
External context	Good fit (+)
Internal context	Poor (-) → good fit (+)
Overall fit	Good (+)
Practice 3 - Degree of implementation: very high	
External context	Good fit (+)
Internal context	Very good (++)
Overall fit	Very good (++)

**Internal context includes the organisation and professional (individuals) levels*

7.6 Intervention 2: Telephone services

7.6.1 Information related to implementation

It is important to note that this part of the findings focused on the "initial" telephone contact, and not subsequent appointments. Table 22 suggests the provision of telephone services was variable between the three practices. All three practices had a telephone system to help manage demand. For example, patients were advised to call the practice regarding booking a routine appointment after 11am and in the afternoon for test results (Practice 1). This was to minimise telephone traffic in the morning, when patients phoned to book urgent appointments. Despite Practice 3 having a similar system in place, observations and interviews revealed that it was not enforced and enacted by staff. This will be discussed further later (Section 7.6.5.3). In addition Practice 3 implemented an automated telephone keypad system during the period of data collection. When patients phoned the practice, the telephone menu was offered two options: option 1) booking a routine appointment via automated telephone system and 2) speaking to a receptionist. To set up the automated system, patients were asked by a receptionist to give a 6-digit PIN number to put on the IT system. When the patient rang the practice, they were asked to enter the PIN and the system would tell them the next available appointment with a doctor. The patient could then book the appointment this way.

Two of the three practices implemented and delivered telephone triage, with Practice 1 and 3 offered an all-day telephone service. If patient wanted an urgent same day appointment, these patients were added to the GP call list and these cases were triaged by the duty GP. Patients could call anytime of the day up until 6.30pm for medical advice over the phone by GP. Practice 2 had previously implemented telephone triage but had stopped.

Table 22: Provision of telephone services, by GP practice

	Practice 1	Practice 2	Practice 3
Telephone system	Telephone line opening time: 8am Urgent appointment: anytime Patients were encouraged to call after 11am to book routine appointment Test results: in the afternoon	Telephone line opening time: 8am Urgent (same day) appointment: patients were advised to call before 12pm for a morning appointment, or after 12pm for an afternoon appointment. Test results: advised to call between 2-4pm	Telephone line opening time: 8am Urgent appointment: anytime Test results: anytime (patients can also view test results online)
Scheduled telephone consultations	✓ (All day)	✓ (Between 12-12 30pm)	✓ (All day)
Initial contact and routine appointment booking via receptionist	✓	✓	✓
Booking urgent same day appointments - Telephone triage by GPs - Booked via receptionists	 ✓ X	 X ✓	 ✓ X
Other innovative approach	--	--	Automated telephone keypad booking

Figure 20 shows a flow diagram describing how telephone services were delivered, focusing on the initial contact.

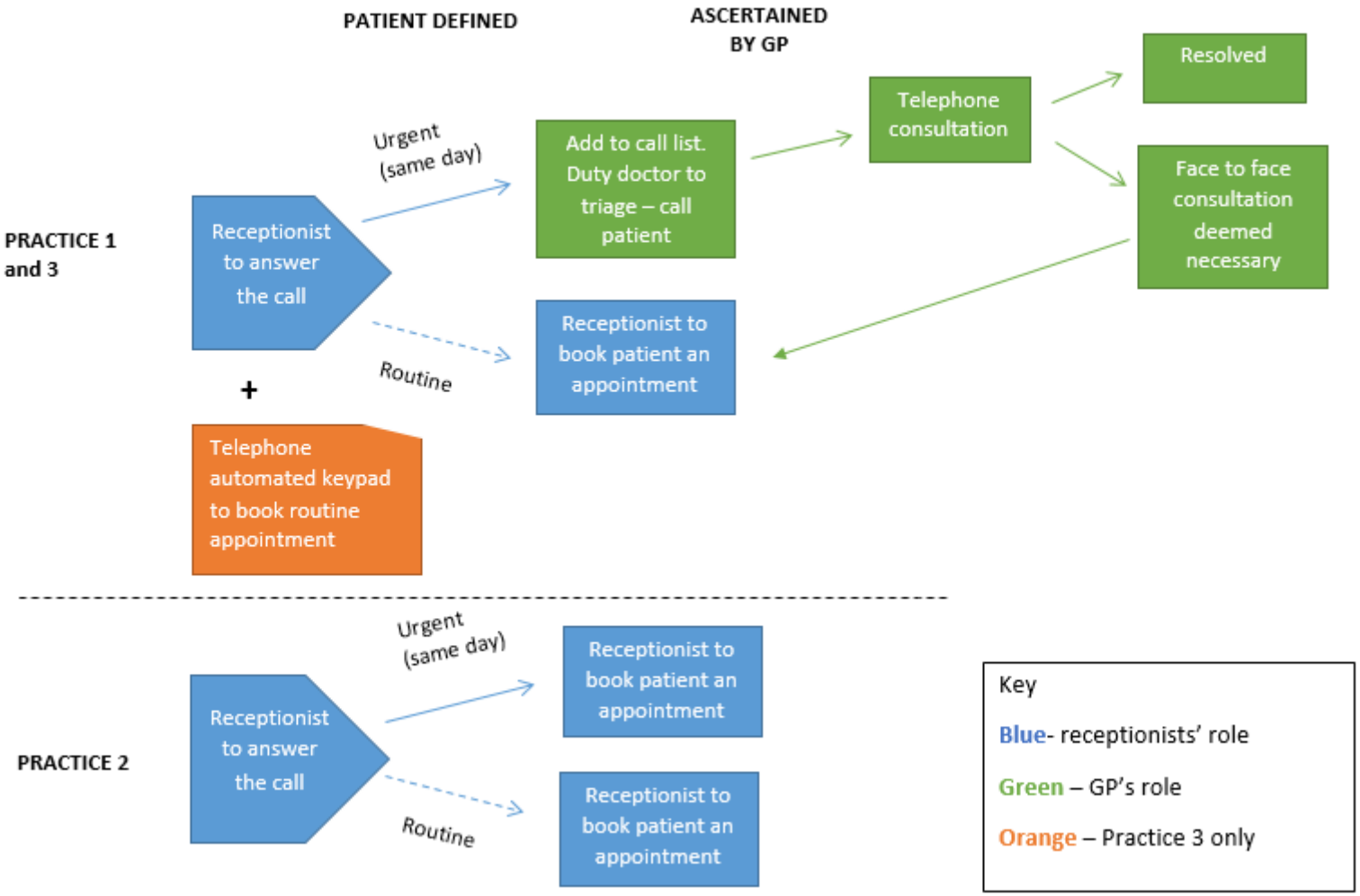


Figure 20: Flow diagram describing the pathway in which telephone services were delivered in relation to appointments

7.6.2 GP Patient Survey - getting through to the surgery by phone and helpfulness of reception staff

Both Practice 1 and 2 reported a smaller proportion of respondents who found it easy to get through to the surgery by phone, compared to their CCG average. The proportion was particularly small for practice 2 (55%, compared to the CCG1 average of 64%). The result for Practice 3 was slightly above CCG average (62%, vs. CCG2 average of 61%).

Practice 2 had a slightly greater proportion of respondents (86%) who found the reception staff helpful, compared to CCG1 average of 85%. Whereas, for Practice 1 and 3, the results were below CCG average (Practice 1: 76%, compared to 85% CCG1 average; Practice 3: 70%, compared to 84% CCG2 average).

It is important to note that the data presented in Table 23 was extracted directly from the GP Patient Survey. Confidence intervals were not reported and the margin of error was unknown. Therefore, results needed to be interpreted with caution.

Table 23: GP Patient Survey results for the three GP practices (January 2016) – telephone services

Domain/ question(s)	Practice 1	Practice 2	CCG 1 average	Practice 3	CCG 2 average
Telephone/ receptionists					
% of patients who find it easy to get through to this surgery by phone - very easy and fairly easy	(N=46)* 61%	(N=106) 55%	(N=4525) 64%	(N=181) 62%	(N=8723) 61%
% of patients who find the receptionists at this surgery helpful - very helpful and fairly helpful	(N=45) 76%	(N=106) 86%	(N=4534) 85%	(N=178) 70%	(N=8715) 84%
Appointment booking					
% of patient book appointment - In person - By phone - Online	(N=45) 51% 79% 0%	(N=106) 33% 82% 14%	(N=4545) 31% 85% 4%	(N=181) 35% 85% 17%	(N=8732) 28% 86% 10%

**N= total number of responses*
Green = performed better than or similar to CCG average; red = performed worse than CCG average; black = similar to CCG average

7.6.3 External drivers for change

There was no specific policy for telephone services and no information with regard to how telephone services need to be delivered to patients. The way in which telephone services were developed, implemented and delivered was highly dependent on decisions of individual practices.

7.6.4 Internal drivers for change

For telephone GP triage, it was the GPs' decision particularly the GP partners, to drive its implementation. Data from observation and interviews showed that all levels of staff in Practice 1 and 3 understood the purpose of telephone triage; that the intervention helps manage demand and improve patient access by "*preserving appointments for people who are really unwell*" and "*not all patients require face to face consultation*". In these two practices, the staff believed it is the duty doctor's role and responsibility to ascertain the urgency of the problem by deciding "*whether individual patients need to have a face to face consultation*".

Staff also reported that the system is likely to benefit the patients the most, and not necessarily the GPs. Delivering telephone GP triage was perceived to have significant resource implications which will be explained further in the next section.

> *"I think how we have the appointment system now, with the triage and the patients being able to call at any time of day and getting a call back. It's very nice for the patients, maybe not so nice [laughs] for the GP's. I think that makes us infinitely easily accessible for the patients and making them feel like we're sort of there, for as long as we're open." (interview with lead administrator, Practice 1)*

In contrast, Practice 2 implemented and delivered GP telephone triage in the past but stopped. The decision to discontinue GP telephone triage was made by the only full-time GP partner in the practice, due to resource challenges (Section 7.6.5) and GP preference and style (Section 7.6.6).

7.6.5 Resource allocation and challenges

7.6.5.1 Resource allocation related to implementation of telephone GP triage

In terms of resources required to implement and deliver telephone GP triage, it caused a shift in the GP's role. GPs in these practices worked on a rota system and took turn to be duty doctor at least once a week. One role of duty doctor was to take the call list and call individual patients in order to ascertain the urgency of the problem. While some GP liked it, it could be "*overwhelming*" for those who were "*quite new*" as there could be a very large volume of telephone calls. It could cause an overload of work as "*the duty doctor also needs to deal with all the prescription requests*".

Like Practice 1, Practice 3 also implemented an all-day on call system. Interviews revealed it was found to generate extra demand for the duty doctor. Despite this, telephone triage and consultation continued to be implemented.

> *"On an on call day it's chaos. So the day is empty, 25 phone calls in the morning probably, ten/fifteen patients to see. Then lunch. And then another ten or fifteen phone calls in the afternoon, plus another ten coming down. So usually you have contacts, you have patient contacts about 60 to 70 on on-call day."*
>
> *(GP partner, Practice 3)*

In Practice 2, the GPs particularly the GP Principal found it increased their workload significantly. "*It worked when it first started and then it basically burnt itself out because it was getting longer and longer and longer […] the doctors were then having to call them in to be seen as well*" "*Sometimes we used to have about 45, 50 telephone consultations in the morning or in the afternoon*".

All three practices recognised the increased workload for GPs. However, Practice 1 and 3 continued to run the all-day on-call system; whereas Practice 2 stopped the implementation.

7.6.5.2 How busy days were managed

On busy days e.g. Monday mornings, additional human resources were allocated to manage the extra demand on the phone in all three practices. In Practice 3, if the demand was too much, staff were able to transfer the telephone calls to the clinical administration team upstairs and they would help on a Monday "*usually just the first hour in the morning*", to have less people in the waiting line. The telephone calls can also transfer between sites if one site was very busy and "*the calls weren't answered*". In Practice 2, three staff instead of two were allocated to answer calls between 8-9am. Two staff remain on phones from 9am. There was a common goal to "*deal with the calls as quickly and efficiently as possible*". There were two telephones upstairs which had four lines, i.e. a total of eight lines. When all the lines were occupied, any incoming calls would be held in a queue and they were indicated on the telephone. What the receptionists tended to tell the patient to "*hold the line*". Similarly for Practice 1 there was usually more than one receptionist answering calls at 8am.

7.6.5.3 Other strategies used to manage demand

In addition to the telephone triage to manage demand, each practice developed their own telephone system menu to navigate the patients to call at specific times for different requests e.g. ring after 11am for test results (Section 7.6.1). This was perceived to reduce the number of telephone calls and help overcome the physical constraints with the telephone line. In Practice 3, the phone line can only handle a total of eight incoming and outcome calls, and the patients were held in the engaged tone if all lines were occupied. Nevertheless, this navigation system was not enforced/ difficult to implement in Practice 1 and 3 as "*it's not very convenient especially if people are working and they're trying to ring in their break*". Also the prescribing clerk got her own phone so patients could go through to her if they had prescription related queries. Further, a telephone automated keypad system was introduced and implemented in Practice 3. Patients could book their routine appointment with their GP via this system, rather than booking it via the receptionist, this helped reduce the volume of telephone calls and also the interaction between the patient and the receptionist. However the new automated keypad system did not allow appointment booking with the nurse as they got different roles e.g. specialised in asthma and Chronic Obstructive Pulmonary Disease. Interviews with staff revealed positive feedback from patients; "*lots of patients used and liked the new automated system*", except for the elderly people.

> *"But I think, also, before the automated system when you used to ring in, it would say press one for appointments, and I think people [elderly patients] are so used to that that they don't listen any more, and they press one and they get on to the automated, and they get all frustrated and flustered, and I think it's because they are not listening. I think that's the only thing."*
>
> (Deputy practice manager, Practice 3)

7.6.6 Adapting the intervention to GP preference and style

The practice manager in Practice 1 adapted clinics to the preference of individuals GPs. *"If a certain doctor would prefer to see more patients then they'll do that."* The decision to continue with telephone triage can be partly explained by patient feedback about the intervention. Whereas in Practice 2, the GPs decided to stop implementing telephone GP triage due their prior experience and the perception that it did not work well with their current practice and workflow. There was also the perception in Practice 2 that patients prefer face to face consultations; and both GP and patient "*have better understanding with the face-to-face appointments*".

7.6.7 Patient role and involvement

The implementation of telephone GP triage was partly driven by patient feedback on the intervention. During a service development meeting in Practice 1, the PPG described the telephone appointment with the doctor as helpful for those unable to be seen physically. However, those with hearing or language difficulties would prefer face-to-face appointments. Interviews revealed that although there was some initial resistance as it was a new service and the patients were used to face-to-face appointments, the staff felt overall the intervention helped patients and improved their experience by making it easier for them - "*at least they're getting contact with the GP*" and "*now patients actually ask for telephone calls*". Because of this, the lead GP also decided to implement and increase routine telephone consultations within the doctors' normal sessions, and this was supported by the PPG.

7.6.8 Importance of customer service

The receptionists in Practice 2 received in-house training and were sent on telephone customer care courses. Observations and interviews also revealed the staff had a telephone script, so they should deal with calls the same way to 'standardise' practice. When each patient phoned the practice, all the receptionists always asked the patient for his or her date of birth and confirmed name before dealing with their queries/ requests. It was also perceived as important by practice managers in Practice 2 and 3 that the reception staff answered and dealt with each phone call as quickly and efficiently as possible.

7.6.9 Consequences of not implementing telephone GP triage – Practice 2 only

7.6.9.1 Role of receptionist

Instead of telephone triage delivered by a GP, patients called the practice to book an urgent same day (face to face) appointment directly with the receptionist. As a result of this, the receptionists played a crucial role and took on the responsibility of giving out these appointments. They were trained to ask the patients some "*key questions*" such as 'is it just a prescription?' If so, usually they do not need to be seen. "*It's more eliminating things*". The receptionists were trained to identify urgency of appointment or "*vet the call*", by asking a simple question such as "*is it an urgent or routine appointment?" "Is it something medically urgent or do you feel it can wait 48 hours?*" and offer appointments accordingly. The decision was made by the patients and they had the responsibility to judge the urgency of their problem. Sometimes the receptionists put on the notes [on the computer system]: "*A 48-hour appointment was offered*", in order to "*make the doctor aware that they [the*

receptionists] have vetted the call the patients themselves felt it was urgent to be dealt with today", and it was up to the doctors to educate the patients.

7.6.9.2 Conflict between receptionist and patients

These urgent same-day appointments were released twice each day, at 9am for morning appointments and 12pm for afternoon appointments (from 4pm to 5.55pm). Because there was a limited number of urgent same day appointment slots, they were offered on a first come, first served basis (e.g. those who could get through the phone quicker gets an appointment).

Observations revealed that as soon as these slots were released in the morning, they were booked instantly in 20-25 minutes. After all the morning urgent slots were booked, the patients were advised by the receptionist to call back after 12pm to book an afternoon slot. And when all the afternoon slots were booked, every time a patient rang and asked to see a doctor, the reception staff had to repeatedly inform the patients "*all the appointments are gone*", and advise the patients to either "*call back tomorrow at 8am for a morning urgent appointment, or dial 111 after 6pm or go to an urgent care centre*". While some patients were happy to call back the following day, or felt they could wait 48 hours, some were not happy and this caused conflicts between the receptionist and the patients because they could not see their GP.

> [Phone call at approx. 2pm]
>
> Reception staff explained to the patient all the appointments are gone and advised him/her to call back tomorrow at 8am for a morning appointment or 12pm for an afternoon appointment. The patient explained he/she cannot call at 8am. Staff then said again [emphasis] "there is nothing today and usually there is no cancellation because they are urgent." [Patient was persistent] The staff then said she will call if there is one and asked for her date of birth, name and telephone number.
>
> (Field notes from observation)

7.6.9.3 Additional demand

Observations revealed that the demand appeared to be much greater in Practice 2, both the volume of telephone calls and the full waiting room with patients waiting to be seen by a doctor. The high volume of phone calls can be partly explained by the restricted time periods in which patients could call to book a same day appointment.

Because of the high volume of telephone calls every day, they moved it to the back office upstairs instead of having front reception to do it, in order "*to provide a calmer environment and create a greater level of confidentiality for patients*". And patients were advised to make any follow up bookings after a consultation at reception desk and not asked to call back, to help reduce the number of telephone calls.

Burnout of reception staff and GPs – because the phone was constantly ringing, and there was the expectation to answer these calls and deal with the queries as quickly as possible, along with their other duties such as processing hospital referral forms, maintaining their emails and other allocated tasks ("*things that need doing*"), reception staff showed signs of stress and frustration (from observations). If there was still demand to be seen urgently, the practice "*sometimes offers a couple of extra appointments and share with the other doctors*". This could cause addition pressure for the GPs particularly when they were already stressed. And the receptionists had to act as gatekeeper at times in order to control the number of appointments allocated to the doctors.

