Online GP consultation services:

Understanding the opportunity

Guidance for implementation

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Health Innovation Network South London

Evaluating online general practice consultation services: Guidance for those considering implementation

Executive summary

The Health Innovation Network (HIN), as the Academic Health Science Network (AHSN) for south London, accelerates the spread and adoption of innovations and best practice, using evidence-based research across large populations. Working as catalysts of change across health and social care economies, we enable health improvements and economic growth.

Both within London, and nationally, there is great interest in how developments in digital technology might benefit the delivery and experience of healthcare. This interest is reflected in the growing body of literature at policy level, and also within organisational practice – as both regional and national policymakers and local vanguard organisations outline the vision for digital enhancements to healthcare and share findings from current pilot activity in this area.

One of the most significant areas in which the benefits of introducing new digital technologies into health and care are felt is primary care. Much of what is written about such benefits focuses on their potential to:

- **Enhance access and improve experience**
- **Support independence**
- **Improve professionals' effectiveness**

In this review we are keen to acknowledge the growing interest among GPs in a very specific area of technology delivery: the use of **web-based technology to enable GP consultation services**. We are interested in the extent to which developments in this area enable the kinds of benefit listed above, as well as further benefits.

For the purposes of this review, we have undertaken a case study of the eConsult[1] platform developed by the Hurley Group of GP practices in London.

The case study is structured around a series of domains that are derived from the main areas of potential benefit identified within current literature:

- Domain 1: *Patient experience*
- Domain 2: *Health outcomes* (and, in particular, *support for patient self-management* to achieve and maintain good health outcomes)
- Domain 3: *Practice productivity ('workload')*
- Domain 4: *Use of NHS system resources*

[1] www.webgp.com.

Technologies such as those under consideration here enable more efficient and more convenient models of primary health care delivery. This case study review suggests specific benefits in a number of areas, including greater flexibility of access for patients, and opportunities for enhanced supported self-care – based on providing patients with information to help them understand their condition and manage their health more independently. Findings from our review also indicate that the presence of the eConsult system led to a significant increase in the diagnosis of conditions or symptoms that could be considered to have stigma attached.

Reflecting on the experience of the eConsult case study, our recommendations for other, similar services are as follows:

- **Recommendation 1:** Practices should establish a clear process for responding to patients following their initial contact, and this should be agreed and tested rigorously prior to go-live.
- **Recommendation 2:** In support of the above, training and development activity with practice staff should highlight the importance of having an agreed patient call-back protocol.
- **Recommendation 3:** To gain full benefit practices should engage with their patients to optimise the implementation and supporting workflows.
- **Recommendation 4:** GP practices using online GP consultation services should routinely examine their return on investment, contributing to the overall 'business case' for the use of this kind of digital health technology within the NHS.

Our case study findings have bearings on broader discussions about the nature of effective innovation, implementation and spread within the NHS, providing important insights into the practicalities of implementing innovations in a specific healthcare environment.

An important finding, from the point of view of supporting the spread and adoption of innovation, is that care needs to be taken to ensure that services are suitably **briefed and prepared prior to going live**. It is not just the *product* of an innovation that is important; the setting-up, the bedding-in, the orientation and familiarisation *processes* that surround it are absolutely critical — not only if the service is to be delivered safely, but also if benefits are to be realised.

This document is intended to provide practical guidance for organisations working in primary care, which are considering implementing a system for online GP consultation services.

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1. Introduction

The Health Innovation Network (HIN), as the Academic Health Science Network (AHSN) for south London, accelerates the spread and adoption of innovations and best practice, using evidence-based research across large populations. Working as catalysts of change across health and social care economies, we enable health improvements and economic growth.

Both within London, and nationally, there is great interest in how developments in digital technology might benefit the delivery and experience of healthcare. These developments, in what is generally known as telehealth, take many forms, from consumer-focused digital health and wellbeing apps and wearable monitoring devices to sophisticated, networked technologies enabling enhanced data recording and sharing between care settings, organisations and localities, as well as between health professionals and patients.

Much of what is written about the benefits of introducing new digital technologies into health and care focuses on the potential for them to:

- **Enhance access and improve experience:** making it more convenient for people to use services by offering them a range of mechanisms and channels for interaction at times and in a manner that suits them — rather than requiring the conventional face-to-face encounter in a specific location, with a health professional during office hours.
- **Support independence:** providing information and tools that enable people to look after themselves and manage their own health. By empowering people, building their capacity and increasing their autonomy we are reducing their reliance on services that are already over-stretched.
- **Improve professionals' effectiveness:** reducing clinical and administrative burden and optimising the gathering and sharing of information so that it can be used more effectively in organisations and systems — improving workflows and enhancing performance.

One of the areas of healthcare in which achieving these kinds of benefit could make an important difference is primary care — which is currently over-stretched and under resourced, and in which many processes and ways of working are considered to be ready for improvement through technology. Of course, the use of digital technology by GPs is nothing new. All GPs now have access to digital patient record systems, and, in an increasing number of cases, these systems are connected to similar systems at acute and/ or social care providers, allowing more streamlined communication between professionals and better coordinated care between sectors.

Rather than focus on this reasonably well-established and currently fairly well-served area of digital provision, we are keen in this review to acknowledge the growing

interest among GPs in a very specific area of technology delivery: the use of **online GP consultation services.**

1.1 Who is this document for?

This document is intended to provide guidance for organisations working in or with primary care that are considering implementing a system for online consultation or looking at ways to improve access to such care.