> Practice manager walked into the receptionist office at 3.40pm. She said to the two receptionists that Dr x came to her and told her he was very stressed. The receptionist explained what happened with the patient complaint [the patient demanded to see her GP following the receptionist's advice to go to the urgent care centre or other routes of access]. […] Practice manager said she would move some of the doctor's appointments over and told the girls that they should run by the reception manager if there is anything they are not sure, and don't go to him (the doctor). Receptionist pulled the doctor's rota up on her computer screen and it's all booked up until 5.55pm. Practice manager said "*just don't give him anymore*", and left the room. (Field notes from observation)

Despite the fact that Practice 2 did not implement telephone GP triage and its greater patient demand, the GPPS survey results (see section 10.5.2) showed higher patient satisfaction in this practice; a greater proportion of patients found the reception staff helpful (above CCG average). All the themes and related information are presented in Table 24.

Table 24: Summary of themes for implementing telephone services, by GP practice

Results subheading	Themes/ subthemes		
	Practice 1 (high implementation)	**Practice 2 (low → no implementation)**	**Practice 3 (high implementation)**
Drivers – external	National pressures to improve patient access in GP practices No specific policy related to how telephone services should be implemented and delivered		
Drivers – internal	Role of GP in driving decision making and implementation Offer an all-day telephone service/ GP telephone triage and consultation Mixed views about telephone GP triage Perceived advantages of telephone GP triage: • Manage demand for urgent same day appointments • Preserve appointments for those who are in need • Patient contact with GP • Improve efficiency	Role of GP in driving decision making and implementation Perceived advantages of telephone consultations Perceived patient preference	Perceived advantages of telephone GP triage: • Improve efficiency Role of practice manager to drive innovative solution e.g. automated booking on the telephone
Challenges	Burden on duty GPs who are on-call Large volume of calls Adapting to GP style/ preference Initial patient resistance	Overburden on GPs Stressed reception staff High volume of phone calls Getting through to the surgery Limited same-day appointment availability Same day appointment booking – inflexible for patients Role of receptionists	Burden on duty GPs who are on-call Large volume of calls Role of receptionists Elderly people struggled with the new automated system
Resource allocation	Increase workload of GPs Role shifts from receptionists to GPs/ nurse practitioner	Limited staff Limited phone lines Moved telephone room upstairs	Limited phone lines Telephone system/ menu Additional resource on busy days

	Additional resource on busy days Telephone system/ menu	Additional resource on busy days Relationship between reception staff Telephone system/ menu	Relationship between reception staff
Customer service		Consistency • Standardised telephone script Efficiency • Dealing with calls as quickly as possible Training	Customer service as practice priority Efficiency • Dealing with calls as quickly as possible Training
Patient role/ involvement	Positive feedback from patients Patient preference and needs	Patient preference	
Monitoring	Patient feedback Staff feedback Iterative “tweaking”	Patient feedback Staff feedback Iterative “tweaking”	Patient feedback Staff feedback Iterative “tweaking”

7.6.10 Use of SR conceptual framework

Table 25: Mapping of inductive themes on to SR framework constructs – telephone access

Domain	Theme	High implementation sites (P1 & 3)	No implementation site (P2)
External	**Policy and legislation**	-National pressures to improve patient access in GP practices (Driver) -No specific policy related to how telephone services should be implemented and delivered (Challenge)	
	Incentives	N/A	
	Dominant paradigm	-Agenda to improve access (Driver)	
	Buy-in	N/A	
	Infrastructure	-National GP workforce (Challenge)	
	Technology advances	N/A	
	Economic climate and financing	-Decrease in national funding (Challenge)	
	Public (patient) awareness	-Demand is increasing (Challenge)	
Organisation	**Leadership**	-Role of GP in driving decision making and implementation (Driver) -Role of practice manager to drive innovation telephone solution (Driver)	
		-Burden on GPs (Challenge)	-Burden on GPs -Stressed reception staff (Challenges)
		-Customer service as practice priority (Driver) -Consistency (Driver) -Efficiency (Driver)	
	Skill mix and Involvement		-Role of reception staff (Challenge)
	Resources availability	-Limited appointment availability (Challenge)	-Large volume of calls -Limited appointment availability (Challenges)
		-Limited staff -Limited phone lines (Challenges)	-Limited staff -Limited phone lines (Challenges)
	Resource allocation/ mobilisation	-Additional staff to answer calls on busy days	-Additional staff to answer calls on busy days

	Processes & system	N/A	-Do not integrate well with GP workflow
	Relationship	-Relationship between reception staff and patients (Driver)	-Relationship between reception staff and patients (Challenge)
Professional	**Professional role**	-Shifting roles of receptionists and GPs	-Shifting roles of receptionists and GPs
	Competency	-Customer care training	-Customer care training -Consistency – standardised telephone script
	Attitudes to change	-Mixed views about telephone GP triage (Challenge) -Perceived patient preference	-Mixed views about telephone GP triage (Challenge) -Perceived patient preference (Challenge)
	Philosophy/ style	-Adapt to GP style/ preference (Driver)	-Adapt to GP style/ preference (Challenge)
Intervention	**Nature**	-Perceived advantages of telephone GP triage (Driver)	
			-Telephone system not flexible for patients (Challenge)
		-Telephone system/ menu changes over time	-Telephone system/ menu changes over time
	Implementability	-Iterative “tweaking”	-Iterative “tweaking”
		-Adapt to GP style/ preference (Driver)	-Adapt to GP style/ preference
	Safety & data privacy		-Moved telephones upstairs
Themes not accounted for by the SR framework			
Patients	Attitudes and perceptions	-Initial patient resistance -Elderly people struggle with new automated telephone system (Challenges)	-Getting through to the surgery via phone (Challenge)
	Role and involvement	-Patient preference and needs -Patient feedback on telephone system (Drivers)	-Patient preference and needs -Patient feedback on telephone system (Challenges)

	Use of evidence	-Patient feedback -Staff feedback	-Patient feedback -Staff feedback

7.6.11 Assessing the 'fit' between the intervention and context

Fit with external context

Despite a national drive to improve access in general practice in general; no specify policy related to the implementation of telephone triage has been developed. For this reason, the fit between telephone triage and external context was judged to be 'poor'.

Fit with internal context

The fit of telephone triage with the internal context was found to be variable across the three practices. All three practices recognised that telephone triage systems did not reduce the overall practice workload, some thought its implementation added to the GP workload. Practices 1 and 3 were both high implementation sites. Despite the challenges, staff in Practice 1 were proud that they were one of the few practices in the CCG where an all-day telephone triage system was implemented. Because of the mixed experiences of GPs with telephone triage in both practices, adapting the intervention to GP preference was important in supporting its implementation. Therefore, the intervention's fit with the internal context was judged to be 'very good' and 'good' for Practice 1 and 3, respectively.

Whereas for Practice 2, the fit was judged to be 'poor'. There were many elements that hindered its implementation; the most important element was the GP's negative views and prior experience with the intervention and that the intervention did not fit with GP's preference and style.

Table 26: Telephone services: Fit between the intervention and external/ internal context

Practice 1 - Degree of implementation: high (gradual increase)	
External context	Relatively poor fit (-)
Internal context	Very good (++)
Overall fit	Very good (++)
Practice 2 - Degree of implementation: low	
External context	Relatively poor fit (-)
Internal context	Poor (-)
Overall fit	Poor (-)
Practice 3 - Degree of implementation: high	
External context	Relatively poor fit (-)
Internal context	Good (+)
Overall fit	Good (+)

**Internal context includes the organisation and professional (individuals) levels*

7.7 Intervention 3: Named GP scheme

7.7.1 Information related to implementation

All three GP practices implemented Named GP scheme.

Observations showed the implementation of Named GP mainly involved the following steps: 1) allocating a named accountable GP; 2) coding of named accountable GP on the system; and 3) informing patients about their allocated GP. The allocation process was different among newly registered patients (i.e. new patients) and registered patients (i.e. existing patients). For new patients, the practices tended to assign them on a rotational basis (e.g. a practice has three doctors, Doctor X, Y and Z; patient A is assigned to Dr X; patient B is assigned to Dr Y; patient C is assigned to Dr Z; Patient D is assigned to Dr X… and so on). One practice assigned all the new patients to the newer GPs.

For existing patients, the receptionists or administrative staff allocated these patients "in batches" by alphabetical order, for example, names A-H to Dr X, names I-P to Dr Y and names Q-Z to Dr Z. Attempts to allocate the patients' usual doctor as their named GP were inconsistent between practices, even among staff in the administrative team.

The general medical services contract introduced a code for 'patient allocated named accountable general practitioner' (British Medical Association, 2016). This code was used to record on electronic medical records that they had assigned a patient a named GP. NHS England area teams could check whether practices met their contractual requirements. The reception staff also had to check to make sure all the records were coded on the clinical screen, and the name of the same assigned GP was entered on the registration screen. General practices could inform the patient of their named accountable GP by any means of communication. There

was no requirement to write to patients regarding their named GP. However, practices were required to inform patients of their named GP at the next appropriate interaction and it was for practices to decide what was appropriate (British Medical Association, 2016). The empirical data suggested that the way in which the three included GP practices notified their patients of their assigned GP was inconsistent and this will be described later.

7.7.2 External drivers for change

Named GP was strongly driven by policy and the government. Addressing continuity of care was identified as a key priority in the NHS Primary Care London Transformation Plan (NHS England, 2015). Named accountable GPs were introduced across all general practices in England from April 2014. This scheme was incentivised as part of the Unplanned Admission Enhanced Service, with an aim to help reduce unnecessary emergency admissions to secondary care (NHS England, 2014a). Under the 2014/15 NHS contract for general medical services in England, all general practices were obliged to offer patients who were aged 75 or over a named accountable GP to "take lead responsibility for ensuring all appropriate services required under the contract are delivered", this included both health and social care (NHS Employers, 2014). During this initial phase, practices had until 30 June 2014 to notify patients of their named accountable GP (NHS Employers, 2014). The requirement to offer named accountable GPs was extended to cover patients of all ages from April 2015 and has remained in the national contract for 2016 (not part of Enhanced Service) (British Medical Association, 2016). By 31 March 2016 all practices need to include on their website reference to the fact that all patients including children have been assigned a named, accountable GP (British Medical Association, 2016). The policy stated that the named GP is not the sole GP who will provide care to that patient. Patients can and should feel free to

choose to see any GP or nurse in the practice (British Medical Association, 2016). Despite the policy mandate, there was ambiguity associated with the policy in terms of how it needed to be implemented locally.

7.7.3 Internal drivers for change

The data showed lot of congruence across the three practices. Therefore, it was appropriate to present the explanation combining the three practices. Only a few differences were identified which will be highlighted in the narrative explanation.

Importance of continuity of care and the "concept" of Named GP

All three practices felt that continuity is a "*problem*". It's "*widely recognised barrier*" and there was "*more continuity in the older system*". It was common perception among staff that patients want continuity and all level of staff including GPs agreed continuity of care is important.

> *"Some of the patients, they're loyal to a GP and then they want to see the same GP because they think that the GP knows everything about them. And then they are happier. I think there's a kind of traditional doctor/GP... I mean GP/patient relationship, which is okay." (Interview with GP partner, Practice 2)*

> *"It's the bedrock of good general practice, because you want to be able to see the doctor who you've been seeing for the last 20 years. You know, a mum has her children. It's great if that doctor sees her children. I mean, we've got patients here who are into three generations with the same GP. They're very rare now, you know, because of what's gone on." (Interview with practice manager, Practice 3)*

Some staff thought the concept of the Named GP scheme is good. For instance, it gives some patients "*the feeling of stability*" and they could ask for the same GP, "*who you know and trust*". This leads to better patient outcomes as these patients tend to respond better because "*there's a very close relationship between the clinicians and the patients*".

> *"They feel more comfortable, more secure, to see the same GP. And if that GP is a named GP, they feel more confident. More comfortable. That's... I can see that." (Interview with GP partner, Practice 2)*
>
> *"There's perception that where patients have a particular relationship, an ongoing relationship with an individual doctor, a named doctor, then they respond much better to that doctor. They respond better to reminders to come into the surgery, they respond better to the advice that doctor has given them." (Interview with primary care commissioning expert)*

GPs also thought there are further benefits related to consultations, especially consultations with patients are usually short and being familiar with the patient's history would help the GPs.

> *"We don't have long with patients so I think it's nice to be able to have that background already and I think patients appreciate that. I think when you're looking through notes for a long time etcetera patients kind of feel that... You know, especially if they've got a long backstory. They want somebody who kind of has a bit of a knowledge of that rather than starting from the beginning every time." (Interview with GP trainee, Practice 1)*
>
> *"As you get to know people and prescriptions are done by a certain person. It is better, otherwise you can't remember everyone. 12,000 patients, you can't possibly remember... 2,000 you might have a chance… remembering. But at least the ones who regularly have issues you know of them." (Interview with GP partner, Practice 3*)

When this topic was discussed in a PPG meeting (Practice 1), some patients thought continuity is important. However, some thought sometimes it might be good to see a different doctor, depending on the condition and sometimes it is about convenience. This indicates that patients also want flexibility in terms of who they see.

> Then the lead GP said 'yes, you might want to see certain doctors for certain conditions, e.g. see a female doctor if you have lady problems. Convenience sometimes is more important, particularly for younger people…. Also we talked about gender of GP. Because different doctors may also understand problems differently, so it would depend on the problem as well. People can shop around'.

Similar view was found in a PPG meeting of Practice 2, patients did not 'see the point of having a named GP'.

While some thought Named GP was a good idea, some felt the opposite.

> *"I personally think that it's a waste of money and a total waste of time, because it was happening anyway. You know, if a patient wanted to see a Named GP, they would have just asked for that GP, so I think it's just a total and utter waste of time." (Field notes from shadowing clinical admin manager, Practice 3)*
>
> *"I don't see any benefit in that, if I'm honest. Certain people still have a particular GP that they will only want to see. And if the patient has been allocated a named GP, it wouldn't change anything because I would still want to see a certain doctor that's been dealing with my issue. So I don't really see any benefit in that to be perfectly honest. It doesn't really make much sense." (Interview with receptionist, Practice 2)*
>
> *"What is the benefit at the end of the day? But we have [emphasis] to, kind of, accept this and then tell our patients that this is the government is asking us to do." (Interview with GP partner, Practice 2)*

So, staff also perceived Named GP as something that is not "*fixed*". "*It's a good idea to have a named GP […] as long as it's flexible that you can change named GP around as you'd choose to see someone else.*"

Later, I will explain there were practical challenges related to implementation and delivery of Named GP. As a result of this, there were no individual(s) proactively driving the implementation of Named GP scheme across all three practices. Staff thought "*this is the government is asking us to do*" and Named GP is a "*check box exercise*".

7.7.4 What is the intervention?

The main purpose of the Named GP scheme was to encourage continuity of care by giving patients a Named GP who "*they can request to see, should they require*". There was ambiguity (flexibility) with regards to the policy; there was no clear guidance in terms of how patients should be assigned and informed. As a result, staff members in all three practices have different interpretations of what the scheme is and how it should be implemented and delivered. The GPs used Named GP scheme as an opportunity to re-distribute their workload by splitting the patient list evenly among them.

> *"It's more the instigating of it rather than it working. It would work well. I've often encouraged it to happen. Would stop Doctor X getting all the paperwork because it would be shared evenly. So... On paper it works well, it's just doing it." (Interview with GP partner, Practice 3)*

> *"Obviously, I have been working here for the last ten years. There are some new doctors working for the last one year or two years, so... But obviously you have to share the patients between you. If you have... There are five doctors here for example, and then we have about 7,500 patients, and obviously you have to share the patients equally." (Interview, GP partner, Practice 2)*

"My share probably is working out but, if there are new patients registering with the surgery, probably the receptionist is giving them to the salaried doctors or new doctors to the surgery." (Interview, GP partner, Practice 2)

"I think they do it, like, on a rotational basis, so everybody [GPs] gets the same amount." (Field notes from shadowing clinical admin manager, Practice 3)

Although the policy states that practices require allocating all registered patients with a named GP, some practice staff felt that not all patients need to see their named GP all the time. For instance, staff in Practice 3 had a view that it was not always necessary to see their named GP and "there's continuity about particular problems" such as long-term conditions.

"When someone rings up with a sore throat, they can see anyone. When they've got, you know, heart disease, diabetes, you know, an ongoing cancer, something like that, to be able to say to them they're going to see the same doctor or same nurse is really good. And I'm all for it." (Interview with Practice manager, Practice 3)

"I think they're [GPs] going to try and encourage it so that for long-term conditions they see a set GP, and then if they're ringing up for a cough or cold they can see anybody, so that there's continuity about particular problems." (One to one observation with deputy manager, Practice 3 site A)

7.7.5 Resource allocation

7.7.5.1 Implementation process

The implementation (allocation) process involved mostly the administrative staff, and not the doctors. The method of allocating patients was made relatively simple to minimise administrative burden. For registered patients, the patients were split by alphabetical order between the doctors. For new patients, they were allocated on a

rotational basis or assigned to the newer doctors with a smaller list. Practice 1 and 3 implemented Named GP, close to the date at which this needed to be complete. "*What happened was, close to QoF… around March 2016, we all had this pop-up alert on our computers, telling us all the patients without a named GP… I guess some somehow slipped through the net and came up*". Whereas for Practice 2, just before Christmas (mid-December 2015), Named GP was brought up in the receptionist meeting and the practice manager said 'the list should be divided up between the receptionists so this can get done quickly'. This became a priority and caused temporary disruption to their routine activities. To achieve this, the staff had to "*leave their [every day] admin work aside in order to these named GP's out*". Out of all three practices, only Practice 2 advertised Named GP by putting a flyer on the notice board.

The process in which patients were informed about their allocated GP was highly inconsistent and it varied between practices. For existing patients, the patients were informed either by the reception, the nurse or the doctor as "*it will pop up on the screen*" and the GPs discussed the Named GP with patients as part of consultations. It was perceived to be very costly to inform all the patients by sending them a letter, and was a low priority process and "*a lot of extra work*".

7.7.6 Challenges

Although some staff thought Named GP as an idea was good, the intervention itself was perceived to be not fit for purpose. Named GP scheme was not a practical solution to address the problem of continuity of care and there were many challenges.

7.7.6.1 Named GP is not patients' preferred doctor

Another issue related to Named GP was the way in which the patients were assigned; the patient's named GP may not be his/her preferred GP. And this was an issue for some patients especially those who have been seeing a certain GP, who has not been assigned as their named GP. It was perceived among staff that "*it's ultimately their [patients] choice I think, who they want to see regularly*", and it needs to be "*flexible*" that "*named GP can be changed around as patients would choose to see a different GP. It's not fixed*". However this was not always understood by the patients. This led to a negative impact on the relationship between the doctor and some patients and the doctor had to explain to the patient that he/she can still see any doctor he/she prefers. Overall, this showed a lack of buy-in from patients.

> *"And some of the patients are not happy at all. They are saying that my named GP is not you but you know me ten years, why is this? And I'm... You have to explain to them that this is... This is, kind of, a scheme that I know you for ten years, but I have already my share and then Dr. B has to be your named GP. That doesn't mean that you have to see him all the time. By all means you can come and see me. I can still see you regularly." (Interview with GP partner, Practice 2)*

> *"And certain patients were adamant that they only wanted this GP as their named one. But it make… We were under the understanding that people can still have the choice to see any doctor. It's not this particular doctor we're giving them that they can only see. So…" (Interview with receptionist, Practice 2)*

Some doctors are more popular than others, so patients would still want to see them regardless of their named GP.

> *"I've been in and worked with practices where, you know, virtually everybody wants to register with one doctor, one, you know, particularly, I have to say it's often, you know, it's a doctor who's got a particular style, he's got a*

particularly good bedside manner." (Interview with primary care commissioning expert)

7.7.6.2 Challenges related to implementation

7.7.6.3 Informing patients

Staff particularly in Practice 2 felt there was a lack of opportunity to inform patients. For instance, 'receptionists sometimes forget to ask on the phone because they were preoccupied with appointment booking'; and it was difficult to do it during consultation with doctor as consultation time was already very short. What the practice manager decided to do in the end was to include a statement on their practice website that "*All patients now have a named GP, ask at reception who your named GP is, if not known. You can still consult with any GP*." For Practice 3, letters were sent out for all the over 75s when Named GP was part of the Enhanced Service. But all other patients were not informed who their Named GP was. This is because the policy did not require the practice to write to patients regarding their named GP. Instead, practices were required to inform patients of their named GP at the next appropriate interaction and it is for practices to decide what is appropriate.

7.7.6.4 Assigning patients

Temporary disruption to reception workflow

Observation revealed implementation of Named GP could sometimes introduce disruptions to front reception's routine activities and workflow.

> A male patient in his early 40s, asked if his family can have a named GP. Reception manager asked if the whole family want to have the same GP. He said he and his son usually see Dr x (male doctor), and his wife sees Dr y (female doctor) [he was holding a piece of paper]. Reception manager then

replied and said 'you get a named doctor, but it doesn't mean you will see that GP all the time'. The patient said 'I know [insisting], I have written down our names and the GPs' names, do you need it?' Reception manager took the piece of paper. At this point, there were 4 more patients queuing. She asked him (the patient) to move to the side and so she could deal with other patients with appointments first. She told one of the patients to do a blood pressure check. After that she went back to put the named GPs chosen by the patient on the computer system. (Field notes, front reception)

In addition, because some named GPs are not the patients' preferred doctor, they sometimes asked to change their named GP at the front reception:

> *"We have tried to explain to the patients. Some of the patients, they understand. There are some old patients, they don't understand. They still demand that at downstairs please change my named GP to Dr. X, or Dr.Y, or Dr. Z. This is happening. This is, kind of, causing some, kind of, some restlessness with some of the patients. That's it, actually." (Interview with GP partner, Practice 2)*

7.7.6.5 Delivering Named GP is not practical

Poor fit with the current way of working

A key challenge of Named GP is related to its practicality. Staff in all three practices felt that delivering named GP is not practical. For instance, practice 1 only has two regular GPs on site daily. All practices also mentioned many GPs work part-time which made it difficult.

> 'The problem is the part time GPs, the chances of getting seen by them is slim.' (Field notes, practice manager's office, Practice 2)
>
> *"People have got to understand the implications of a named GP. I mean, if Dr x only works two days a week she cannot have a list size of 2,000 or 3,000 patients. She's only got... What, that's... 35/36 appointments, that's 70 to 80 appointments a week. So how can we give her a list size of 2,000 or*

3,000 patients? So when... If we go to that, we're going to have to say to something like 2,000 of her current patients who she's sort of nominally in charge of, you're never going to see her. Who selects those?" (Interview with Practice manager, Practice 3)

There were also restrictions in terms of *when* patients could see their named GP. Patients could only ask to see their named GP for routine appointments only, and not urgent or same day appointments.

"So I can understand that but obviously for certain things it's not appropriate if you've got... If you're having an emergency then it's the emergency doctor who should be seeing you and not the regular doctor." (Interview with GP trainee, Practice 1)

Observations revealed some patients were not aware of this restriction when booking an appointment with the receptionist on the telephone.

> Urgent appointment booked for 4.50pm. Patient asked which doctor she will see and wanted to see a particular doctor. Receptionist explained that she can't pick the doctor, she can only pick for routine appointment.
>
> (Field notes from observing telephone conversations between receptionist and patients, upstairs reception office, Practice 2)

Interviews also suggest if the patients wanted to see their named GP and "*were prepared to wait*"; the receptionist would "*pre-book them something further ahead*". However "*this is not always in their [patients] best interest"*, as it may have affected patient safety i.e. a delay in diagnosis and treatment.

> During a PPG meeting in Practice 2, concern was expressed about the wait to obtain an appointment with a named doctor – a wait "*as long as six weeks*" and the appointment got cancelled at very short notice due to the unavailability of that doctor. (Meeting minutes)

Administrative burden

Staff raised a concern that if one GP was leaving, his/her list would go to somebody else either to new GP or the list will need to be split again among the GPs. And the patients that were registered with the previous GP, the staff would have to inform them. This caused extra administrative workload and required additional resources.

> *"And one of them [GP] is leaving, so his list will go to somebody else. And somebody new is coming, so it will be a bit of a transitional period. But we will… People that were registered with the previous GP, we'll have to do it a mailshot or text message." (Interview with practice manager, Practice 1)*
>
> 'If the GP has left, they would need to reassign a new GP for all his/her patients. Then what's the point?' (One to one observation with practice manager, Practice 2)

7.7.7 Alternative ways to address continuity of care problem

Observations revealed practices took alternative approaches to address the continuity of care issue. In Practice 2, it was important that doctors are consistent when managing difficult patients. Ideally these patients should be seen by the same GP which can be the patient's named GP. However, because many GPs were part-time, these patients were often assigned to two doctors. So if one was not available, the patient would be seen by another allocated doctor. Additionally, the doctors in this practice had different roles. Observations revealed that development checks (6-8 months of age) were carried out in "*double appointments*" by one female doctor who was also the maternal and postnatal lead, in order to ensure continuity. If the midwives had any issue or concern, they should raise it with this particular female doctor.

In Practice 3 the issue of continuity of care was brought up when discussing individual patient cases during a clinical meeting, and a GP suggested it is important to follow up cases even though the patient may have been seen by a different GP previously and it might take more time.

Table 27: Summary of themes for implementing Named GP scheme

Results subheading	Themes/ subthemes (Practice 1, 2 and 3)
Drivers – external	Governmental policy – originated from the Avoidable Unplanned Admission Scheme Change in policy, from over 75s to all patients Change in financial incentivisation structure Continuity of care as important topic nationally Demand is increasing in terms of patient numbers and patients who want to be seen by a doctor Pop-up alerts to assign patients without a named GP close to QoF
Drivers – internal	Practice manager's role to prioritise implementation of named GP Attitudes among staff Continuity of care • Acknowledge the problem • Acknowledge the importance of continuity of care: traditional GP/ patient relationship Seeing same GP: • Patient trust and ongoing relationship with a certain GP • Respond better to the advice and reminders to come into the surgery • Gives patients stability and confidence • Helps GPs with their consultations (related to familiarity of case) Seeing different GPs: • Patients wants flexibility and convenience • Choice • Based on needs of patients
Purpose of named GP	Mixed views about Named GP • Flexible, not fixed • Important patients are aware of named GP as a concept • Named GP doesn't change anything • Check box exercise • Administrative exercise "on paper" • "It was happening anyway" Rules about named GP depending on problem Original purpose of Named GP changed

	• Opportunity to redistribute workload by splitting patient list equally between the doctors – more even workload
Challenges	Allocating named GPs: • Popularity of GPs Informing patients • Lack of opportunity to inform patients • Do not fit with their routine working • Impact on GP/ patient relationship Challenges associated with seeing named GP in practice • Waiting time to book appointment with named GP • Patient safety • Availability of named GP vs patient knowledge • Rules: named GP is only for routine appointments, not urgent same day appointments Administrative issues: • Implementation of named GP results in temporary disruption to their routine workflow • Impact of GP turnover on Named GP Challenges specific to individual practices
Resource allocation	Minimising administrative burden Assigning patients to a named GP • Existing patients: splitting the list in half; coding in batches • New patients: rotational basis or newer GPs with a smaller patient list Informing patients about their named GP • Inconsistent, e.g. can be told by the reception, nurse or the GP, telephone, letter, text messaging service • Too costly Adding to administrative workload (reception) • Patients demand to change their named GP • GP leaving the practice
Patient role/ involvement	Patients did not perceive the usefulness of having a named GP
Monitoring	Number of patients with allocated GP

7.7.8 Use of the SR conceptual framework

Table 28 shows the mapping of the inductive themes on to the SR framework.

Table 28: Mapping of inductive themes on to SR framework constructs – Named GP

Domain	Theme	Practice 1, 2 and 3
External	**Policy and legislation**	-Governmental policy (Driver) - Change in policy, from over 75s to all patients (Driver)
	Incentives	-Change in financial incentivisation structure
	Dominant paradigm	-Continuity of care (Driver)
	Buy-in	-Buy in from the government (Driver)
	Infrastructure	-National GP workforce challenge (Challenge)
		-Part-time nature of GPs (Challenge)
	Technology advances	N/A
	Economic climate and financing	-Decrease in national funding (Challenge)
	Public (patient) awareness	-Patients want continuity of care (Driver)
Organisational	**Leadership**	-Practice manager's role to prioritise implementation
	Skill mix and Involvement	-Receptionists to allocate/ inform patients (Challenge)
	Resources	-Availability of named GPs -Lack of time -Temporary disruption to their work -Impact of GP turnover (Challenges)
		-Too costly to inform patients -Adding to administrative workload at reception (Challenges)
	Processes & system	-Does not fit with GP consultation (informing) -Does not fit with routine working (Challenges)
	Relationship	-Impact on GP/patient relationship (Challenge)
Professional	**Professional role**	-Acknowledge the problem/ importance of continuity of care (Driver)
	Competency	N/A
	Attitudes to change	-Staff attitudes about continuity of care

		-Mixed views about named GP (Challenge)
	Philosophy/ style	-Different GPs have different styles and bedside manner
Intervention	**Nature**	-Pop-up alerts to assign patients without a named GP close to QoF (Driver/ implementation strategies)
		-Rules of named GP (Challenge)
	Purpose/ understanding of intervention	-Intervention not fit-for-purpose, not practical -Original purpose of Named GP changed (Challenges)
	Monitoring/ use of evidence	-Monitor the number of patients with allocated GP
	Implementability	Process of allocating named GP (Challenge)
	Resource allocation	Implementation process designed to minimise administrative burden
	Safety & data privacy	-Patient safety due to long waiting time to see named GP (Challenge)
Themes not accounted for by the SR framework		
Patient	**Attitudes and preference**	-Patients did not perceive usefulness of having named GP (Challenge)
		-Patient preferred a certain GP style (Challenge)

7.7.9 Assessing the 'fit' between the intervention and context

Fit with external context

The fit of the Named GP scheme with the external context was found to be the same for all three practices. As presented in Table 27, Named GP was a national policy driven by the government; the scheme was an attempt to promote continuity of care which was perceived to be an important issue among the public. Because of the strong forces coming from the national policy, the fit was judged to be 'very good'. The practices were contractually required to implement Named GP.

Fit with internal context

The fit of the Named GP scheme with the internal context was found to be similar for all three practices. Whilst the importance of continuity of care was frequently acknowledged by GPs and non-clinical staff; they all collectively thought Named GP scheme was not a practical solution. Even though the overall organisation/ professional context did not favour Named GP, the intervention was implemented as "*administrative exercise*". Because of the way in which Named GP was implemented, there were a number of unintended consequences e.g. Named GP isn't the patient's preferred GP. Therefore, the fit was judged to be 'poor'.

Table 29: Named GP scheme: Fit between the intervention and external/ internal context

Practice 1, 2, 3 - Degree of implementation: Implemented	
External context	Very good fit (++)
Internal context	Poor fit (-)
Overall fit	Poor (-)

**Internal context includes the organisation and professional (individuals) levels*

7.8 Chapter Summary

This chapter presented the analysis of individual interventions, namely online services, telephone services and the Named GP scheme. The first finding was the variation in the degree of implementation of these interventions between the three GP practices. For online services, the degree of implementation was highest in Practice 3 followed by Practice 2 and was low in Practice 1. For telephone GP triage, it was implemented successfully in Practice 1 and 3, not Practice 2. For Named GP scheme, it was implemented in all three GP practices. Five overarching themes emerged from the inductive analysis: drivers for change, challenges related to implementation, resource availability and allocation, use of evidence and patient role and involvement.

The fit between the intervention and context was assessed for each intervention, and each GP practice where appropriate. The fit varied between sites for online services and telephone services, explaining the different implementation results. The overall fit was poor for Named GP, yet the scheme was implemented by all three practices due to strong policy drivers.

8 Findings part 4: Integration of findings and implementation of multiple interventions

The previous chapter presented the findings for individual interventions, exploring the role and influence of context on their implementation and delivery. In this chapter, I compare across the different interventions, considering patterns such as any differences in features by contrasting high and low implementation sites. I explore whether a good overall fit between the intervention and context leads to a greater likelihood of implementation. I then present an exploratory analysis of what happens when multiple interventions are implemented simultaneously within the same setting.

8.1 Differential degree of implementation between and within sites

There was an overall political drive to improve access and a push to implement new approaches in order to achieve better access in general practice. As expected, there was variation in the degree of implementation between the three study sites. When looking across multiple interventions, the data showed some variations in the degree of implementation within the same practice, except for Practice 3.

Table 30 Differential degree of implementation between and within sites

Degree of implementation	Practice 1	Practice 2	Practice 3
Online services[1]	Low	Medium (gradual increase)	Very high
Telephone GP Triage	High	Not implemented	High
Named GP scheme[2]	High	High	High

[1]Degree of implementation of online services was determined by considering: the range of online services offered by the practice and % patient awareness and use of online services compared to their CCG averages derived from the GP Patient Survey.
[2]Degree of implementation of Named GP was determined by whether the practice had adhered to the scheme's policy, i.e. every patient had been allocated a Named GP, but not how they were allocated/ informed/ delivered.

8.2 Interventions evolution - a shifting context

My findings suggested interventions evolve with time as a response to a change in context. This evolution can be related to the intervention itself and the way in which it is implemented or delivered. The effects of context change on each practice are different.

One example is online services. The incremental changes in policy and contract (see Table 18) reflected the increasing importance of online service provision over time. Because of this, all practices had to comply and implement online services to meet the basic requirements as per the national contract. This together with the CCG's target of at least 50% patients using online services, staff in Practice 2 felt they had to respond to this change and promote online services to their patients more. However for Practice 3, because they were proactive from the beginning, this change in context had little effect on them. It is possibly in the long run Practice 3 might 'do better' as the range of online services continued to evolve and expand (e.g. booking blood test online, access clinical records online) over time, beyond the contractual requirement. Overall, this change in wider policy facilitated implementation of online services.

A different example is the Named GP scheme. Like online services, the policy related to Named GP scheme changed over time (see Section 7.7.2). It initially included patients aged over 75 years, and subsequently expanded to all patients. The financial incentivisation structure also changed over time, from an Enhanced Service (resulted in additional payment for individual practices) to becoming part of the core contract. Named GP scheme was implemented in accordance to policy requirements in all three practices. It was an intervention for administrative purposes; it was not implemented in a way that engaged with patient care. There was a lack of organisational buy-in and staff saw this as an opportunity to re-

distribute or “even out” the workload among the GPs. Although this change in context did not prevent or facilitate implementation of Named GP (i.e. implementation result did not change and Named GP was implemented as required), the consequences were significant because of the way Named GP was implemented, e.g. named GP was not the patient’s preferred GP which affected patient-GP relationship.

8.3 How do the findings ‘fit’ with the systematic review (SR) framework?

A multi-level conceptual framework of factors influencing implementation of a wide range of complex interventions in primary care/ general practice was derived from the systematic review (see Chapter 2) including 70 reviews.

In Chapter 8, deductive analyses were carried out for each chosen intervention by mapping the empirical data to the SR framework constructs.

	Location of analysis in text
Online services	Page 232
Telephone services	Page 252
Named GP	Page 273

The three analyses, one for each intervention, demonstrated that the SR framework could be used effectively against empirical data. Most of the features or constructs within the framework could function as drivers, challenges and implementation strategies.

In this particular section, I wished to explore the following:

1. Fit between the intervention and context
2. Relationship of different domains (external context, organisational context, professional context and intervention)

3. Relative importance of contextual features.

The three related questions are:

1. Can the degree of implementation be explained by the fit between the intervention and the context?
2. How do the different domains interact with one another? If so, how?
3. What are the key drivers or challenges that enabled or compromised implementation?

Each of these questions will be addressed and discussed in turn below.

8.4 Can the likelihood of implementation be explained by the fit between the intervention and context?

Fit between the intervention and context

In this section, I examine whether implementation success can be determined by the fit between the intervention and context; the better the overall fit, the more likely the intervention will be implemented, or vice versa.

Table 31 summarises the fit of each intervention with the external and internal context, in relation to its degree of implementation by GP practice. The analysis revealed that, first of all, the external context for each intervention was shared (similar) between the GP practices; whereas the internal context varied for different interventions and GP practices. As a result, there is no single explanation for a high or low implementation. This clearly demonstrated implementation is context-specific i.e. the importance of context, also the different features that shape the unique internal context for each intervention. Consequently, different scenarios of implementations emerged which is explained further later in this section. I also considered a widely used concept in the change literature that distinguishes

between top-down and bottom-up approaches to further aid my interpretation of the study findings. Top-down implementation is driven by authoritative decisions that are centrally located by actors who aim to produce the "desired effects" (Matland, 1995). The top-down system often demonstrates clear hierarchy of authority and rules established at the top. Whereas the bottom-up implementation approach initiates with the target groups and service deliverers i.e. the actual implementers of the policy or intervention.

In this part of my analysis, I explored the following questions:

> Can the degree of implementation be explained by the *overall* fit (external and internal context combined), or fit with the external or the internal context *alone*?

My analysis revealed yes to both parts of the questions (see Table 31).