- It seeks to provide a **rationale for implementation**, drawing on the key **policy drivers** and current **evidence** of effectiveness.
- It outlines the kinds of **benefit** that can potentially be realised.
- Critically, it describes the **factors that need to be taken into account** to ensure that implementation of online consultation delivers on its initial promise. With this in mind, we make **recommendations** in the report for ways to approach planning and implementation.

We hope that the reflections in this report, and the practical, operational insights and lessons learned from our case study will be beneficial in informing discussions between providers and commissioners when considering next steps with this kind of technology.

In addition, we hope that the report informs wider discussions about the spread and adoption of innovations within the NHS — particularly 'home-grown' innovations such as the one under consideration here, that develop *organically* from within an NHS setting. In this respect, we feel it is useful to consider the current report in the context of the pioneering earlier work in this field undertaken by Nesta, documented in its 2014 report, *Which doctors take up promising ideas*.[2] The findings may also be relevant to organisations that are seeking to adopt other technologies, as well as for other small and medium-sized businesses that are looking to launch new products within the NHS.

[2] Nesta, *Which doctors take up promising ideas: New insights from open data*, London: Nesta, 2014. (http://www.nesta.org.uk/sites/default/files/which_doctors_take_up_promising.pdf)

2. Background: Policy context and market overview

2.1 Policy and strategic context

The present interest in using digital technology in health and care reflects its important potential in helping the NHS continue to deliver high quality care at a time of significant financial constraint. This role is acknowledged in a number of key policy and strategy documents. We provide a thumbnail description of the main documents and themes in the sub-sections that follow.

The NHS belongs to the people: A call to action (July 2013)

In July 2013, NHS England set out a 'call to action' to staff, politicians and the public to identify actions to tackle the health sector funding gap, estimated to be in the region of £30bn between 2013/14 to 2020/21. One of the challenges identified in the call to action was the need to increase the use of digital technologies across the health and care system. The document explains:

> "Patients should have the same level of access, information and control over their healthcare matters as they do in the rest of their lives … More than 55% of internet users use online banking services. A comparable model in health would offer online access to individual medical records, online test results and appointment booking, and email consultations with individual clinicians. These innovations would not only give patients more control, they would also make the NHS more efficient and effective in the way that it serves the public."[3]

NHS Five year forward view (October 2014)

The *NHS Five Year Forward View* ('5YFV')[4] identifies a number of challenges to the future of the NHS, including the increasing demand on primary care, which stems from what is felt to be one of the NHS' greatest strengths - the fact that everyone has access to a family doctor. In the document, NHS England commits over the next five years to invest more in primary care in areas including:

- The provision of new funding through schemes such as the Challenge Fund to support new ways of working and improved access to services.
- Building the public's understanding that pharmacies and online resources can help them deal with coughs, colds and other minor ailments without the need for a GP appointment or A&E visit.

[3] NHS England, *The NHS belongs to the people: A call to action,* London: NHS England, July 2013, p.18.
[4] NHS England, *NHS Five year forward view,* London: NHS England, October 2014.

The 5YFV also set out the NHS' commitment to redouble its efforts to exploit the information revolution. It acknowledged that the NHS, like most countries' health care systems, has been slow to recognise and capitalise on the opportunities presented by the information revolution. In Britain, 86% of adults use the internet, but only 2% report using it to contact their GP.[5] In light of this, the NHS plans to deliver a number of initiatives including:

- An expanding set of NHS accredited health apps that patients will be able to use to organise and manage their own health and care.
- Family doctor appointments and electronic repeat prescribing available routinely everywhere.

Personalised health and care 2020: A framework for action (November 2014)

Personalised health and care 2020[6] sets out the steps that the NHS and its partner organisations will take to harness the power of the technology revolution to benefit patients and other people. Its proposals are wide-ranging, touching all aspects of the health and care system. It emphasises the role of data and information-sharing in delivering high quality care and supporting service improvement, as well as the importance of people having access to information that empowers them and enables them to live healthy lives and make informed choices.

Personalised health and care 2020 focuses on making the best use of cutting edge technologies, and on supporting innovation and growth; enabling care professionals to make the best use of data and technology to embrace the opportunities offered by these new developments. This focus on understanding and enabling the conditions for innovation of digital technologies in healthcare obviously makes *Personalised health and care 2020* of particular interest to us in the context of this review, and in the Health Innovation Network's role as an AHSN.

[5] *Ibid.,* p.31.
[6] National Information Board, *Personalised Health and Care 2020: Using data and technology to transform outcomes for patients and citizens - A Framework for Action,* London: NIB, November 2014.

Transforming primary care in London: General practice - A call to action (November 2013)

When discussing technology enablement, the emphasis of *Transforming primary care*[7] is mainly on systems interoperability and the ability of practices to work together, rather than discrete product innovations such as those under consideration in this review. It acknowledges that primary care in London is relatively well served by technology; however, it notes that there is more to be done – both technically, and in terms of information governance – to facilitate information-sharing that enables practices to work together, and to give patients access to their health record and other aspects of general practice service delivery (such as booking or cancelling appointments online, and ordering repeat prescriptions online).

Improving patient experience: The *NHS Patient Experience Framework* (2012)

A common thread in attempts to address the country's health challenge is the commitment to improving the experience of people who use health and care services. This is a key priority within the NHS, as patients say that they value their experience of care as much as clinical effectiveness and safety.

The *NHS Patient Experience Framework*,[8] outlined a number of areas that were felt to be critical to patients having a positive experience of health and care services. This included the provision of "information, communication and education on clinical status, progress, prognosis and processes of care in order to facilitate autonomy, self-care and health promotion."[9]

Evidence collected in the course of the development of the framework suggests that experience is improved when people have more control over their care and the ability to make informed choices about their treatment. Patients who have a better experience of care generally have better health outcomes.