Table 31: A summary of fit between context and intervention, across study sites and interventions

	Practice 1	**Practice 2**	**Practice 3**
Online services	Implementation: low Fit with: External context: + Internal context: -	Implementation: medium (gradual increase) Fit with: External context: + Internal context: +	Implementation: very high Fit with: External context: + Internal context: ++
Telephone services	Implementation: high Fit with: External context: - Internal context: ++	Not implemented Fit with: External context: - Internal context: -	Implementation: high Fit with: External context: - Internal context: +
Named GP scheme	Implemented Fit with:	Implemented Fit with:	Implemented Fit with:

	External context: ++ Internal context: -	External context: ++ Internal context: -	External context: ++ Internal context: -

++, very good fit; +, good fit; -, poor fit

The empirical data have demonstrated that the degree of implementation can be explained by the overall fit between the intervention and context.

8.4.1 Scenario 1 High implementation explained by good overall fit between the intervention and context

Example: Online services, Practice 3 (Table 31)

This shows the optimal scenario for implementation, where policy and the needs of the practice were well-aligned. The intervention was driven by the combined top-down and bottom-up forces. Despite having the same amount of top-down pressures to introduce innovative methods of access, this practice had achieved the most compared to the other two GP practices. The overall context was favourable, i.e. no significant elements were identified to inhibit the implementation. The practice as a whole embraced the potential of online solutions with the practice manager driving the implementation. This practice took a proactive approach and they were able to offer additional innovative online services (Table 20).

8.4.2 Scenario 2 No/ low implementation explained by poor overall fit between the intervention and context

Example: Telephone triage, Practice 2 (Table 31)

As described earlier in the chapter, there was an external push to improve access and this shaped the overall priorities of GP practices. However my data

demonstrated that this external drive to improve access alone was not enough to drive implementation of GP telephone triage. This can be partly explained by the absence of specific policy relevant to the intervention. There was no policy requirement to implement telephone GP triage. In Practice 2, telephone GP triage was implemented initially but stopped after a while and this can be largely explained by the GP Principal's views of the intervention which is shaped by his philosophy of care, style and preference (Table 25). This scenario overall shows a lack of both top-down pressures and desire at the practice level (weak bottom-up forces) to implement the intervention, which explains the implementation result.

I also found that there were some instances where the degree of implementation is *not* dependent on the overall fit between the intervention and context.

8.4.3 Scenario 3 High implementation explained by good fit with external context alone

Example: Named GP, all practices (Table 31)

All three practices did not agree with the Named GP scheme (see Section 7.7) for explanations). There was a lack of buy-in as they did not feel the intervention could improve continuity of care. Yet the scheme was implemented due to strong external pressures and policy imperative. All practices implemented the scheme according to the requirements outlined in the policy, i.e. all patients were allocated a named accountable doctor. In summary, the policy was mainly driven by top-down forces rather than bottom-up forces. They all complied and did what the policy asked for; therefore this might be considered an implementation success and the goal was somewhat achieved. However, the implementation deviated significantly from the

original purpose i.e. the practices were using this as an opportunity to re-distribute the doctors' workload by splitting the patient list equally between them. In addition there were no guidelines as to how the patients should be allocated, the practices were allowed to implement the policy according to their local circumstances and preferences. The Named GP scheme was implemented as an administrative process - in order to achieve the "desired policy outcome" without any tangible benefits of staff or patients. In summary, the implementation of Named GP succeeded due to the strong top-down policy imperative without bottom-up forces.

8.4.4 Scenario 4 High implementation explained by good fit with internal context alone

Example: Telephone triage, Practice 1 (Table 31)

As shown in **Scenario 2**, for GP telephone triage, whilst there were external pressures to improve patient access, without any policy specific to telephone triage, the implementation decision was mainly made by the organisation. Compared to Practice 2, Practice 1 was a much newer practice. Staff particularly GPs in Practice 1 understood the value of implementing telephone GP triage, as a way to manage demand by evaluating the patients' condition and determining their priority as to whether they need to be seen by a GP on the same day. This was further enhanced by the positive feedback received from their patients. The practice was one of the few practices in the CCG that implemented an all-day telephone triage. In summary,

implementation of GP telephone triage can succeed by having strong bottom-up forces, without top-down drivers.

8.5 Can we use the "fit" between the intervention and context to predict long term implementation (sustainability)?

Scenario 1 (Page 282)

This is the optimal scenario for implementation where the overall fit was good, i.e. the intervention had a good fit with both external and internal context. As a result of this, a wide range of online services was implemented and offered by Practice 3, 'more' than the other two practices. This practice was an early adopter, they would continue to outperform other practices and thrive on the provision of online services given the condition i.e. overall fit remains the same. The policy drive to implement online services had grown gradually over the years; because this practice took a proactive approach even if the policy for online service provision continues to grow in the future, they would have the capacity to accommodate the change mainly because various interventions (in addition to those required by the policy) had already been implemented. Because of this, the intervention would be more likely to 'stick' therefore has a higher chance to be normalised in routine practice. As the system was already in place together with strong organisational buy-in and leadership, the intervention would be less likely to be affected by a change in context unless the internal context changes, for example, the practice manager leaves the practice.

Scenario 4 (Page 284)

This scenario demonstrated that an intervention can be implemented successfully if it has a good fit with the internal context alone. Telephone GP triage has the

potential to be normalised in routine practice in Practice 1. However, in the absence of strong external policy drivers or forces, if the conditions of the internal context change significantly, the likelihood of long term implementation may be affected. Further because the practice was under the management of a larger GP federation, their priorities could be somewhat influenced by this governing structure even though there might be some degree of flexibility.

Scenario 3 (Page 283)

Named GP is a policy-driven intervention. This scenario showed that an intervention can be implemented if it has a good fit with the external context alone. However because the scheme was viewed collectively as not feasible and practical among staff within the internal context, particularly related to their current structure and ways of working; if the government decides not to enforce or continue with the policy, Named GP would be likely to be abandoned.

The examples shown above illustrate that the assessment of fit between the intervention and context may have the potential to predict long term implementation success.

8.6 Cross-level relationships

There are two main types of cross-level influences:

- Unidirectional relationship/ influence: the interaction operates in a single direction (one-way) (⟶);
- Bidirectional relationship/ influence: two-way interaction between two factors/ domains (↔).

These relationships could affect implementation either in a positive or negative way.

External domain ⟶ organisation domain

My analysis suggested when examining the interactions between the external and internal context, many were unidirectional. For example, while Named GP had a good fit with the external context as it was a policy-driven (top-down) intervention, it had a poor fit with the internal context. As a result, there was a lot of workaround from staff in order to implement Named GP.

> *"But we have [emphasis added], to, kind of, accept this and tell our patients that this is the government is asking us to do." (GP partner, Practice 2)*

This illustrates that the external context had an influence on the internal context, but there was no subsequent interaction from the internal context back to the external context, e.g. practice staff's views and experiences of Named GP did not result in any changes in the policy.

Another example is online services. Similar to Named GP, the practices responded to the external pressures to implement online services. The interaction was unidirectional.

External domain → organisation domain

Examples	Key interaction(s)	Illustrative quote	Effects
Online services (Practice 2)	**Policy and legislation** → increased levels of **involvement** and **resource** allocation	"…more recently I went to a PM [practice manager] forum and it said that we need to increase by 2018 to 50% online. That's what NHS England want. So we *increased our appointments*. Like I say, we are getting more but we are *promoting it more*." (Practice manager)	Positive effects on implementation

The lack of bidirectional interactions between the external and internal context can be partly explained by the practice's disengagement with the CCG and the perceived lack of power to influence external decision making. *"External changes, absolutely none. It's just as though we don't exist. You just get told…"*

Professional domain ↔ organisation domain

I found that when examining the internal context, bidirectional interactions were more likely to occur between the organisation domain and the professional (individual) domain.

Examples		Interactions	Effects
Telephone GP triage	Practice 2	Professional domain *Themes:* GP philosophy, preference and style "Both GP and patient have better understanding with the face-to-face appointments [compared to telephone]" (GP partner) Organisation domain *Themes:* hierarchy structure; shared vision The organisation responded to the GP's perceptions; a shared understanding of beliefs and values was constructed among staff and this resulted in a lack of organisational buy-in. "It [intervention] basically burnt itself out because it was getting longer and longer and longer. And then the doctors were then having to call them in to be seen as well. So you were	Negative effects on implementation

		dealing with the patient twice." (Practice Manager)	
Online services	Practice 3	<u>Professional domain</u> *Themes*: prior experience, attitudes and beliefs, authority/ influence, leadership "You've just got to keep asking them [staff], telling them, reminding them, we have public meetings where we discuss things like this. I do it via the patient participation group. We do it via the website. We say, you know, by saying why don't you do this online…" (Practice manager) <u>Organisation domain</u> *Themes:* Involvement, organisational buy-in, shared vision, resources The practice manager's vision and drive led to an increased staff involvement in promoting online services to patients and increase resources allocated to the implementation. This had become part of the organisational priorities. This organisational buy-in and collective actions reinforced the practice manager to continue to push for online solutions.	Positive effects on implementation

8.7 Relative significance of different aspects of context and their impact

The three individual deductive analyses (see Pages 232, 252, 273) showed that even within the high implementation sites e.g. online services: Practice 3 and telephone triage: Practice 1, drivers and challenges co-exist which suggests there is no implementation without its barriers or challenges. The analyses also suggest that the number of drivers and challenges do not explain implementation success of a particular intervention and implementation can succeed in spite of many challenges. Rather, it is more about how the organisation or individuals respond to these barriers. For instance, a lack of financial resources to implement a new practice website due to the lack of CCG buy-in was perceived to be a significant challenge in Practice 3 but this challenge was overcome by the leadership of practice manager

and his desire to drive online solutions. Another example is telephone triage in Practice 1, even though the GPs expressed mixed views and attitudes towards the intervention, it got implemented due to the lead GP and practice manager working together to drive its implementation. The solution was to adapt the intervention to individual GPs' style and preferences. Those challenges did not stop the practice from implementing the intervention.

Both of these two examples demonstrate the importance of leadership in driving the implementation forward; this is usually followed by creating collective buy-in. this was achieved by influencing and communicating the benefits with staff. Because of the strong drive and leadership, usually (more) resources were allocated and invested in order to implement the intervention e.g. different ways to promote the use of online services. My analyses also showed that individuals within the organisation went on to gather "evidence" to reinforce their decisions of implementing the intervention. This "evidence" came in different forms; the more common type of evidence was the informal feedback from patients. Ongoing monitoring of usage took place in Practice 2 and 3 e.g. whether the online appointments were being booked by patients and more objective measures such as the number of patients registered with online services.

For the low implementation sites e.g. telephone triage: Practice 2; online services: Practice 1, these challenges were perceived to be so strong that they remained as barriers or reasons for not implementing the intervention. For instance, the style and preference of the GP Principal and his views about the intervention were the key reasons for stopping the implementation of telephone GP triage in Practice 2. Whereas for online services in Practice 1, these challenges were more complex, staff collectively expressed that their large non-English speaking patient population was a significant barrier; hence they were ambivalent about the benefits that the intervention could bring for their patients. Furthermore, they were faced with the

unexpected growth of registered patients. This acted as an additional barrier to implementing online services. In the meantime they acknowledged the increased pressure coming from the CCG, it would be interesting to find out whether they would eventually implement online services once the issue with patient list size was addressed.

Figure 21 illustrates the way in which perceived challenges behave and have variable impact on implementation. It shows that in addition to describing these challenges or barriers, it is important to consider: what impact do these challenges have on implementation?

Example: new practice website (Practice 3)

Lack of financial resources/ CCG buy-in	Being overcome by another feature, e.g. strong leadership	Became insignificant, therefore no longer a barrier

Example: online services (Practice 1)

Unexpected growth of patient list Non-English speaking patient population	No response, due to lack of capacity? Time was spent on managing the increased volume of patients	They became reasons why the intervention didn't get implemented

Figure 21: Impact of perceived challenges on implementation

8.8 Implementing multiple interventions simultaneously in general practice

The reality of implementing multiple interventions into general practice

As discussed earlier, implementation science in its current state focuses on the study of individual interventions going into practice, and a key motivation for the development of my thesis was studying what happens when multiple interventions are simultaneously introduced in the same setting as this reflects the messy reality of general practice. This has not previously been explored. As my fieldwork went on, I became increasingly convinced that this was an important area that warranted further investigation. This idea of multiple interventions going into general practice may form an important part of context.

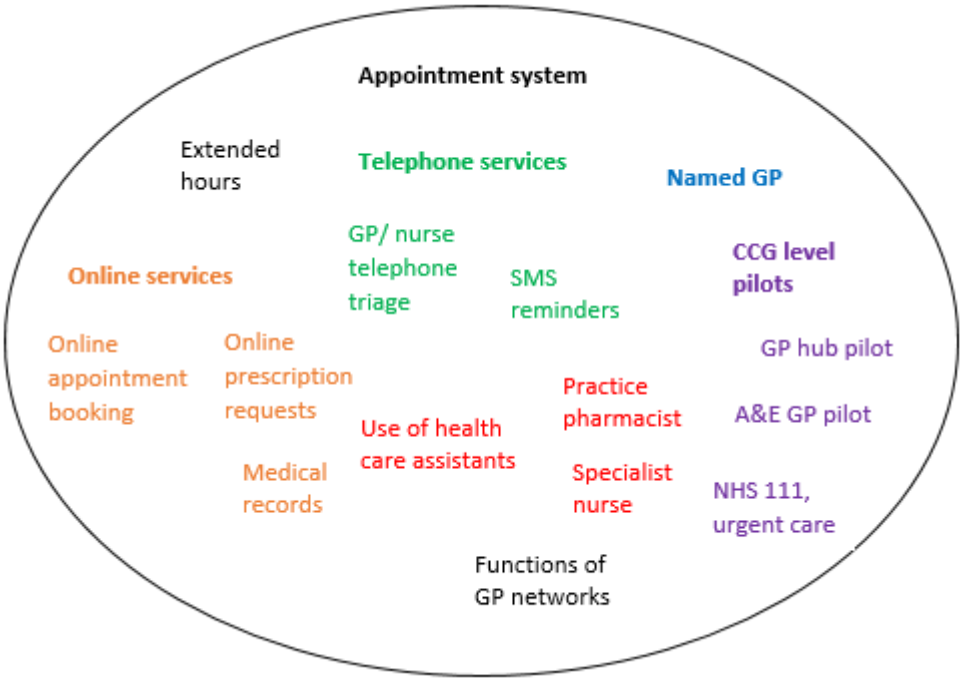
Chapter 6.2 has demonstrated that general practice operates in an age of accelerating change, increasingly uncertainty and growing complexity. A lot of changes have been introduced rapidly as a result of political, economic and social turbulence. This is the same for all three study practices. Change is often non-linear and working in such a dynamic environment can be challenging with lots of competing demands and priorities. This complex reality continues to interact with and affects individual practices' ability to innovate and implement new interventions.

In this case study, I chose to mainly focus on three different interventions namely online services, telephone service and Named GP, each of them is complex in its own right as explained in the previous chapter. In addition to these three interventions, there were other interventions for improving access that I did not include in the case study. Some of these interventions were implemented during the period of data collection at the practice level such as extended opening hours and the introduction of new roles such as practice pharmacist. Some were implemented outside the practice setting such as the CCG level pilots:

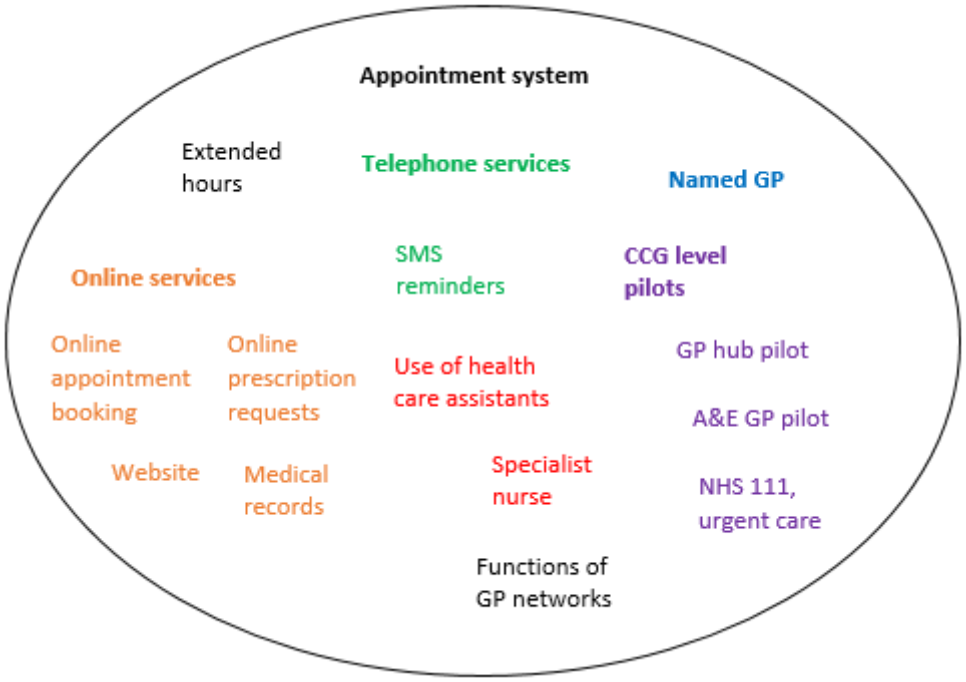
- GP hub pilot: formation of ‘GP hubs’ within the CCG as a way to improve patient access to GPs. Extra GP appointments were available in the evenings and at weekends. If there was no appointment availability in the patient’s registered practice, he or she may obtain an appointment in one of these GP access hubs.
- A&E redirection pilot: having GPs on site at A&E to educate patients by redirecting them to appropriate care, e.g. sending them back their GPs, in order to reduce pressures on A&E.
- Other out-of-hours access: NHS 111, urgent care centres, walk-in centres

All the interventions are summarised in Figure 22 to further illustrate the complexity of multiple interventions related to improving patient access, by GP practice. These interventions, together with the individuals within the organisation that implement and deliver them, interacts with service users (patients), shape the complex notion of access in general practice. The core appointment system constantly evolves as a result of implementing these different interventions.