Improving quality and outcomes: GP satisfaction rates (2012)

In 2012, the Picker Institute Europe was commissioned by the Department of Health to derive a set of composite markers to summarise the different aspects of the 2010/11 GP Patient Survey data, and generate an overall score to represent patient experience.[10] The Institute's data shows that patients in London report a less positive experience of using their GP services than the national average across all domains of patient experience. For both London and England overall, patient feedback is most negative in relation to practice opening times (see Fig 1 below).

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[7] NHS England (London region), Transforming Primary Care in London: General Practice - A call to action, London: NHS England, November 2013.
[8] Department of Health, NHS Patient Experience Framework, London: Department of Health, February 2012.
[9] *Ibid.*
[10] Sizmur, S., *Composite domain markers for GPPS: analysis report,* London: Picker Institute Europe, May 2012.

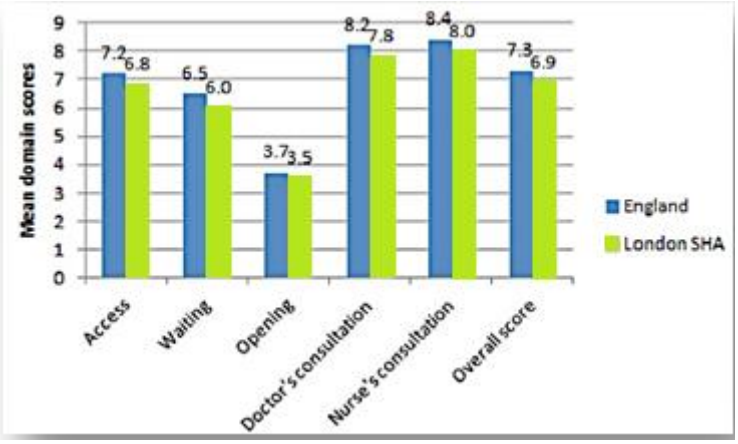


Fig. 1 Mean scores against key domain markers: comparison of London with England (Picker Institute Europe, 2012)

The new GP contract places greater emphasis than was the case in earlier iterations on the quality of transactions with patients. The core GP contract required GPs to enable online access to patient records, repeat prescriptions and booking appointments by March 2015. This is intended to improve the experience of the NHS for people who choose to use information technology. Newer, time-limited APMS GP contracts now also require web-based facilitated consultations as part of the core offer.

2.2 Market overview: A changing landscape

The range of solutions in the area of online consultation appears to be evolving rapidly. New products are being brought to market all the time, and an increasingly diverse array of tools are now available to GPs to enable them to consult with patients online and offer a broader suite of complementary services.

In the early days, where online consultation was offered, most solutions focused on the targeted deployment in a medical setting of widely-available and broadly familiar generic business applications such as *Skype*[11] or *FaceTime*[12]. These sought to replicate the conventional real-time, 'face-to-face' clinic encounter using a video-link. These tools are still in use in a number of NHS locations, although feedback suggests that, in some cases, they are not yet offering the benefits anticipated. In a pilot conducted in 2014 by NHS Central London CCG, GPs reported that they found

[11] www.skype.com
[12] http://www.apple.com/uk/mac/facetime/

Skype better than standard phone consultation for making a diagnosis; however, they found it *less efficient*, taking up 10 instead of five minutes on the telephone.[13] Our research suggests that, increasingly, platforms such as Skype are used less to support GP-patient communication in a patient-facing way, and more as a 'telepresence' tool to support remote back office working and collaboration between health and care professionals. GPs are also reticent to use webcam for routine patient consultations as there is still the need for the GP to verbally take the history (unlike online consultations), and they are fearful of it also generating supply-led demand.

Recently, a number of more specialised platforms and applications have been developed that are specifically designed to support GP- (and practice)patient interaction. These include tools such as *eConsult* (formerly known as *webGP*),[14] *Push Doctor*[15], *uMotif*[16], *Vitrucare.*[17] These tools all offer a broader suite of features alongside the consultation: libraries of patient-focused content resources; functionality enabling patients to book appointments and order repeat prescriptions, etc.; tools that enable patients to record and share clinically significant information as the basis for enabling shared decision-making between clinician and patient. These web-facilitated consultation tools tend to be more closely integrated with GPs' internal IT systems (such as EMIS or SystmOne). This is as opposed to earlier platforms where online consultation existed as a 'standalone' system, used alongside but not integrated with other systems used in the practice. These modern tools are more integrated within a suite that also offers support for triaging patients, and provides information and direction to other sources of advice and support.

All of these approaches view managing patient demand and improving practice efficiency as an essential component to gaining scale with practices. Any models that risk creating 'supply-led demand' will, most-likely, fail to attract the attention of GPs — who are, after all, seeking out such tools precisely to help them *manage* and cope with demand. Successful initiatives need to address patient experience, improvements in health outcomes, greater practice efficiency and commissioner cost effectiveness.

[13] http://www.thesmartclinics.co.uk/patients-like-skype-for-gp-appointments/
[14] http://webgp.com
[15] https://www.pushdoctor.co.uk/
[16] https://www.umotif.com/
[17] http://www.dynamichealthsystems.co.uk/vitrucare-supported-selfcare

3. Methodology

At the heart of this review is a case study of a particular online consultation services tool, which is in use across a group of GP practices in London. The review examines the product based on an analysis of the key areas of hypothetical benefit in the existing literature in this area.