Practice 1



Practice 2



Practice 3

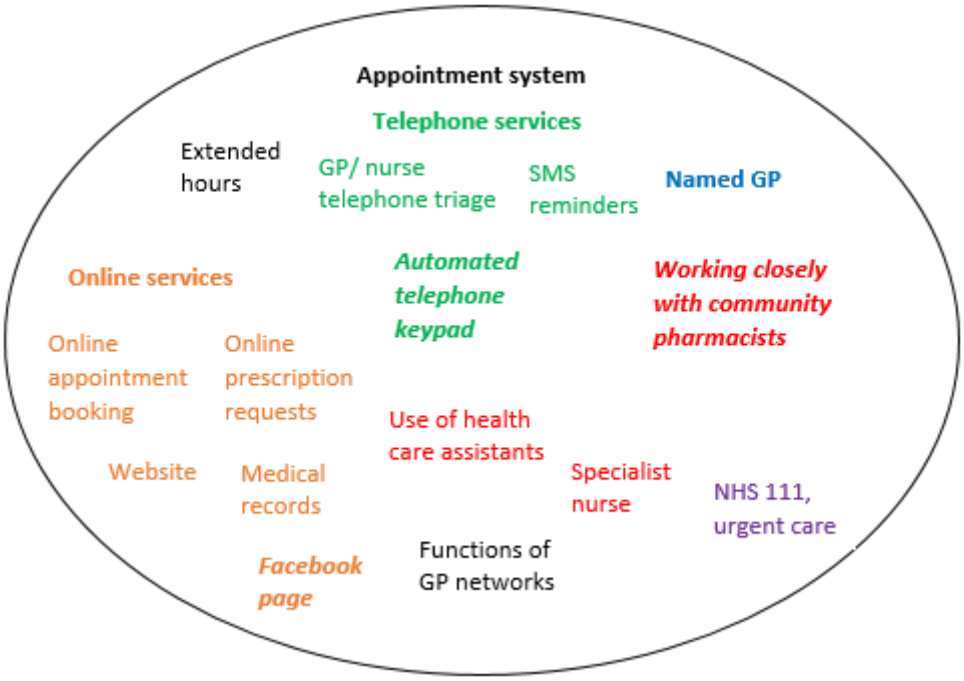


Figure 22: Complexity of multiple interventions related to improving patient access

8.9 What happens when there are multiple interventions going into general practice - Relative intervention prioritisation

As evident from observation, general practice frequently faced competing priorities ranging from a new intervention, policy initiative, to demand from daily tasks and activities also known as co-occurring events. It can be any activity that competes with or may take priority over the intervention of direct interest. I found that when individual practices were presented with many competing options in the form of demand internally/externally or new interventions/ opportunities, the prioritisation process whereby decisions are made in terms of which services or interventions should take precedence in relation to each other became important. Prioritisation is needed because the need and demands for health care are greater than the resources available. This is also known as ***relative intervention prioritisation***.

The funnel diagram (Figure 23) illustrates my interpretation of the relative intervention prioritisation process. I envisaged this is what happens when multiple interventions are going into individual practices through my experiences (observation) in the three study practices. In the real-world general practice setting, a mix of competing demands (black circles) and new opportunities/ interventions (different colours denote different kinds of change and interventions) are presented at any one time. These demands and opportunities are of different sizes, as some may take longer to implement and complete than others. Due to limited resources, it is simply impossible to implement everything that has been presented to them. The implementation and delivery of the chosen interventions in this study i.e. Named GP, online services, and telephone services took place in the same setting therefore it is likely that they all compete with one another for the same pool of available resources. Therefore filtering took place in order to prioritise projects/ interventions.

Even when the intervention made it into “implementation”, circumstances can change and therefore the fit between the intervention and context also changes or intervention evolve with a change in context which can lead to a (positive or negative) change in implementation outcome. At the end of the implementation process, there are some grey circles which represent the abandoned interventions caused by various reasons. The below diagram denotes the process in which multiple interventions are going into GP practices, highlighting the unpredictable and messy nature of implementation which involves both decision making and a series of corresponding actions or activities to operationalise these decisions.

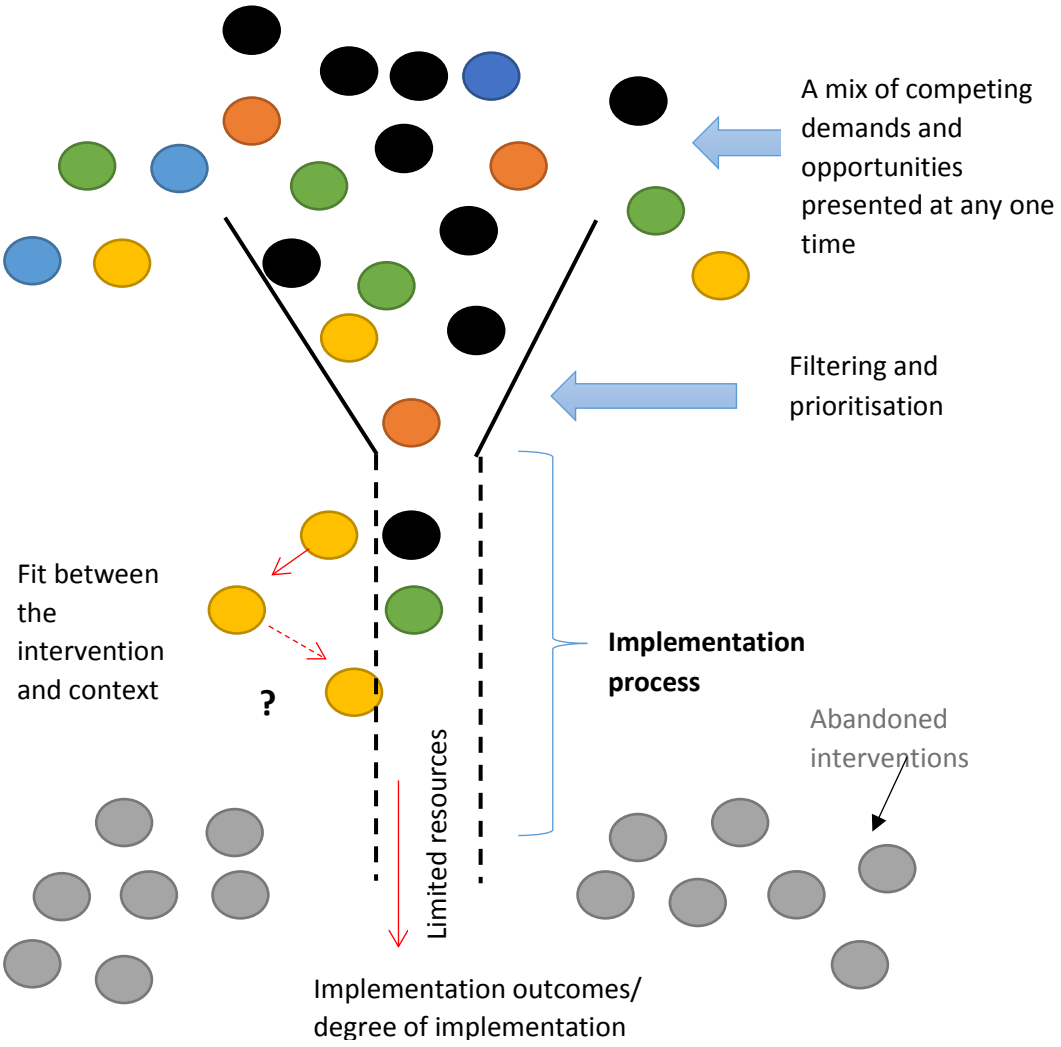
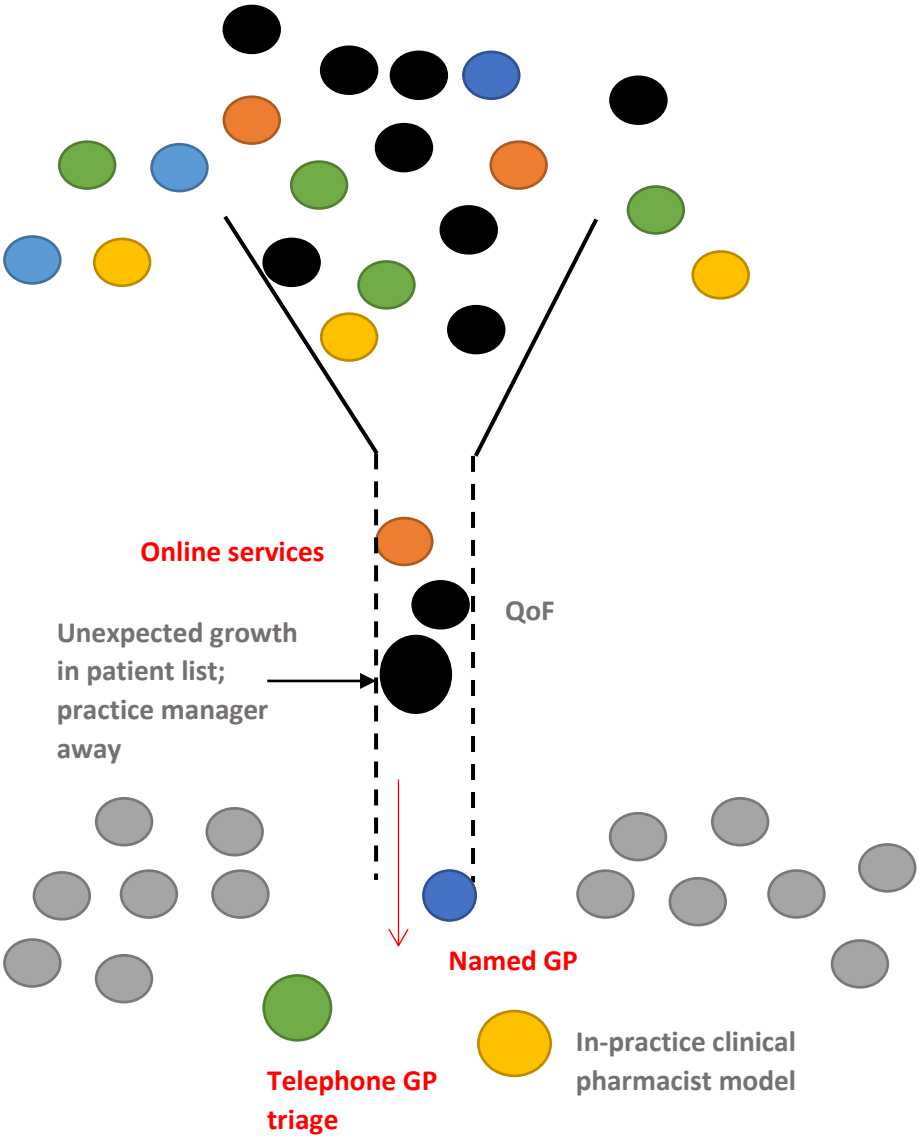


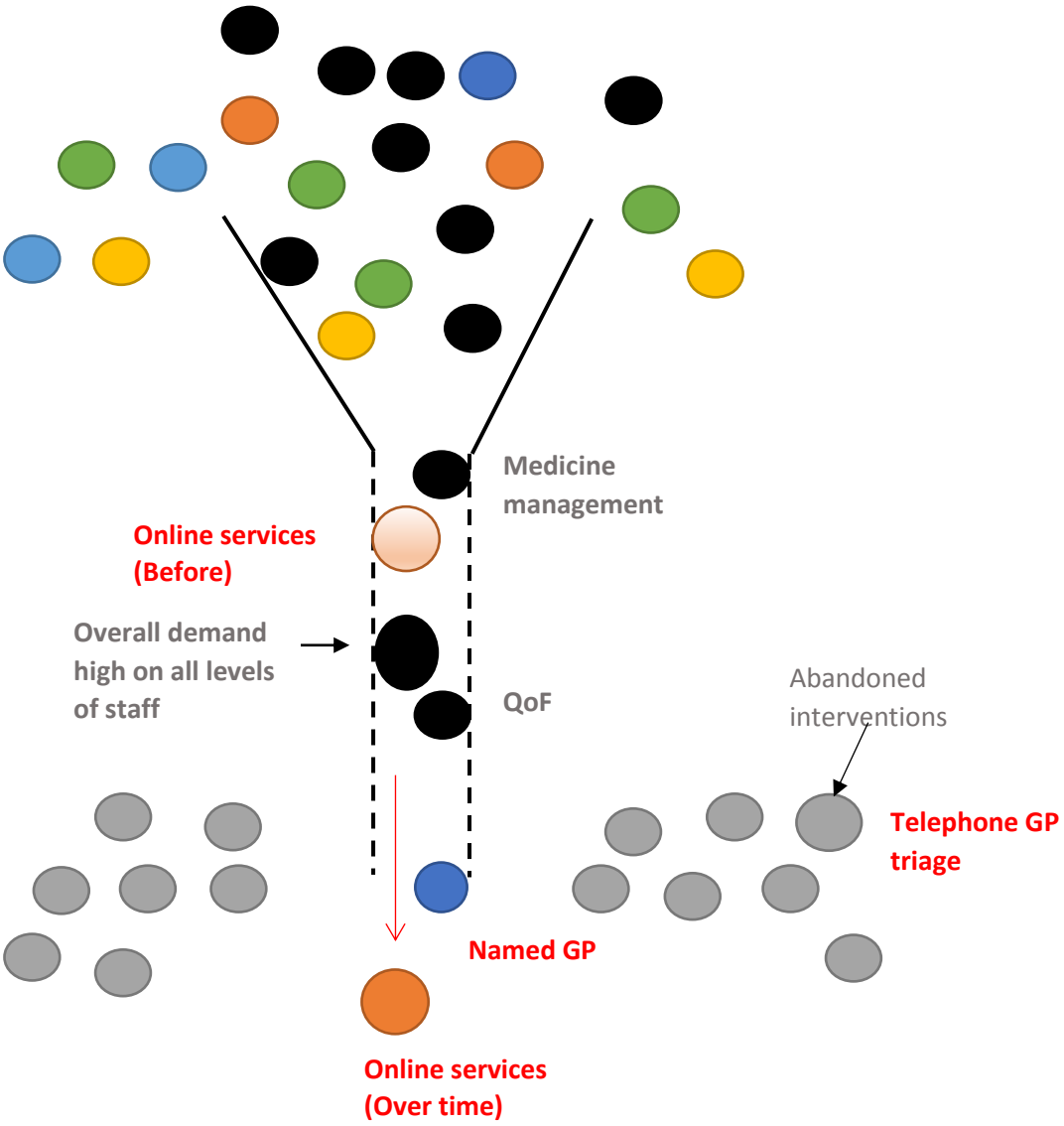
Figure 23: Funnel diagram of the relative intervention prioritisation process

The following section describes where each of the chosen interventions ended up in this process, by GP practice. It is important to highlight two issues: 1) this only represents a snap shot of what happened in each GP practice and is subject to change over time and 2) this might paint an over-simplistic picture, however it is the underlying concept that illustrates the complexity of multiple interventions going into general practice.

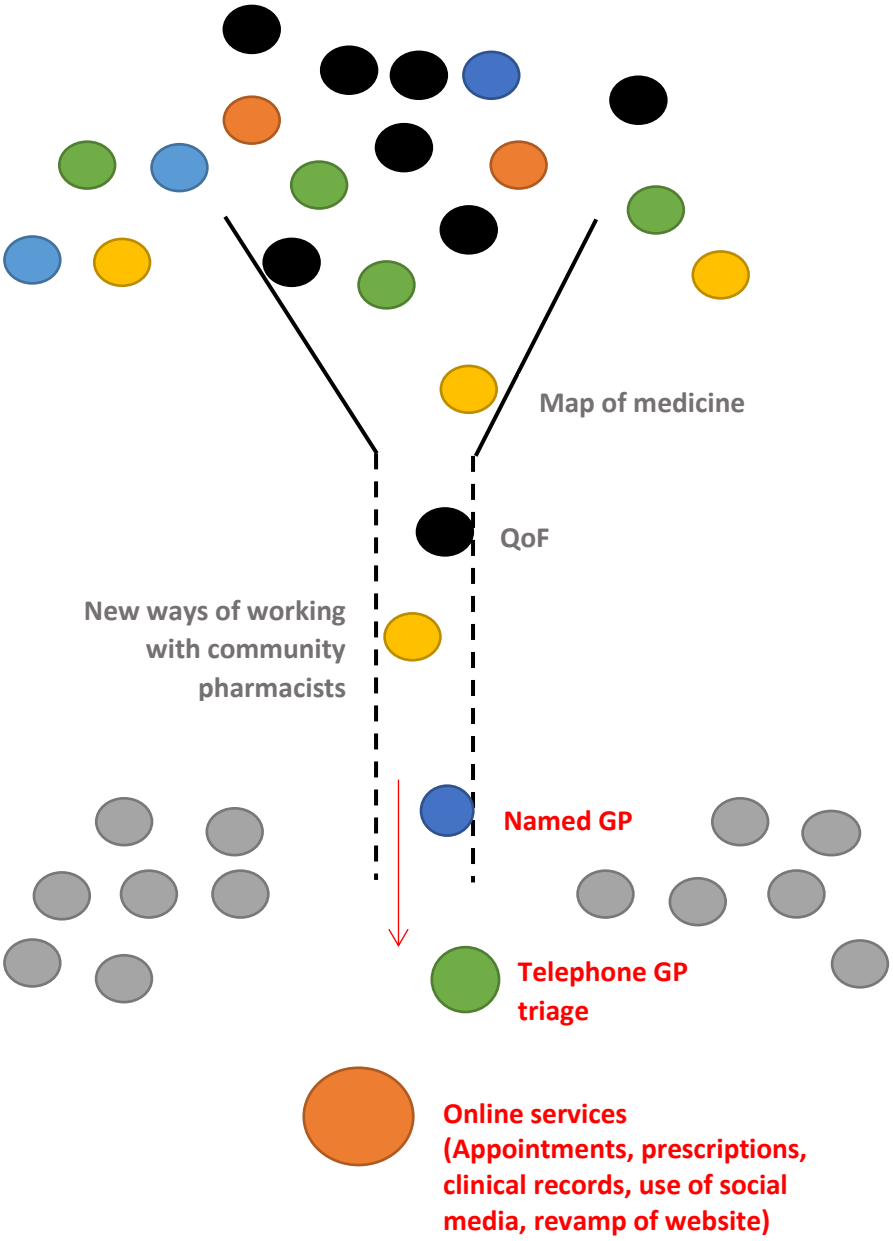
Practice 1


Online services
QoF
Unexpected growth in patient list; practice manager away
Named GP
Telephone GP triage
In-practice clinical pharmacist model

Practice 2


Medicine management
Online services (Before)
Overall demand high on all levels of staff
QoF
Abandoned interventions
Telephone GP triage
Named GP
Online services (Over time)

Practice 3


Map of medicine
QoF
New ways of working with community pharmacists
Named GP
Telephone GP triage
Online services (Appointments, prescriptions, clinical records, use of social media, revamp of website)

The relative intervention prioritisation process can take place in the wider context (i.e. CCG and national level) as well as the general practice level. Both will be described in detail below.