However, we feel that one of the most significant areas of potential benefit of online consultation has tended to be overlooked to date. This relates to the degree of support provided by these systems for patients *wishing to manage their own health condition*. In this report we will look at the selection of 'self-help' and 'signposting' content for different conditions, which is intended to guide people to manage their own condition without the need to access health services. We have therefore included 'support for self-management' alongside a consideration of health outcomes in the structure that follows.

The findings sections of this document are organised around the four domains as follows:

- **Domain 1: *Patient experience***

  Online consultation platforms offer patients the opportunity to access GP services from the comfort of their own home, at a time of their choosing. The enhanced convenience that this is felt to provide – saving time and hassle (eliminating the need for visits to the practice, or at least reducing them to essential visits; eliminating the need to wait on the telephone for extended periods); speeding up treatment – is the basis for reported improvements to patient experience.

- **Domain 2: *Health outcomes and support for self-management***

  One of the main opportunities that digital health platforms offer is to promote healthy lifestyles and prevent ill health by enabling patients to access appropriate advice and 'self-help' information online, or though appropriate signposting to other health professionals, e.g. pharmacists, online CBT. The benefits of learning for the patient are also expected to reduce pressure on resources in the future.

  Another opportunity is to provide information that enables the timely identification of a condition, and to advise on a course of treatment that prevents further, more serious illness.

  There is a general assumption that seeking help or accessing treatment early will lead to better health outcomes. This, in turn, helps to reduce demand and cost in other parts of the health and care system.

- **Domain 3:** *Practice productivity ('workload')*

The main premise of web-facilitated consultation platforms is to deliver faster, convenient and more efficient healthcare for the patient and for the practice. As part of this review we were keen to explore in detail whether eConsult, as an example of one such platform, enabled operational efficiencies and had an impact on GP workload.

The hypothesis here is that more patient needs can be addressed than would otherwise be the case under the standard face-to-face consultation arrangement. Even when patients are seen or telephoned by a GP or nurse, the call is more efficient as the online facility has already collected important information, such as the main symptoms. This enables easier prioritisation and triaging than voicemail or telephone calls with a receptionist. Moreover, because many patients seen via the online facility do not actually need to be seen by a GP in clinic, this saves on appointment time. (An important 'fail-safe' mechanism is usually incorporated into systems in the event that a patient presents with serious symptoms, which ensures that they are diverted to appropriate services, reducing the delay in being seen.) These measures all contribute to the aspiration for 'the right patient to be seen in the right setting'.

- **Domain 4:** *Use of NHS system resources*

  As part of the evaluation we were keen to establish whether the presence of the service led to any directly attributable reduction in demand within other parts of the local health and care system; for example, reducing inappropriate visits to local A&E departments, walk-in centres, etc.

  Given the pressure that many urgent and emergency care services are under, the hypothesis that the presence of an online consultation service providing 24-7 access to high quality information, and a rapid professional response to patient enquiries, leads to fewer patients accessing services 'inappropriately' (such as a visit A&E with a non-emergency condition because they could not get a GP appointment), and is an extremely important potential benefit.

The methodology underpinning this review involved a combination of approaches and information sources. To gain an insight into the views and experiences of patients, who had used this innovation, we:

- Analysed quantitative and qualitative data from the user feedback survey, which is completed by patients who used the technology in the week following their contact with the service.
- Conducted telephone interviews with five randomly selected patients who had used the service, to gather a richer narrative account of their experience of the service.

To understand patterns of usage, etc., we sourced and analysed data from GP information systems — where necessary and appropriate, comparing different sites.

4. Case study

4.1 About eConsult

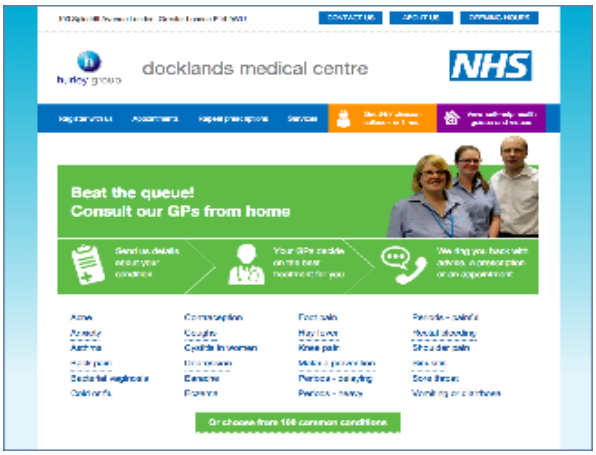
For the purposes of this review, we have undertaken a case study of one instance of an integrated system of the kind described above: the eConsult [18]platform developed by the Hurley Group of GP practices. eConsult was chosen on the basis that:

- It appears to be effective, in that it is demonstrably enhancing access to GP services for sections of the local community — notably 18-45 year olds.
- It is one of very few solutions that have emerged with the potential to meet the challenge of managing growing demand in general practice at scale.
- It is an innovation that originates in south London, in the geographical area covered by the Health Innovation Network.

Web-facilitated consultation in action: The development of eConsult

Empowering our patients through self-management tools and 'eConsults' on our GP practice websites has improved access, timeliness of treatment, and efficient use of precious general practice and urgent care capacity.
Dr Clare Gerada, Partner, The Hurley Group

eConsult was developed in the Hurley Group, an NHS organisation established in 1969. It runs a number of GP practices and urgent care services across nine London boroughs with over 100,000 registered patients and 350,000 minor illness and injury cases a year. Like many other GP practices in London and nationally, patient numbers at the Hurley Group continue to grow, and the Hurley Group agrees it should explore innovative ways to meet increasing demand — including exploring the use of technology.

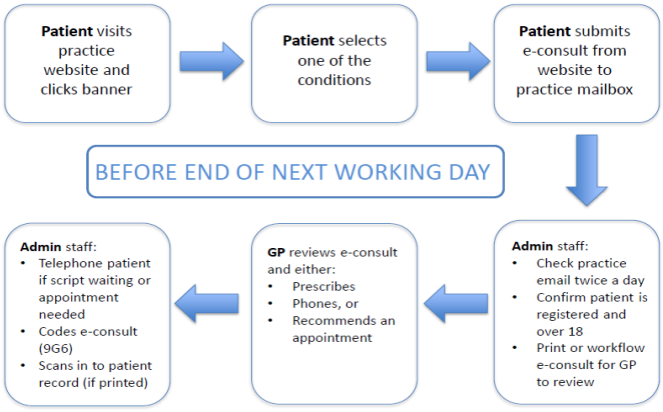


The Hurley Group describes eConsult as a "web platform that can be linked to any existing GP practice website that brings together a suite of alternatives to calling or coming into the GP surgery for common, more minor presentations". The range of online services provided by 'eConsult' includes:

[18] www.webgp.com.

- Symptom checkers that help patients confirm their GP is the right service for their situation.
- Self-help guides and videos about the most common conditions that present in general practice.
- Sign-posting to alternate offers e.g. pharmacy and other locally commissioned services.
- 24/7 phone advice arranged through the local 111 provider.
- 'eConsults' in which patients use their practice website to submit a generic, condition-based or administrative questionnaire to their own GP for a response by the end of the next working day, potentially avoiding the need to attend the practice.

eConsult operates based on the following workflow:



4.2 Domain 1: Patient experience

Survey data

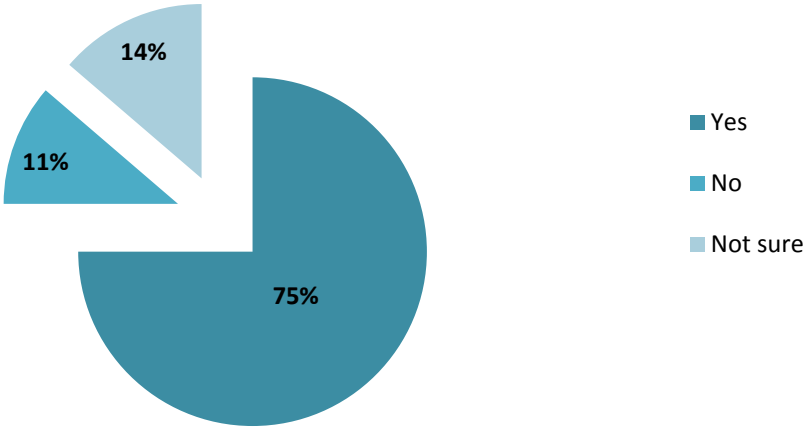
One of the main drivers for the development of eConsult was to make life easier for patients by offering the convenience of the eConsult ('consult online from home') service. The charts below summarise eConsult users' feedback, reflecting on the quality and convenience of the service.[19]

It should be noted that we have deliberately omitted a section of respondents (15%) from the data, who provided negative user feedback in the survey because they had not received the eConsult call back from their GP (admittedly, a vital part of the eConsult process). We were able to ascertain that, in most of these instances, the malfunction in the process was as a result of operational issues within the practice, such as the GP receptionist not printing and passing on the call back request or GPs forgetting to call

[19] The majority of eConsult users are working aged adults. Results showed that 65% female and 35% male. 78% of respondents said they were in employment and most were within the 25-44 age range (68%)

back. Moreover, we were able to identify that where there was an operational breakdown of this kind in the eConsult process, this was in practices that had only recently subscribed to eConsult and that were new to, and unfamiliar with, the process. This experience, while regrettable, does lead to an important recommendation about the importance of ensuring that practices are familiar with the eConsult response protocol before go-live.

Fig. 2 Would you use the 'Consult online from home' service again instead of booking a face-to-face appointment?



It should be noted that some of the issues with the eConsult process were nothing to do with operational issues in the practice, and were instead related to instances in which GPs were unable to contact the patient despite several attempts and so they left an answerphone message, which was not retrieved by the patient. There have also been occasions where an incorrect contact number was provided by the patient on the eConsult form.

Fig. 3 Did using the 'Consult online from home' service save you time?

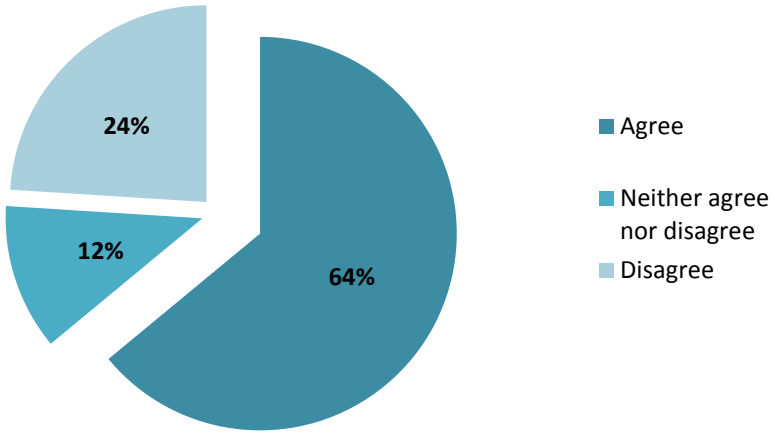
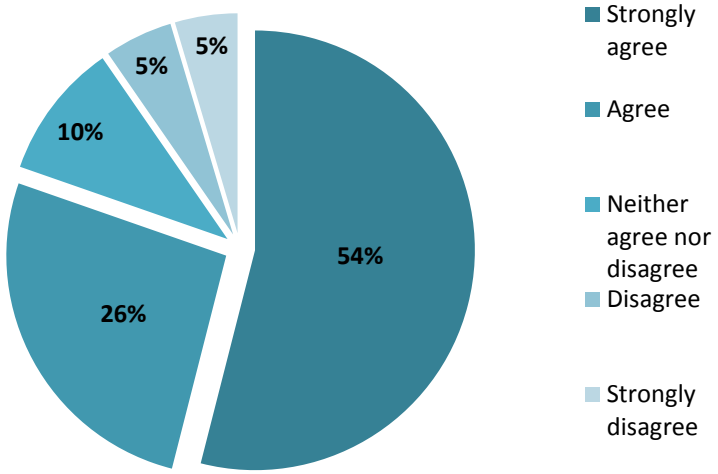