8.9.1 Relative intervention prioritisation in the wider context

Every year CCGs produce commissioning intentions that describes the priorities of the CCG. These intentions describes the types of services the CCG want to buy and the outcomes they want to achieve for its local population, as a response to heath needs, local and national priorities as outlined by NHS England. A number of programmes and work streams are usually proposed e.g. community services, primary care, mental health and long term conditions. The CCGs also commissioned services following a prioritisation framework. For instance, Commissioning for Value is a set of tools which was devised to help CCG identify priority programmes which offer the best opportunities to improve the health of its local populations based on quality, spend and patient outcomes (NHS England, 2017a).

However, when it came to making decisions, there could be wide variations between different CCGs in terms of two main interrelated factors:

- Amount of influence: governing body members vs. non-governing body members
- Engagement with its member GP practices vs. whether GP practices want to engage with CCG

"…there's no doubt that those doctors who are already on governing bodies and already GP leads have got more influence than those who don't play such an active part. And if you miss the opportunity to play that more active role maybe your ability to influence the decisions is slightly less, and that will be dependent on how good, I guess, your locality lead GPs, or... and your board members are of engaging with the membership, and that's going to be hugely variable […] Some areas and localities there will be excellence, and other areas you may find

that it's basically a dictatorship, one doctor basically just decides, and, you know, I guess, that's a challenge for the CCGs." (Primary care commissioning expert)

None of the GPs or practice managers was a CCG governing body member in the three GP practices. Clinical and non-clinical staff collectively felt disengaged with their CCG and they were not able to influence decision making. Because of this, they did not want to engage back as they "*feel that their voice won't be listened to, or is not worth it*".

> *"I think that's part of the problem CCGs have is that they... they're too focused on usually has it saved money. And not what has been the overall patient experience about what we're offering." (Practice manager, Practice 3)*

8.9.2 Relative intervention prioritisation is a "balancing act" within general practice

While there is a system or framework in place for intervention (service commissioning) prioritisation at the CCG level, the prioritisation process can be less transparent, implicit and more ad-hoc in general practice.

> *"You look at things, do I still need to do them. Well firstly you've got to decide is can we do it. Do we have the physical resources to do it? Do we have the capability to do it?" (Interview with Practice manager, Practice 3)*

The process of deciding which intervention to implement in general practice is a complex social process and it can be influenced by a number of factors. All of these factors are time-dependent which means they change over time. Each of these factors will be considered in the sections that follow.

Figure 24: Factors affecting the process of relative intervention prioritisation at general practice level

There are two parts to the intervention prioritisation process:

- Decisions related to what interventions to implement/ prioritise
- Operationalising these decisions

8.9.3 How and where intervention prioritisation decisions were made

Intervention prioritisation decisions were made in a range of different formal meetings. I was not able to observe the decision making process at a higher level i.e. business meetings or partner meetings. Nevertheless, I was able to sit in a

number of meetings where decisions were made, and get a sense of their priorities through listening to their discussions and speaking to practice staff (see “topics discussed” column in Table 32).

Even though all three practices had similar types of meetings, the nature of these meetings such as topics discussed, who chaired these meetings and their purpose varied greatly. In Practice 2, discussions during clinical meetings had a large clinical focus and hence mostly clinical decisions were made. Practice 1 was the only practice where the appointment system and its related issues such as the number of *Do Not Attend* were regularly reviewed in almost every clinical meeting which reflected this as one of their priorities. In Practice 3, there were discussions and decisions made around new interventions and new ways of working. It appeared that when deciding whether to implement new interventions, two key questions were frequently raised by the GPs across the three practices; one of which was related to financial resources ‘do we have the budget for it?’ ‘Is there funding to do this?’ The other was related to their workload ‘how would that impact on our workload?’

The data suggested these meetings were highly variable and served different functions between practices. Although many decisions were made by GP partners, my data also suggested that the important role that practice managers played in in this process.

Table 32: Characteristics of different practice meetings

Type of meeting[1]	Practice	Attended staff	Chaired by?	Example topics discussed	Purpose of meeting
Clinical meetings	Practice 1	GPs, nurses, lead administrator (n=4)	Lead GP	Clinical case discussion CQC plan Complaints Appointment system Prescribing updates Educational session	Clinical and operational decisions + actions
	Practice 2[2]	GPs, nurses, practice manager (n=6)	GP	Newly diagnosed cancers Death analysis reviews Palliative care patient update Difficult to manage patients	Clinical decisions mainly
	Practice 3	GPs, nurses, practice manager (n=10)	Practice manager	Discussion on Map of Medicine (new intervention) CQC Frailty team Scheduled tasks Clinical case discussion	Clinical decisions + decision making related to implementation + actions
Staff meetings	Practice 1	No data	No data		
	Practice 2	Reception and admin staff and practice manager (n=~7)	Practice manager	Explicitly asked staff to prioritise the implementation of Named GP scheme by dividing up the work among them.	Operationalise prioritisation decisions – when to prioritise, and how
	Practice 3	Reception and admin staff and practice manager (n=~15)	Practice manager	Explicitly asked staff to promote online services Friends and Family Test (FFT) was no longer priority – reached target; staff were asked to stop pushing FFT Updates on NHS health checks. Significant adverse events. Overall practice performance	Same as above.

Patient Participation Group meeting	Practice 1	Patients, lead GP, nurse, receptionist, lead administrator (n=10)	Lead GP	Changes in appointment system Telephone and online services	Educational/ feedback gathering
	Practice 2[2]	Patients and practice manager (n= Unknown)	Patient/ practice manager	Discuss FFT results Discuss online access Discuss the number of Do not Attends CQC Staffing (e.g. leaver)	Educational/ feedback gathering
	Practice 3	Patients, practice manager and receptionist (n=~13)	Patient	Dementia programme – engagement event Practice updates Online access – discussion related to practice website and use of social media	Educational/ feedback gathering Decision making related to implementation (yes/ no) Operationalise prioritisation decisions – when to prioritise, and how

[1]*Business/ partners meeting were not included.*

[2]*I was not able to observe these meetings and the information was gathered through documentary evidence i.e. meeting agendas and minutes, and speaking to staff.*

8.9.4 Roles of practice manager in relative intervention prioritisation

While GP partners often made strategic decisions, I found that practice managers play a wide variety of roles and have variable degrees of influence in the intervention prioritisation process. Decisions of which intervention(s) to prioritise to implement may take place in formal meetings, such as business meetings and to some extent clinical meetings depending on the type of intervention(s). However, discussions around how it should be operationalised and implemented mainly took place in staff meetings where the practice manager took the lead role of planning and informing staff and allocating tasks to individuals. An example was Named GP in Practice 2, when the reception team was asked by the practice manager to prioritise the implementation of Named GP over their daily work activities at a reception team meeting and how it needed to be done. Practice manager also had the role to inform the team to *stop* prioritising on something and redirect the focus elsewhere. For instance, in a staff meeting in Practice 3, the practice manager explained to the team that the SMS text reminders for Friends and Family test (FFT) was "*working*", meaning a satisfactory proportion of patients who received the reminder completed the FFT, staff were informed that they could "*stop pushing*", meaning they were no longer required to ask patients to complete the paper-based FFT in the surgery. The practice manager then reinforced the importance of online services and asked the team to be more active and continue promoting the service to patients.

Planning and managing resources was commonly perceived by the practice managers as part of their role. They were responsible for the "*operational side of things*", that included the "*running of the practice*" and "*finances*". Sometimes they had to "*overrule*" some of the decisions in order to prioritise a project or task.

> *"…you have to make sure that your reception manager has covered all angles, you know. Sometimes you might have to overrule their decision because you might feel that, no this is more important so forget that and we need to be dealing with this today. You know, but yes you do have to prioritise." (Interview, Practice manager, Practice 2)*

My data revealed that the nature of the practice manager's role in Practice 3 was different, the practice manager described his role as being "*strategic*". Unlike the practice managers in the other two practices who took a more traditional view with regards to the role of practice manager i.e. they were in charge "*administratively*", the practice manager in Practice 3 worked more like a "*business manager*". This is due to their different background; the practice manager in Practice 2 had been with the same practice for a long period of time, she worked her way up from being a health care assistant then became reception manager and later practice manager. The practice manager in Practice 1 had a similar background. Whereas the practice manager in Practice 3 had an IT project management background and experience working in private sector. The practice manager appeared to be more actively involved in discussions around decisions related to the intervention prioritisation process, beyond the staff meetings.

Below illustrates an example of a staff discussion about Map of Medicine at a clinical meeting, and how the practice manager influenced decision making.

> When the practice first heard of Map of Medicine, about 18 months ago, it didn't get populated well (wasn't ready) and no one wanted to use it. There is now pressure from the CCG and they want the practices to use it. The practice manager briefly explained what Map of Medicine is, consisting of referral pathways (using the latest clinical evidence to provide guidance, centrally controlled referral forms and clinical information during a consultation). Nurse 1 said she doesn't know how to use it and asked where it is [looked anxious/ worried]. The practice manager said he hasn't put it on yet, he wanted to see what everyone thinks of it first. GP1 questioned if it'd be more work for them… click… click… click… click… clicks increase work. Someone then said "it's been 18 months? So surely they have made improvements and there should be fewer clicks." GP2 said [not very loud] "on paper, we should [implement Map of Medicine]."
>
> Practice manager explained that there will be a 5 hour training session [all GP looked surprised]. GPs 1 and 5 made a joke and commented, 'is the whole training about showing us how to click on the Map of Medicine icon?' He [practice manager] then said "actually I was wrong, it's 6 hours. Two hours learning how to use it, 2 hours getting familiar with it and 2 hours group work. You will be given £75 per hour. And we will get about XX pence per patient to show we have used it."
>
> Nurse 1 asked how they'd [CCG] know whether it's being used. GP 1 said they can probably look at who's logged on. Practice manager said there are some real benefits to using it, the information follow guidelines with an aim to standardise practice. GP1 said it might be good for them as patient information will be populated, and lead them to the referral form (instead of having to look for the form and manually complete it)… they can also check the referral pathway and whether they are doing it right. Everyone thought it's a good idea to do it. (Field notes)

8.9.5 Team functions and management styles

The different background and experience of the practice managers had led to having very different roles and responsibilities as well as management styles, which shaped team functions within the practice. Although the practice managers played an important role in operationalising the implementation decision by allocating tasks and manoeuvring resources, the way in which the team functioned and the team's relationship with the practice manager was also found to be important in enabling the allocated tasks to be completed.

Table 33 presents examples of the different team functions including staff responsibilities. It indicates that for Practice 2, most of the tasks included in the table were carried out mainly by the practice manager; this reflected clearly her workload and lack of time. For Practice 1, the tasks were divided between the practice manager and at least one other member of administrative staff. For Practice 3, these tasks were not completed by the practice manager but other members within the administrative/ reception team. After the practice manager joined Practice 3, the deputy manager and the clinical administration manager had taken on additional responsibilities e.g. taking charge of the GP and nurse rosters that were perceived to be "*getting more and more complex with extended hours*", organising locum covers, organising minor operations, which "*they enjoyed doing*". At a reception team meeting, the practice manager explicitly expressed that he 'wanted to take a more strategic role in driving the practice forward' by passing the day-to-day responsibilities to the team.

Table 33: Examples of staff responsibilities within each GP practice

Type of activities	**Practice 1**	**Practice 2**	**Practice 3**
Typing up clinical/ PPG meeting minutes	Lead administrator	Practice manager	Patient representative and chair of the PPG group
Organising GP/ nurse roster	Lead administrator/ Practice manager	Practice manager	Deputy manager
Generating reports/ audits	Practice manager	Practice manager/ QOF manager	Clinical admin manager/ team
Patient registration (deductions)	Practice manager/ lead administrator	Practice manager	Deputy manager
Managing the reception team	Lead administrator	Reception manager	Deputy manager

As described in Chapter 5 (See Table 10), the skill mix and composition of the reception/ administration teams were very different between GP practices. The size of the reception/ administration team was relatively large in Practice 3. The team was subdivided into smaller teams, for example, prescribing clerks, clinical administration team and receptionists. Observation revealed that the administration team in Practice 1 and 3 appeared to have well-defined roles, although some can "*mix-and-match*". In contrast, in Practice 2, reception team members had less defined roles and worked on a "*rotational basis*", which means sometimes they worked at front reception, and sometimes in the upstairs telephone room.

8.9.6 Management styles and relationships with staff

In Practice 2, the practice manager's style and approach were more hands-on and she felt that her overall role was to "*prioritise*" in order to "*make sure that everything's covered*". She also encouraged a collaborative working approach by explaining to the receptionists at meetings that they 'need to be more assertive sometimes, if something is not going as well as it should, they need to raise it with the doctors. As much as there is a hierarchy, like doctors, nurses, practice managers, and so on. It's about working together'. Observation showed that the receptionists felt empowered to share their views, challenges and concerns about working with some doctors with the practice manager in staff meetings. When it came to implementing Named GP, the practice manager discussed the details with the team in terms of what they needed to do, how and when they had to execute the task.

> *"I think this practice works really well as a team. We all pitch in and work together." (Interview with receptionist)*

The practice manager in Practice 1 had a similar background and a collaborative approach was encouraged among all levels of staff. Members of the administrative team and GPs attended some of the meetings together to discuss operational issues especially around the appointment system. *"[…] changes will be implemented if more than one person feels like, you know…look this needs to be happening and they've raised it. We give our staff the platform to do that, we give our patients the platform to do that." (Interview with Lead administrator)*

In contrast, in Practice 3, the practice manager's management style was "*autocratic*" and "*he decides what needs to change*". This was reflected in the staff meetings where I noticed it was mainly the practice manager who spoke most of the time, reporting progress and communicating his ideas and vision. There were hardly any contributions or suggestions coming from the reception/ administrative staff. This was validated by the interview with the practice manager:

> *"We have a staff meeting every month where I talk about what's going on in the practice, what do I want to achieve as objectives. That gives them [reception/ administration team] a chance to feedback what their concerns are. How effective is the staff meeting. I have my doubts because most of them just sit there. It's the same two or three every month who asks any questions, it's the same two or three who feedback anything"*

Staff had mixed views about the practice manager:

> *"He [name of practice manager] is very good at delegating, so he delegates, and I really enjoy that because there's different things to do."*

However the practice manager in this practice appeared to have a lot of influence among the GPs. The below example illustrates the key role he played in prioritisation and the way in which he negotiated with the GPs:

Observation indicated that the clinical administration manager was popular among the GPs and practice manager. If there was any issue that needed to be dealt with, many would ask for her. In a clinical meeting the practice manager asked the GPs to "*schedule tasks*" for receptionists and send the electronic requests to the reception team. Many GPs expressed that they did not know how to do it, with one said he often 'writes the task and asks [name of clinical admin manager] to do it'. Another GP suggested [name of clinical admin manager] to put the requests on the system for all the doctors. The practice manager responded by saying 'I was going to talk about that later… I would like [name of clinical admin manager] to focus on CQC and to change the function of the clinical admin team in the next few months. May be for now, we will ask her to set scheduled tasks, but things will change and I'll let you know.' Following this, they [GPs] all agreed they need to learn to set "scheduled tasks", if [name of clinical admin manager] showed them how to do it.

8.9.7 Practice history and narrative

Making sense of what an organisation represents is complex. Members in individual practices construct a narrative about themselves, which is an ongoing process in which past events and organisational actions are reinterpreted and integrated (Weick, 1995). This narrative subsequently shapes the practice identity. For example, historically Practice 3 was commonly perceived to be "*not in a good state*" i.e. not performing well.

> *"We had a stage here where everybody [staff] just didn't want to answer the phone, because they knew that there would be an irate person on the end of the phone, but we don't get that any more, or hardly at all now." (Deputy manager A)*

> Practice manager: When I used to say to the CCG I represent [name of practice]. Everyone's reaction was negative. Why should they listen to you when we should be focusing on improving our own practice first? Once you build reputation, they start to listen to you. (Observation transcript)

Since this practice manager joined the practice, staff collectively felt that "*things are much better and much more organised"*, for example 'they now process letters and blood test results quicker'. "*Because the patients are happy, it's made everything better, a better place to work*." He was generally well-respected among staff and staff accepted his management style and way of working. This enabled the practice manager to have the ability and power to influence and make decisions in order to continue to improve and "*transform*" the practice. For example, one of his visions was to change the public's perception about the practice.

8.9.8 Strategic fit – fit with the wider practice agenda

Apart from the perceived benefits and goals of implementing online services described in Section 7.5.4 (e.g. improve patient satisfaction, improve organisational efficiency by reducing the volume of phone calls), observation revealed the importance of strategic fit and that further supported the implementation in Practice 3. One key strategic objective of the practice was to "*push online*" and become a "*good surgery and stand out*". There were two benefits related to this, one of which was to gain influence and "*credibility*" with the CCG. If they were a good performing practice, the practice manager believed this would lead to a positive relationship with the CCG. This was supported by other initiatives they were implementing, for example, working closely with the pharmacies and building on the relationship. The main benefit was medicine management and they were "*the first practice in the locality that got it going*". In terms of prescribing indicators they got a "*green light*", "*on target – 7 out of 8 measures*". While the interview with the GP partner revealed that he did not want to be engaged with the CCG and felt they were not able to

influence external decision making, the practice manager took on the role as he wanted to influence and improve their relationship with the CCG.

Another important goal was related to income generation. The practice manager revealed to the staff that one of their strategic priorities was to grow the patient list. He believed that by improving the practice, patient satisfaction would improve and new patients would be attracted to the practice.

> Practice manager: Basic fee per patient is about £80. If we get 100 new patients to register with the practice, that's £8000. This additional income will have significant impact on what we can do as a practice. Staff's pay will improve as a result.
>
> The practice manager said that at the end of the day, they are in competition with other practices nearby. (Observation transcript, staff meeting)

8.9.9 Approach to managing competing demands and priorities

As described in Chapter 6.2, there was often turbulence within general practice, in the form of various competing demand and priorities. They act as disruptors - the impact of these competing demands constantly influences the practice's ability to take up new (multiple) interventions or approaches and may have cumulative effects over time.

Some competing events or demand are expected, usually temporary and take place at specific times of the year, e.g. QOF (see Table 14). Practices often required to respond to these events by prioritising their time and effort into addressing them. The process of managing these expected events can usually be planned ahead. Some competing events or demands are unexpected; an example is staff leaving the practice.

> Observation suggested advanced planning was necessary to prioritise work before the specialist nurse left the practice. For example, at the reception

> meeting, the practice manager said to reception staff that the nurse should 'prioritise her time on asthma and COPD QOF in January and February. This is because not all nurses or doctors can do respiratory work. Receptionists were told not to burden the nurse with too many appointments' and this potentially prevented patients from accessing services. (Observation transcript)
>
> After the reception manager left, there were changes to the team structure; two receptionists who had worked in the practices for 7-10 years share the role of reception manager and two new receptionists were hired and the practice manager had to spend time training them. (Observation transcript)

In addition to these different expected and unexpected competing demands, the timing of when the practice decides to respond to the events can also influence the practices' ability to implement anything new or multiple interventions. For some events such as a member of staff who was leaving the practice, there was an immediate response in order to make sure that person's work was prioritised leading up to his/her last day. Another example that required an immediate response was the unexpected growth of patient list in Practice which required regular monitoring and reviewing of the appointment system to ensure there are enough appointments within the practice.