Fig. 4 Would you use the 'Consult online from home' service again?



eConsult patient survey responses

As part of the case study review process, we spoke to a number of patients who had used eConsult. The data from the survey is backed up by the patients' responses:

4.3 Domain 2: Health outcomes

eConsult aims to improve a person's health outcomes through early access to self-management tools, identification of red-flag symptoms, early commencement of treatment, and more productive phone or face-to-face consultations. The suggestion is that:

a) eConsult improves health outcomes because patients are able to gain advice from their GP sooner (within one working day) than they would be through the standard appointment route.

b) Patients are less inhibited about raising issues related to mental or sexual health, so challenging issues are more likely to surface earlier.

c) Fewer patients will be likely to ignore serious symptoms (e.g. rectal bleeding, fever following visiting a malaria zone) because eConsult triggers automated advice to seek urgent medical attention.

eConsult allows a practice to comprehensively record a user's previous encounters with the service, with the aim of compiling a history of their symptoms, characteristics or behaviours that could enable the prevention of illness or inform the clinician's understanding of conditions in the longer term.

The eConsult pilot report cited the following conditions (or topics) as the 'top ten' health reasons for an eConsult:

- Depression
- Contraception
- Knee pain
- Earache
- Asthma
- Sore throat
- Rectal bleeding
- Shoulder pain
- Coughs

It was noted that some of these (e.g. rectal bleeding, contraception) are often deemed to be embarrassing, while others (e.g. depression) are felt to be things that individuals are unwilling to 'bother' their doctor about — either way, these are conditions that patients can be reluctant to seek help for through a face-to-face appointment with a health professional. In light of this, we decided to attempt to explore whether a link can be demonstrated between the use of online GP services and the early identification and diagnosis of certain conditions—particularly those with embarrassing symptoms (see Section 4.3.2 below).

4.3.1 Enhanced support for self-management

An important aspect of eConsult is that it facilitates access to a wide range of online self-help content, covering well over 100 conditions.

We had hoped to be in a position to assess the nature and extent of patients' (and other people's) use of this content. However, because users do not need to log in to access the content, it has not been possible to gather data to generate insights into trends and common themes.

However feedback contained within the patient survey did indicate that some patients were keen to use eConsult to identify or seek treatment for their condition proactively. For example:

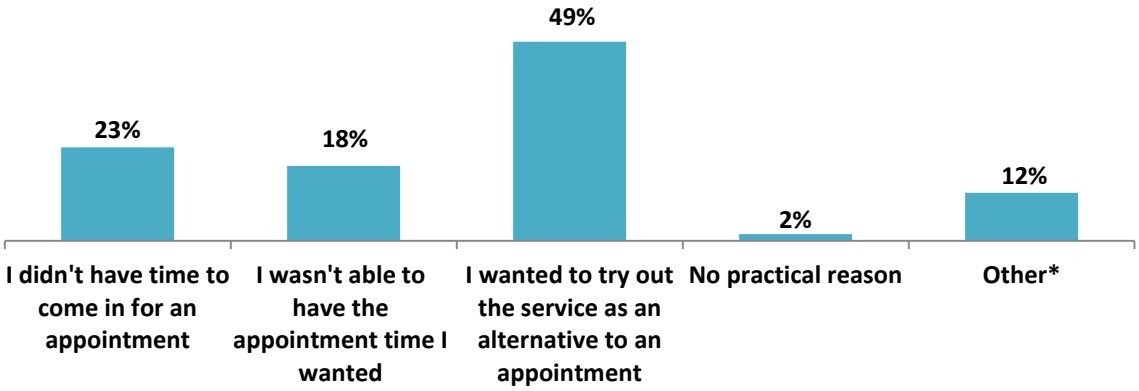
- Fig. 5 shows that 49% of patients who completed the survey said they 'wanted to try out the service as an **alternative to an appointment**.'

- Fig. 6 shows that over 75% of patients who completed the survey said they had used the service to request a **GP's feedback about a new condition or an ongoing condition**.