In some circumstances, the practices adopted a more reactive approach, particularly with external changes. Below shows a practice manager's narrative account which reflects the reactive approach.

> But a lot of the time they're told that's what's going to happen. You know, you get so much stuff that you don't bother to read most of it until the document comes through and says, this is what you've got to do for 2016/17, and when that... And this is the signed off version. […] So what you do is you adopt an attitude of, well I won't even bother to look at it until I get the bit of paper that says this is what you've got to do, and then you say, fine, well let's try and do it. You know? But you never feel you're involved in the decision-

making process [...] you don't get involved in trying to influence it. (Practice manager, Practice 3)

One example which illustrates all three GP practices took a more reactive approach was the Named GP scheme; none of the staff members thought the scheme helps improve the continuity of care problem but it was something that they had to do, as required by the contract.

Table 34: Summary of the influences on the process of relative intervention prioritisation at CCG and practice level

Relative intervention prioritisation	
CCG level	• National frameworks and tools to assist prioritisation decision making process • Amount of influence: governing body member vs. non-governing body members • Engagement with member practices vs. whether practices want to engage
GP practice level	• Functions of different meetings • Roles of practice manager • Staff roles and responsibilities • Management style of practice manager • Practice history • Strategic fit – practice priorities • Managing competing demands and priorities

8.9.10 Impact of implementing and delivering multiple methods of access in general practice

It is inevitable that practices need to continuously adapt to the changing environment by changing and implementing new ways of working and interventions; this is the reality of general practice. However, one must consider the impact of implementing multiple changes/ interventions on individual practices. Using multiple methods of access as an example, there were a number of unintended consequences as a result.

8.9.10.1 Multiple methods of access does not necessarily solve the access problem

There was a common perception related to the implementation or use of many innovative methods of access such as telephone consultations and e-consultations as a more efficient solution. However, delivering these innovative solutions does not necessarily save time, space or costs.

> *"But I think that sometimes the perception amongst commissioners that these things [e-consultation and telephone consultation] will somehow be a panacea to a capacity problem, and I, personally, don't think they will. They're good for, they're great for patients, but they won't necessarily improve; no, it won't reduce number doctors' required, for example, per practice […] First of all, if you're providing telephone access or Skype, you've still got to have a clinical system in front of you, and you've still got to be in a confidential area, which means, in practical terms, you're working out of your consulting room. Or you're working in another room that's dedicated for that purpose, so you don't save that space. It's not as if somebody's going to do it from their home, or in a coffee shop, yes. […] And the second thing is time-wise, you know, a GP consultation face to face is ten minutes, yes, on average. I wouldn't imagine that a telephone conversation is much less than ten minutes; so, therefore, the cost of providing it is the same. The same with an e-consult, if you've got... if the patient's... it might be more convenient for the patient, and don't get me wrong, that in itself is very valuable, but to use it as a method to assess, that actually is going to be more efficient for the... and cost less for the practice, it may not be so, that's the only worry that I would have about it." (Primary care commissioning/ access expert)*

8.9.10.2 A shift in the distribution of roles and ways of working

Delivering these new methods, such as online services and telephone triage, requires additional resources and causes a shift in the distribution of roles among GPs and reception staff. When a new system was implemented, the reception staff

were required to learn to use this system. "*What is required of a typical practice receptionist is very different to 10 years ago*."

> *"From our point of view, we've got different routes that we need to make sure are covered by staff at all times, so that nothing falls through. So, yes you need staff to be downstairs to deal with the face-to-face, you need staff on the phones to deal with all the incoming calls. You need the staff to control management of the fax machine, in and out, and also the emails and plus the mail manager which is where our electronic prescription requests etcetera come in to. So, yes, the staff have to be dealing with all…a lot more than what they used to." (Practice manager)*

Implementation of online appointment system also led to a shift in the role of practice manager. For example, as part of the practice manager's new role, he/ she is required to put the online slots of all the GP sessions. "*There's some allocated for the morning sessions as well as the afternoon*". If the online slots were not taken at "*48 hour point*", they were "*take them back and give them out over the phone. So that they're not just waste and they all get used*". This requires regular monitoring by the practice manager.

8.9.10.3 Patients cannot keep up with the rapid changes occurring in their GP surgery

Because there were many different routes of access such as urgent care centres, walk-in centres, pharmacy and A&E, it was perceived by staff that their patients could not keep up with these changes that took place within the practices. For example, patients were not unclear about where to go in different circumstances; also "*what is appropriate for urgent appointments and what's a routine*". Observation revealed that any changes made within the practice were discussed in PPG meetings and these meetings were often "*semi-educational*". However, the meetings were only able to reach a small number of patients who were often the "*good patients*".

"I think the things we need to educate patients about is understanding more about things that they can self-treat, their understanding that a minor ailment then doesn't have to come to the GP, if you've got a cold or something like that, you can go to the community pharmacist and you can have advice there. And I think knowing that the GP practice is more of a, it's a bit more serious and then of course A&E is more kind of life threatening, I think it's that kind of stuff." (Clinical pharmacist)

8.10 Summary

The first half of this chapter integrated the findings from thematic analyses of individual interventions, namely online services, telephone services and Named GP scheme in order to gain a deeper understanding of the role of context in influencing the degree of implementation of these interventions. I also examined the fit between the intervention and the external/ organisational context, as an explanation of implementation success or failure. As a result, several implementation scenarios were presented. It has demonstrated that implementation can indeed be explained by the "overall" fit between the intervention and context. Optimal implementation environment was created when both external policy and the needs of the practice were aligned. However, there were circumstances in which implementation can be achieved by strong external top-down pressures or internal drivers alone. There was no single factor that in isolation could fully explain the patterns of implementation in these GP practices.

While this provides analytic explanations related to individual interventions between study sites, an important question was raised: what happens when multiple interventions (beyond the three chosen interventions) were implemented in general practice. Intervention prioritisation appeared to be important when multiple options were being presented at any given time. It has demonstrated that prioritisation is a

complex and hidden process, which is shaped by a range of factors, e.g. role of practice manager, team functions and practice history.

9 Discussion of the overall thesis

In this chapter I consider the thesis as a whole. I start by summarising the main findings, which are presented by research question. These main findings are discussed in the context of the existing literature, and two novel findings are highlighted. I consider the overall strengths and weaknesses of the body of work undertaken, and finish with presenting the implications of the work.

9.1 Summary of main findings

Research question 1: Why do complex interventions fail to be taken up in primary care/ general practice?

This question was addressed through a systematic review of reviews, which found that the existing literature largely adopted a conceptual approach based on barriers and facilitators, rather than considering underlying causes. I developed a new conceptual framework, which suggested that there were four important domains to consider when thinking about implementation in primary care: the external context, which included national policies, remuneration systems and overarching paradigms; the organisation, which included internal leadership, availability of resources, and organisational priorities; the individual professionals involved, which included their personal philosophies, skill sets and capacity; and the nature of the intervention. I noted that (i) context appeared to be vital in accounting for variable implementation, and that although the importance of context has been recognised in the literature, researchers frequently fail to either describe or account for relevant contextual factors in publications. On the basis of the findings from this systematic review of reviews, I hypothesised (ii) that the fit between an intervention and the context was critical in determining the success of an implementation. These two findings were subsequently explored further in my empirical study.

Research Question 2: how does context influence implementation and does it explain variations in the degree of implementation observed?

I addressed this question through empirical work using case study design and ethnographic methods, looking at the differential implementation of three different interventions across three different sites. I found that there was a differential degree of implementation of the three different interventions across the three sites, despite having a similar external context. Factors that appeared to explain this differential implementation included **external and internal driver(s), challenges related to implementation, resource availability and allocation, use of evidence**, **patient role/ involvement in implementation** and **consequences as a result of implementing or not implementing the intervention**. I also found that interventions evolved with time, as the external context changed. I suggested that it is not enough to simply describe perceived challenges; rather, it is important to explore whether and how individuals respond to these challenges, and whether and how the challenges impact on implementation.

Research question 3: Can the fit between the intervention and context explain or predict the success of an implementation?

This question was also addressed through empirical work using case study design and focussed ethnographical methods, looking at the differential implementation of three different interventions across three different sites. Overall, I found data to support this hypothesis. **Optimal implementation environment** occurred when both **external policy and the needs of the practice** were **aligned** (example: online services in Practice 3). I also found that **implementation success can be achieved**

by strong external top-down pressures/ internal drivers alone. However the impact (consequences) of the intervention on the practice was variable depending on the way in which it was implemented.

Research question 4: What happens when multiple interventions are implemented into general practice?

My case study data showed that this was a frequent occurrence, although the literature tended to focus on single implementations. Practices managed the multiple competing demands for change by developing an informal process of relative prioritisation of the different interventions, which I described using a "funnel" analogy. Factors that appeared to influence this relative prioritisation were: **management styles, team functions, practice history, strategic fit (fit with the wider practice agenda and goals), competing demands**, and **uncertainties related to working within newly formed structures.**

9.2 Fit with existing literature

9.2.1 Importance of context

In medical research, the importance of context is increasingly being identified as important. Context is thought to have powerful effects that it might 'shape or co-construct complex interventions and therefore cannot be considered separately from the interventions' (Raine et al., 2016). Standards for Reporting Implementation Studies (StaRI) published in 2016 highlighted that a rich description of the context is critical to enable readers to assess the external validity of the study. This can be done by considering social, economic, policy, healthcare, organisational barriers and

facilitators that might influence implementation (Pinnock et al., 2017). Similarly, the updated MRC guidance on developing and evaluating complex interventions (Craig et al., 2008) calls for attention to be focused on the "social, political or geographical context in which interventions take place", and the importance of taking account of context as one of the potentially useful approaches to implementation. Subsequent to the publication of my systematic review of reviews, May and colleagues published a paper on implementation, context and complexity. Their paper presented an extended Normalisation Process Theory and demonstrated that implementation processes involve interactions between mechanisms of resource mobilisation, collective action and negotiation with context (May et al., 2016), which needs to be tested empirically.

Context has been described as a problem for implementation because the underlying concept is poorly defined and studied (May et al., 2016; Pfadenhauer et al., 2015) (also see Chapter 3.2.1). Investigating implementation in the 'whole system' is impossible. Some kind of categorisation and boundaries are needed in order to define context. The conceptual framework (derived from the systematic review of reviews) used in this thesis has divided context into external, organisational and individual/ professional context (Lau et al., 2016). This allowed me to explore the relationship of the fit between the intervention and context, and implementation success, in different ways: overall fit, fit with internal context, and fit with external context. As a result, different scenarios were generated using the chosen interventions to explain implementation. When I was conducting the empirical study, I decided to operationalise the internal context by combining organisation ("meso") and professional ("micro") context, this is because the distinctions between micro and meso will always be blurred and arbitrary (Bate et al. 2014). This approach to differentiate between internal and external context is similar to Roger's diffusion process (Rogers, 1983) and the CFIR (Damschroder et al.,

2009). The CFIR defines 39 constructs (within five domains: characteristics of intervention; outer domain; inner domain; characteristics of individuals; and process) that may guide reporting and analysis of context.

A different way of categorising context was proposed by the Context and Implementation of Complex Interventions (CICI) framework published towards the end of my PhD. The CICI framework comprises three dimensions: context, implementation and setting. Context comprises seven dimensions (Pfadenhauer et al., 2017):

Domain	Description
Geographical context	Broader physical environment and resources available in a given setting
Epidemiological context	Demographics and determinants of needs in populations
Socio-cultural context	Culture consists of historically derived and selected ideas and values that are shared among team members
Socio-economic context	Social and economic resources and access to these resources
Ethical context	Morality which includes norms, standards of conduct that guide the decision and behaviour of individuals and institutions.
Legal context	Rules, legislations and regulations that have been established to protect a population's rights and societal interests.
Political context	Distribution of power, assets and interests within a population (formal and informal rules)

The conceptual framework used in this thesis is not only presented as a list of variables or factors like the CFIR (Damschroder et al., 2009), but also presented as a model to highlight the proposed importance of the **'fit' between the intervention and context**. This proposition has been assessed which allows a more robust analytical examination across multiple interventions and study sites. This approach of using hypothesis to structure research has been presented as beneficial (Raine et al., 2016). It also allows the researcher to shift his/ her thinking by examining context via a more holistic approach instead of examining isolated factors.

Using the fit between intervention and context is only one way of studying context in relation to implementation. I presented an interpretation of how context influences and explains implementation of my chosen interventions. The importance of context is increasingly acknowledged in implementation science and quality improvement,

and has been recognised in change management (Balogun, Hailey, Johnson, & Scholes, 2008) and organisational science (Johns, 2006; Johns, 2001; Bate et al., 2014) literature for many years. The task of managing strategic change is context-specific and therefore an understanding of the organisation's change context is essential. Assessing the context allows change agents to make choices on the design of the change process (Balogun et al., 2008).

In this thesis I was able to produce evidence to show the shifting nature of context. Some aspects of context are obvious such as the reality of general practice, changes in external policy or the changing perception of what good access means to people. Other aspects of context are less obvious, such as competing demands and changes in resources (e.g. staff leaving the practice) yet influence practice workflow and functions. All of these changes can have a significant effect on organisational actions, behaviours and priorities; this includes intervention implementation decisions and processes. Shifting context is also known as "flux" which encapsulates the multiples changes that constantly occur within the health care setting (Cammer et al., 2014).

9.2.2 Fit between intervention and context

The concept of contextual fit is not entirely new; similar concepts have appeared in the literature but not clearly labelled in terms of as conceptual fit. "Innovation-values fit" or "value compatibility" is one of the determinants of implementation effectiveness in Weiner's organisational theory of implementation effectiveness (Weiner et al., 2009). It has been used to consider the extent to which an innovation is congruent with the values of the staff/ organisation. Another example is NPT in

which *context integration* is one of the four components under “collective action” and there is no attempt to address the dynamism of context “(May & Finch, 2009).

Key constructs	Description	Sub-constructs
Coherence	Individual and collective sense-making	Differentiation, communal and individual specification, internalisation
Cognitive participation	Relational work that people do to build a community of practice around a complex intervention	Initiation, enrolment, legitimation, activation
Collective action	Operational work that people do to enact a set of practices	Interactional workability, relational integration, skill set workability, contextual integration
Reflexive monitoring	Appraisal work that people do to assess the ways that the complex intervention affect them	Systematisation, communal and individual appraisal, reconfiguration

Similarly, socio-technical theory proposes that failure of large scale implementation of Information Systems can be partly determined by poor fit between micro-detail of work practices and the practicalities of using the technology (Greenhalgh, Stones, & Swinglehurst, 2014; Yusof, 2015). This thesis has provided empirical evidence that the degree of implementation can be explained by the fit between the intervention and not only the organisation context, but also the wider context which is novel (Chapter 8, section 8.4).

The systematic review in this thesis showed an overwhelming dominance of the use of barriers and facilitators in the literature, which is not very helpful in understanding implementation (Checkland et al., 2007). The analysis of the empirical study suggests although implementation can be explained by the fit between the intervention and context, there is no such thing as the perfect fit. Even in high

implementation sites there were barriers present. It is possible that the ubiquitous concept of barriers to change may arise due to the lack of fit. In other words, 'lack of fit' may lead to issues being identified as 'barriers', which may partly explain how this concept has become so ubiquitous. Another possible explanation is related to the limitations of research methodology used in these studies; qualitative interviews and cross-sectional questionnaires are often used to study implementation. The nature of the methods leads to the collection of data focused on factors or barriers perceived by participants at a single time point, and not the level of fit. Using ethnographic approaches to study implementation over time, as employed in this thesis allows for richer insights that go beyond individuals' perceived barriers to change.

This empirical study suggests that a good alignment (or overall fit) with the internal and external context forms the optimal scenario for implementation. Hughes et al. (Hughes, Humphrey, Rogers, & Greenhalgh, 2002) conducted case studies to evaluate five initiatives in primary care. The different initiatives were positioned differently in relation to national and local policy agendas, The study found that a national policy (mandate) 'push' was an important facilitator for implementation, but only the local context was favourable. What I found in this thesis is that implementation can be achieved with a favourable external context (i.e. national policy) alone, as was shown in the example of Named GP. However, because the internal context was not favourable, the intervention was seen as "tick box exercise" and therefore inconsistently implemented (e.g. not all patients were informed about who their allocated GPs are; the actual allocation GP is not patients' preferred GP). When interventions such as Named GP, have a good fit with the external context (but poor fit with the internal context), they are likely to be "loosely" or "superficially" implemented in order to meet the requirements of the policy (Lozeau, Langley, &

Denis, 2002; Kislov, Humphreys, & Harvey, 2016). I also found implementation can take place with a favourable internal context alone (e.g. telephone GP triage), i.e. when the intervention aligned with professional values and the belief that it can help manage demand. The different “fit” scenarios generated from the analysis also confirmed one of the key findings of the systematic review, that there is a need to pay attention to the external context as well as the internal context within which a complex intervention is being implemented.

Interventions evolve over time and this process is shaped by different contextual influences (Wells, Williams, Treweek, Coyle, & Taylor, 2012; Raine et al., 2016; Lewin, Glenton, & Oxman, 2009). In this case study, I have provided examples to demonstrate how interventions such as online services (e.g. expansion of online solutions in Practice 3) and Named GP evolved in response to the changing external and internal environments. What I was also able to show is that implementation of the intervention results in a change in the functioning of ‘complex adaptive systems’. Thus, as an example, implementing multiple methods of access led to a shift in the roles of staff and affected the structure of the appointment system, and could be seen to modify how access was delivered in general practice. The temporal dynamics of this evolution were also mentioned in previous research (Lozeau et al., 2002; Kislov et al., 2016). Because of this evolution, the “fit” between the intervention and context also changes over time. This results in a change in implementation outcomes/ patterns. Therefore adapting the intervention and the organisation to each other in order to achieve a strong fit or at least a reasonable degree of compatibility is important (Weiner et al., 2009; Leonard-Barton, 1988).

9.2.3 Relative Intervention Prioritisation

In the implementation literature, relative priority is one of the many constructs in CFIR (Damschroder et al., 2009). The term is defined as individuals' shared perception of the importance of the implementation within the organisation. This is somewhat different to relative intervention prioritisation, the concept I have considered in this thesis, in a sense that, the definition of relative priority focuses on the (single) intervention of direct interest; whereas the relative intervention prioritisation has a strong emphasis on multiple competing interventions.