- Fig. 7 shows that 64% of patients who completed the survey said they would **use**

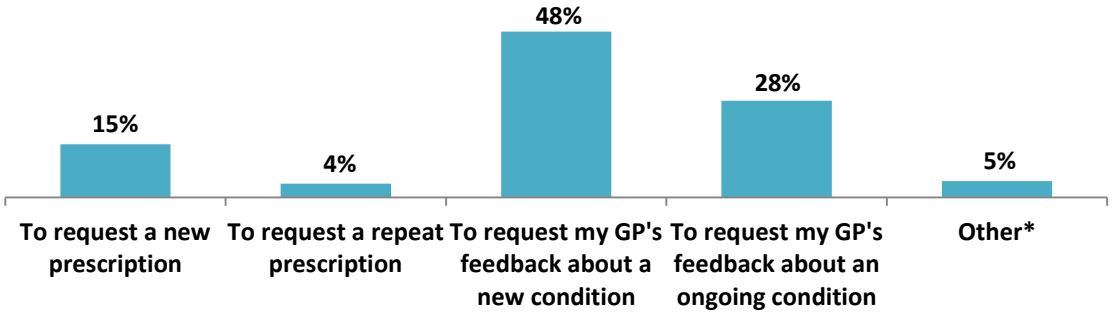
eConsult **again** ***instead of booking a face to face appointment.***

Fig. 5 Was there a practical reason why you used the consult online from home service?



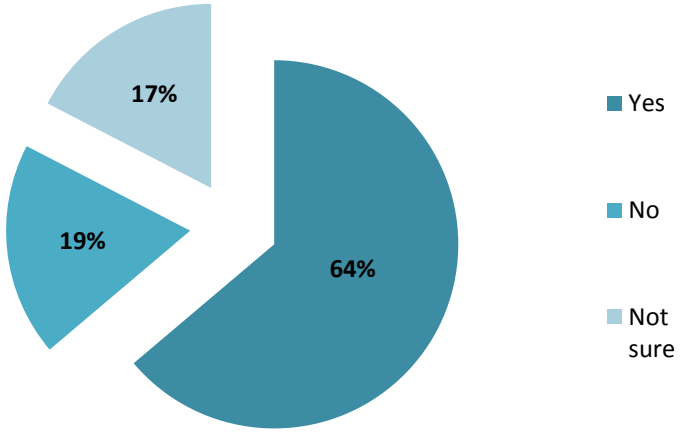
*incls. - 1 x convenient, 1 x Surgery closed, 1 x too unwell to leave home, 1 x to seek advice/support, 1 x thought this would be most efficient way to make my request,1 x receptionist gave me this form to fill out, 1 x not an emergency, 1 x wasn't able to book appt. in time for when prescription was needed, 1 x told this was the option before seeing GP.

Fig. 6 What was the medical reason for using the consult online from home service?



* Includes 3 x advice, 2 x travel (immunisations information and medicine advice), 1 x referral, 1 x blood test.

Fig. 7 Would you use the 'Consult online from home' service again instead of booking a face-to-face appointment?



* The 19% and 17% of people who stated "No" and "Not sure" respectively in their responses were the individuals who had a bad experience of the surgeries' operational *processes* underpinning eConsult rather than of the *solution* itself.

4.3.2 Web-based consultation as a means for overcoming stigma

Using eConsult as an example, comparator data was extracted from EMIS for five conditions commonly seen by GPs, including cystitis, depression and rectal bleeding, starting in the months prior to eConsult going live, and in the six months after. This information is set out in the table below:

Six months prior to eConsult implementation (March 2013– August 2013)	**Six months following eConsult implementation** (March 2015 – August 2015)
Patient count	**Patient count**
Anxiety	
393	702
Bacterial vaginosis	
44	80
Cystitis	
81	109
Depression	
103	241
Rectal bleeding	
53	93

The figures appear to show a significant increase in the number of patients being diagnosed with conditions or symptoms that they might ordinarily be unwilling to present with. Of course, we cannot state with absolute certainty that this is solely due to eConsult – there might well have been factors in the external environment, such as awareness-raising campaigns, over the same timeframe – but the difference in patient numbers is so striking before and after the launch of eConsult, that this apparent *disinhibiting effect* of a non-face-to-face consultation certainly appears noteworthy.

In addition, there were 1,683 occasions during which patients accessed self-management and sign posting information on a variety of conditions during this period. Of these conditions, 18% then did not an appointment with their GP - which they had previously planned to arrange. This is an example of how the use of self-management tools reduces demand for GP appointments.

4.3.3 Patient feedback relating to health outcomes and self help

When patients were asked about any positive or negative impact on their health due to using eConsult instead of the more traditional means of accessing healthcare, they commented as follows:

4.4 Domain 3: Practice productivity

In an attempt to measure practice productivity, the Hurley Group developed a Return on Investment (ROI) calculator to determine how many clinical hours are saved through the use of eConsult. The methodology and related formula used by eConsult for determining productivity savings or efficiencies is based on a formula that calculates a net cost saving to practices. The formula takes into account a number of different assumptions and findings and is based on the following criteria:

- That for every eConsult, there are a further nine patient interactions (five patients used self-help; two used signposting; one requested a nurse call back; and one used a symptom checker).
- In the time a GP would normally see one patient, they can process three e-consults (for example, in many practices they block one 10 minute face-to-face appointment for every three e-consults received, averaging 2.9 minutes each to process).

It should be noted that eConsult did not mandate a particular way of managing and distributing the eConsult requests. For example, some practices prefer to print them out and hand them to the GPs as soon as they arrive. Some include them as part of the repeat prescriptions requests. Some prefer to attach to them to the electronic record and workflow them or create a single appointment list.

The calculator demonstrates increasing return over year two and three as patient uptake increases and the future value of the patient behaviour changes accrues. The ROI calculator is shown in Fig 8 below.