In service commissioning, NHSE recognised that there is no current transparent method to support decision making on "relative prioritisation" of new investments in specialised commissioning (NHS England/ Specialised Commissioning, 2016). While this relative prioritisation is important for making decisions around commissioning services, the findings from my case study argue that this process is equally important at individual practice level as a possible explanation as to why a particular intervention fails to be implemented in relation to other interventions/ options.

Similar concepts are also found in health economics (Farley, Thompson, Hanbury, & Chambers, 2013; McCabe, Claxton, & Culyer, 2008), operational research (Phillips & Bana e Costa, 2007), management science and project management (Cooper, Edgett, & Kleinschmidt, 1997; Martinsuo, 2013). Prioritisation, budgeting and resource allocation are closely linked. This task of prioritisation is complex and difficult because of the presence of many options (Phillips & Bana e Costa, 2007). Guidance or tools for prioritising interventions for implementation are scarce, with few examples such as multi-criteria decision analysis (Thokala et al., 2016) and conjoint analysis (CA) (Farley et al., 2013), which are problematic in primary care.

Specifically CA analysis is complex and involves multiple steps; its utility and how it might work in general practice is unclear.

Project portfolio management manage the coordination and management of multiple projects pursuing the same strategic goals and competing for the same resources, whereby managers prioritise among projects to realise strategic benefits (Cooper et al., 1997). A systematic review of empirical research reveals that to respond to uncertainties and complexities in business environments, the decision making on project and portfolio selection is less planned and rational; instead, it can be viewed as negotiation and as structural reconfiguration (Martinsuo, 2013).

As discussed above, the term “relative prioritisation” has been described in commissioning and project portfolio management. In this thesis, I have demonstrated the importance of relative prioritisation in implementation in the general practice setting, where there is a push to adopt multiple changes and innovations simultaneously with an aim to improve quality of health care. I have identified relative prioritisation as a key process to explain how multiple interventions might compete for practice attention, resources and effort. The process of relative prioritisation may serve as an explanation as to why implementation of different interventions vary in different organisations and this is a novel finding. In addition, a “funnel” diagram has been devised to illustrate the phenomenon of multiple interventions going into general practice which has facilitated my understanding of the dynamic nature of this phenomenon

A number of factors have been found to influence the relative intervention prioritisation process, including practice history and narrative, the role of practice

manager and management style, team size and characteristics and the importance of meetings in determining how practices respond. These findings resonate with existing literature (Checkland, 2007).

Organisational history and narrative have been found to influence practices' decisions with regards to which intervention(s) to prioritise or implement first. Organisation history has been described as one of the features that make a practice unique (Checkland, 2007; May et al., 2009). This helps shape the way members in individual organisation construct a narrative about themselves ("who are we as a practice?" and "how does the practice work?"), which further shapes the practice's strategic agenda and goals and in turn has an partial impact on their decisions in terms of which intervention to implement. Their decision might be based on their underlying values and whether the intervention aligns with what they want to achieve as a practice ("strategic fit"). For example, in Practice 3, the practice team believed online solutions to access were the way forward and they identified this as something that they were "good at", and helped set them apart from the rest of the GP practices in the area. This partly explained why this practice was an early adopter and chose to prioritise the implementation of online services.

Furthermore, I have found that team size and characteristics, communications and meetings can influence the intervention prioritisation process. New interventions/ services were discussed in a range of meetings which include different staff members. The purposes and topics discussed in these meetings varied greatly across practices which reflects the different practice priorities and different ways of working. Although not all of the meetings involves decisions around what intervention to prioritise, they often include discussions on how these intervention prioritisation decisions are operationalised in practice. This finding echoed those

previously reported in the implementation literature (Harrison et al., 2014; Grant, Sullivan, & Dowell, 2013; McCullough et al., 2015), however these papers did not examine prioritisation of multiple interventions in relation to implementation as explored in this thesis.

Practice managers play an important role in influencing the relative prioritisation process. The practice managers' role in the three GP practices comprised a wide variety of functions. This was due to the different background and previous experiences, also the different perceptions they have about what their roles and responsibilities are as practice managers. This wide variation in the range of responsibilities and tasks among practice managers were also found in other studies (Grimshaw & Youngs, 1994). Fitzsimmons and White (Fitzsimmons & White, 1997) proposed three levels of management: operational, tactical and strategic.

	Level of management
Practice 1	Practice managers in both practices perceived their role as *operational*, defined as day-to-day work required to keep the practice running e.g. ensure all the claims are filed to maintain practice income, staff payroll, recruitment and other administrative tasks. They both also had a *tactical* role, which involves supporting audit work such as CQC, taking an active role in service development, and management of the IT system.
Practice 2	
Practice 3	Practice manager appeared to have a more strategic role, by bringing ideas to meetings, influencing and liaising with the CCG and locality teams, developing business cases and applying for bids etc. Having a robust team structure, for example, having two deputy managers and a clinical administration manager to take on the operational role have enabled him to fulfil a strategic planning and management role with the ability to influence internally.

These different roles of practice manager provide an explanation for their variable contribution in the relative intervention prioritisation process. They all played an important role in operationalising implementation decisions, for example communicating the decisions to administrative/ reception staff and allocating them

with tasks. However the practice manager in Practice 3 took a particularly active role in influencing which intervention(s) should be taken up (e.g. online solutions, Map of Medicine) as a practice. This shows power can be distributed in different ways in a practice; a powerful manager is likely to be able to influence the relative prioritisation process. He/ she is also likely to have a greater effect on the practice's sensemaking process and shape the practice's narrative and collective practice behaviour (Checkland, 2007).

In the real world general practice setting, many innovations often have limited evidence on effectiveness and cost-effectiveness and formal evaluations are not often carried out. In the absence of evidence, the rationale for deciding which intervention(s) to implement and prioritise is not always clear or transparent. In addition, Aaron et al. (Aarons, Hurlburt, & Horwitz, 2011) suggest that individuals in organisations may have difficulty knowing, weighing, or selecting appropriate interventions to solve particular problems, or their decision to adopt is often complicated by many factors (e.g. values, organisational norm), unlike individual problem solving. This suggests relative intervention prioritisation may not necessarily be rational, and it might represent a "situational rationality" which is defined as follows:

> "There is the assumption that behaviour is foresightful and that rationality occurs in advance of action. A situational rationality recognises that action is *retrospectively* rational. It is the product of action, occurring either concurrently or after, rather than before, action. Another important element of a situational rationality is the importance of its *'situatedness', the situated nature of social action*. Rationality is an *ongoing accomplishment*, achieved through interaction with people and objects in a particular time and setting. A

> situational rationality is the temporally and spatially located sequential and interactional rationality of daily life." (Townley, 2008)

This means relative prioritisation might be a "conditioned response" (a reaction to certain conditioned stimulus), rather than a calculated response as a result of the realities of day-to-day pressures and competing and/or conflicting demands in general practice (Weber, 1978). A considerable body of literature reports that management is a fragmented and reactive activity which involves little 'rational' planning and management, with managers responding to the needs of others as they arise, rather than controlling work in pursuit of clear, agreed objectives (Hewison, 2002).

This together with the lack of consideration of "fit" between intervention and context might partly explain the evidence to practice gap. For example: hypothetically, an intervention might show strong evidence on effectiveness and this is something organisations "should" implement (rational notion), failure to implement is due to the notion that doing something else (a different intervention or activities to manage day-to-day demand) is a better fit with the practice.

The concept of fit between the intervention and context has been found to be key in explaining implementation success in this empirical study. One can also argue that perhaps we should consider "fit" in order to inform relative intervention prioritisation, to make organisation action a more "prospective" rationality.

9.3 Reflections on the chosen lens

In this thesis, implementation science is employed (see rationale in Chapter 1, section 1.3). Implementation is always concerned with an "object". These objects may be an intervention, evidence based practices, policies or change. I considered

online services, telephone services and Named GP as “complex interventions”. They all fulfilled the definition of complex interventions (although the degree of complexity may vary), as described in the MRC guidance because they have multiple components (section 1.5), its implementation requires organisational change (e.g. Named GP: its implementation required the practice team to temporarily prioritise the allocation of Named GP and interrupted their day-to-day activities), and most importantly, they influence/interact with patients to a variable degree (e.g. the introduction/ implementation of these interventions affect patients in some ways, or patients as end users).

There are alternative approaches that would offer different perspectives and may have led to different findings and interpretations. The degree of complexity of these interventions varies and they can be conceptualised in other ways, for instance, these “complex interventions” may be regarded as a continuous process of change in organisations (Checkland, 2007). The choice of terminology used may have some implications on the research. In the case of the systematic review, using the term “change” in the search is likely to yield different results.

There are overlaps between the term “change” and “implementation of complex interventions”. Both can be perceived as a process consisting of a series of events and activities in order to achieve a specified goal. However, change can be a general and ambiguous term, e.g. the intervention itself can cause change as a result of implementation. Another example of change might be a GP partner joining or leaving the organisation, or restructuring of the organisation, both of which can have an impact on the implementation of an intervention. Change is part of implementation. Implementation is about understanding the process by which interventions bring about change. In medical research, policy innovations and healthy system change is now often conceptualised in terms of complex interventions (Craig et al., 2008). I found the distinction between the two approaches

("complex intervention" and "complex change") useful in this thesis, but I acknowledge that this distinction is not always clear and may be used differently by different researchers (Shiell, Hawe, & Gold, 2008).

In this thesis, I took a multi-level approach to study context in implementation – external context, organisation context, and professionals (individual) context. This approach took into account the view of general practice as "organisations". Despite taking a different approach, my findings resonate with the organisation studies literature (Checkland, 2004; Checkland, 2007; Laing, Marnoch, McKee, Joshi, & Reid, 1997). One alternative approach is Complex Adaptive Systems, which may be useful as it focuses on fundamental mechanisms of emergence and the assumptions about 1) the dynamic, variable and unpredictable behaviours of interventions and their environments ("intrinsic system uncertainty") (Seely, 2013) and 2) complex systems being able to "self-organise" into "higher order of organisation, with increased structural complexity and seemingly enhanced coherence […] leading to a new equilibrium" (Bawden, 2007).

9.4 Strengths and weakness of this thesis

This thesis has many strengths. As my topic of study was closing the evidence to practice gap in primary care, I wanted the work to be useful to those involved in this in their day to day work. Hence I wanted to ensure that my work was accessible to primary care clinicians, commissioners, managers and policy makers. I deemed it important to use methods and approaches that were likely to be recognised by, and acceptable to, this target audience. This target audience, is well used to the evidence-based medicine paradigm, which considers that systematic reviews are one of the strongest forms of evidence (Murad et al., 2016; Hoffman, Bennett, & Del

Mar, 2013). Hence although I could have used an alternative approach to summarising and synthesising the relevant literature, I see the use of systematic review methods as a strength. Undertaking a systematic review of reviews allowed for a very large body of literature to be summarised and synthesised into a focused, useful and manageable paper. The fact that this systematic review was published in the leading journal of implementation science could also be seen as evidence that the approach taken was acceptable and perceived as high quality research by an academic audience.

This systematic review of reviews generated two insights: firstly, that context has a great deal of influence over whether or not interventions are implemented, but that, until recently, researchers have often failed to adequately describe or allow for the importance of the effects of the context in which they were working; and secondly, that it may be that the fit between intervention and context which ultimately determines whether an intervention is effectively implemented.

I was able to explore these insights in my empirical study, which used a case study design and ethnographic methods. This ethnographic approach to studying implementation is a methodological strength as it provides depth and breadth of understanding that iterates and accumulates over time (Donovan et al., 2002). Multiple perspectives and different sources of data were gathered to provide a rich empirical account of the role of context in shaping implementation of multiple complex interventions to improve access in general practice. This method has allowed me to go beyond participants' perceived barriers to change and seek explanations as to why implementation did or did not take place. Using observation and documentary evidence in addition to formal and informal qualitative interviews

enhanced the rigor of the research. The iterative and inductive nature allowed me to move between the research questions and data to refine the questions into a more focused piece of work. As organisations such as general practice or the NHS become increasingly complex I believe taking a broader approach is beneficial in health services research in order to produce robust and meaningful research. The research followed a rigorous design that focused on involving the voices of the participants in the research to inform the direction of the research.

As a result of this focus on multiple simultaneous implementations, I was able to generate a further new insight, namely that there is a process of relative prioritisation which leads to some interventions being implemented and others discarded.

However, like all research, there are weaknesses in this body of work. As discussed in Chapter 2 (section 2.5.2), it is possible that an alternative, broader approach to reviewing the literature would have come up with alternative or additional insights. Moreover, there are specific weaknesses inherent in undertaking a review of reviews, including the likelihood that relatively recent primary research is excluded (as it has not yet been included in a review); the possibility that the included reviews failed to identify significant or important primary research; and the reliance on the authors of the included reviews for interpretation of the primary research.

In this thesis, I intended to investigate and address the evidence to practice gap, and for my empirical study I wished to explore and compare how different types of interventions, namely an evidence-based intervention, internally driven intervention (not necessarily evidence-based) and externally driven intervention (not necessarily

evidence-based), were being implemented into practice. However, there were a number of issues with the chosen evidence-based intervention (see Chapter 4, section 4.3). This caused a delay in recruiting study sites, and subsequently I had to adopt a pragmatic approach and selected three interventions related to access, which were however perceived as important to the research participants. It is important to acknowledge that none of the interventions studied had a strong evidence base. Nevertheless, studying these non-evidence based interventions provides an opportunity to explore context, leading to findings which could be used to support implementation of evidence in the future. As described in this thesis, the decision as to whether something is implemented or not is complex and influenced by many factors. The organisation's implementation decision may be motivated by interests (e.g. financial) but also by values. For instance, 'academic' GPs might feel the need to align with evidence from clinical trials while others are more influenced by norms of practice in what they perceived to be "trend-setting" organisations, e.g. 'they are doing it at [name of a highly performing/ innovative practice]') (Greenhalgh et al., 2004). When the participants in the empirical study were asked what evidence means to them, all GP interviewees talked about NICE clinical guidelines, systematic reviews and meta-analyses and evidence from randomised controlled trials (hierarchy of evidence). Whereas, many practice managers perceived evidence as maintaining audit trails and documentation for activities such as CQC inspection and QOF, and monitoring, in the sense that "evidence on effectiveness" of an intervention is being collected on an ongoing basis to further support its implementation. Having a strong evidence base might help contribute towards the practice's decision to implement the intervention. Effectiveness of an intervention is likely to vary depending on the context in which it is implemented (an intervention may work in one setting but that cannot be said to mean it will work in another setting). Rather it may require adaptation in order to tailor to local context. In

summary, interventions with strong evidence base do not guarantee implementation "success".

I was not able to observe clinical meetings in Practice 2 or partners meetings in all three practices, and this might have an impact on my findings particularly related to the relative intervention prioritisation process, e.g. not capturing how prioritisation (especially strategic prioritisation) took place at the partnership level. I was able to get a sense of this through my interviews and informal conversations with the GPs, observing other meetings where GP partners were present and gathering relevant documentation (e.g. notes of previous clinical meetings), where possible.

The data collection period was shorter than planned due to the initial recruitment challenges (Section 3.2.5). As a result of this, I only conducted a limited number of interviews and was not able to interview nurses who may have had an important role to play in the relative intervention prioritisation process, particularly specialist nurses or nurse practitioners. Despite this limitation, I was able to collect a considerable amount of information on context and capture changes that occurred during the period. Another limitation was the use of a single researcher in the case study. However, layers of evidence were generated by using multiple methods in order to overcome this issue. I made sure the findings reflected not only my interpretation (field notes from observation), but also the participants' interpretation of context (semi-structured interviews).

Although case study design is recognised as an appropriate method for studying implementation of complex interventions (Morden et al., 2015; Craig et al., 2008), it is a design that can at best, lead to hypothesis generation, and is not suitable for

hypothesis testing. Similarly, the use of ethnography, as with other qualitative methods, is limited in its ability to generate data which have applicability beyond the domain in which they were collected. My findings may well not transfer to other practices, other implementations, or other healthcare organisations. However, despite these inherent weaknesses, there are some tentative conclusions and implications which can be drawn from the overall body of work presented in this thesis, described below.

9.5 Implications

Implications for future research.

My work underlines the importance of recent calls for better, more detailed, description of the context of any implementation research study (Pfadenhauer et al., 2015; Pfadenhauer et al., 2017; Bate et al., 2014).

The hypothesis that it is the fit between context and intervention which is important deserves further exploration. My empirical study suggests that it is not only the fit between intervention and context which is important, but the interplay between context, organisation, individual professionals, and the intervention. The relative importance of these factors needs further exploration, as does the question of how they influence and interact with each other. Further, the ubiquitous concept of perceived barriers to change is not helpful in understanding implementation. To move beyond the description of perceived barriers, researchers should consider using other research methods such as ethnographic comparative case studies to allow for more in-depth and richer insights.

Similarly, further research is needed to determine whether the findings relating to a process of relative prioritisation of different interventions are robust and repeatable.

If so, it would be useful to explore how different organisations approach this process, and whether the factors influencing prioritisations are similar or differ between practices. Further, it would be useful to explore whether the concept of relative intervention prioritisation can explain whether organisations are low-, medium-, or high-adopters of specific interventions.

There was some evidence that organisations differ in their ability to implement interventions – and if so, it may be that future research should address how best to strengthen the ability of organisations to effect change, rather than focusing on one individual implementation at a time.

Implications for practice and policy

Policy makers should consider the fit between intervention and context and use it to inform service commissioning. It should be considered as early as possible, to 1) inform decisions as to whether or not to implement any intervention, and 2) as there is no such thing as a perfect fit, perhaps the degree of fit (contextual factors) can potentially be modified. The concept might have relevance for 1) the selection of interventions; 2) the process of early implementation and 3) the ongoing adaptation of the interventions needed for long term sustainability.

A clear implication for practice is that there is a limit to how many interventions can be successfully implemented at any one time in any given organisation. This means that policy makers or senior managers must either undertake their own prioritisation exercise, so that only a limited number of changes have to be implemented at any one time, or accept that each organisation will undertake an in-house, often informal prioritisation, leading to variable implementation of different interventions.

9.6 Conclusion

High quality primary care is essential for an effective, cost-effective and equitable health care system. Part of a high quality system is ensuring that clinical practice changes in line with best evidence – but achieving that change is challenging. In this thesis I have summarised the literature on factors which make closing the evidence to practice gap difficult, and conducted a qualitative case study to explore the implementation of multiple complex interventions into three GP practices. This thesis generated two novel insights: firstly, the importance of the fit between the intervention and context to determine implementation, and secondly, that in an environment like English primary care, where there is pressure for organisations to adopt multiple changes simultaneously, there is a process of relative prioritisation which occurs, leading to variable implementation of different interventions in different organisations.

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