Fig. 8 The eConsult ROI calculator

Patient list size=>	7000				Hits per patient per year = >	1.5
Pilot and project performance in years 1, 2 and 3 - Please amend the list size above to match your scenario					Projected performance if patient take up is heavily driven - Please amend the "hits per patient per year" above (note: this is a performance guide)	
ROI Calculator	Pilot Results	Year 1	Year 2	Year 3	Calculator	Assumptions
List Size	133,000	7000	7000	7000	7000	
Website hits	72,171	3798	6527	9255	10500	Projected webGP Hits
Hits per patient per year	0.54	0.54	0.93	1.32	1.50	Take Up, per patient, per year (can be significantly higher if marketed effectively)
SAVINGS TO A PRACTICE PURCHASER						
Total saving to practice	£222,903	£11,732	£19,418	£27,999	£32,214	Includes nurse savings
Cost per patient of WebGP pa (inc VAT)	£0.76	£0.76	£0.76	£0.76	£0.76	
Cost of webGP pa	£100,548	£5,292	£5,292	£5,292	£5,292	Assumes a standalone investment
Net saving to practice purchaser	£122,355	£6,440	£14,126	£22,707	£26,922	
ROI	**£1.22**	**£1.22**	**£2.67**	**£4.29**	**£5.09**	Per £ spend on webGP
SAVINGS TO COMMISSIONER PURCHASER						
Total savings to Commissioner	£409,208	£21,537	£37,006	£52,474	£59,535	
Cost per patient of WebGP pa (inc VAT)	£0.76	£0.76	£0.76	£0.76	£0.76	
Cost of webGP pa	£100,548	£5,292	£5,292	£5,292	£5,292	Assumes a standalone investment
Net saving to commissioner purchaser	£308,660	£16,245	£31,714	£47,182	£54,243	
ROI	**£3.07**	**£3.07**	**£5.99**	**£8.92**	**£10.25**	Per £ spend on webGP
Total savings to practices + commissioners	£531,563	£27,977	£51,131	£75,181	£86,457	Combined savings minus total cost of WebGP
Return on Investment (ROI = for every £1 spent on WebGP how much is saved)	£5.29	£5.29	£9.66	£14.21	£16.34	ROI to health economy (practices + commissioner)

Actual pilot results are included in the 'Pilot Results' column. All other calculations represented are driven using the assumptions derived from the findings of the pilot

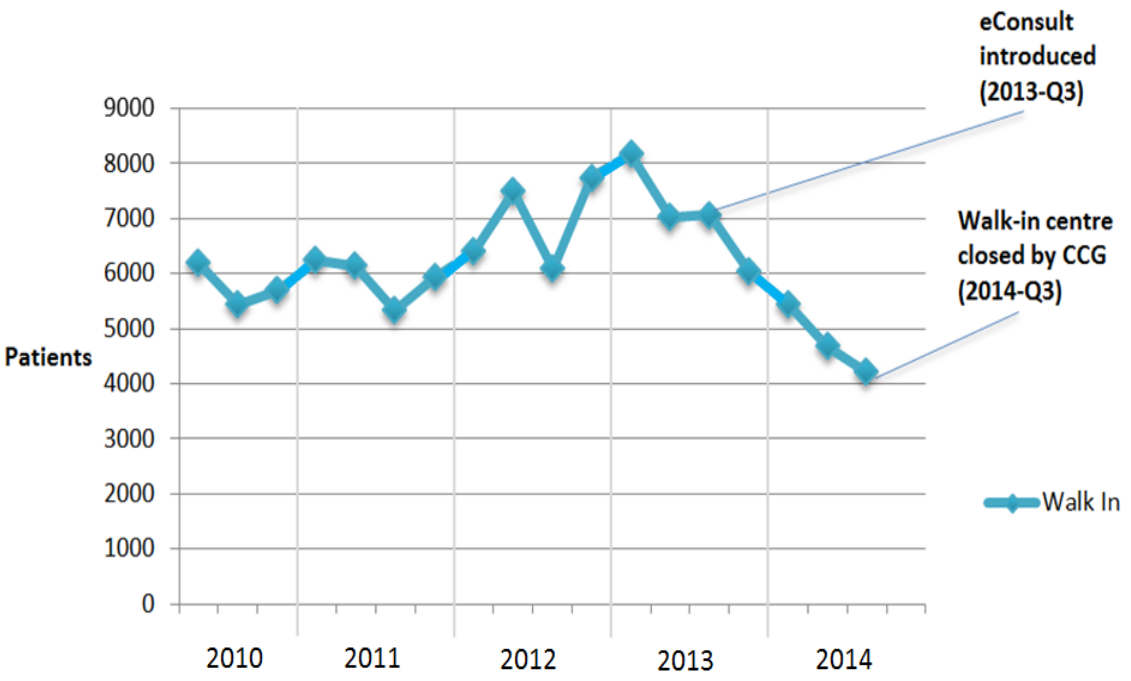
4.5 Domain 4: Use of NHS systems and resources

For this domain, we decided to hone our evaluation to focus on one particular organisation — allowing us to examine the impact of the presence of eConsult on a particular set of local NHS resources. The organisation was the Lister Practice, which is located in Peckham in the London Borough of Southwark.

4.5.1 The Lister Practice walk-in centre

In addition to its regular GP practice, the Lister provides a seven-day walk-in service co-located on its main practice site. The practice records patient numbers attending the walk-in centre. Fig. 9 below shows visitor numbers dating from 2010, but most importantly for the purpose of this evaluation, those from September 2013 (when eConsult was launched) to May 2014. The walk-in centre saw approximately 30-35,000 patients a year for five consecutive years, but this figure dropped to 18,000 a year nine months after the introduction of eConsult. This is because patients were able, and keen, to avoid attendance when supplied with online alternatives to attending and waiting in the centre.

Fig. 9 Lister walk-in volumes



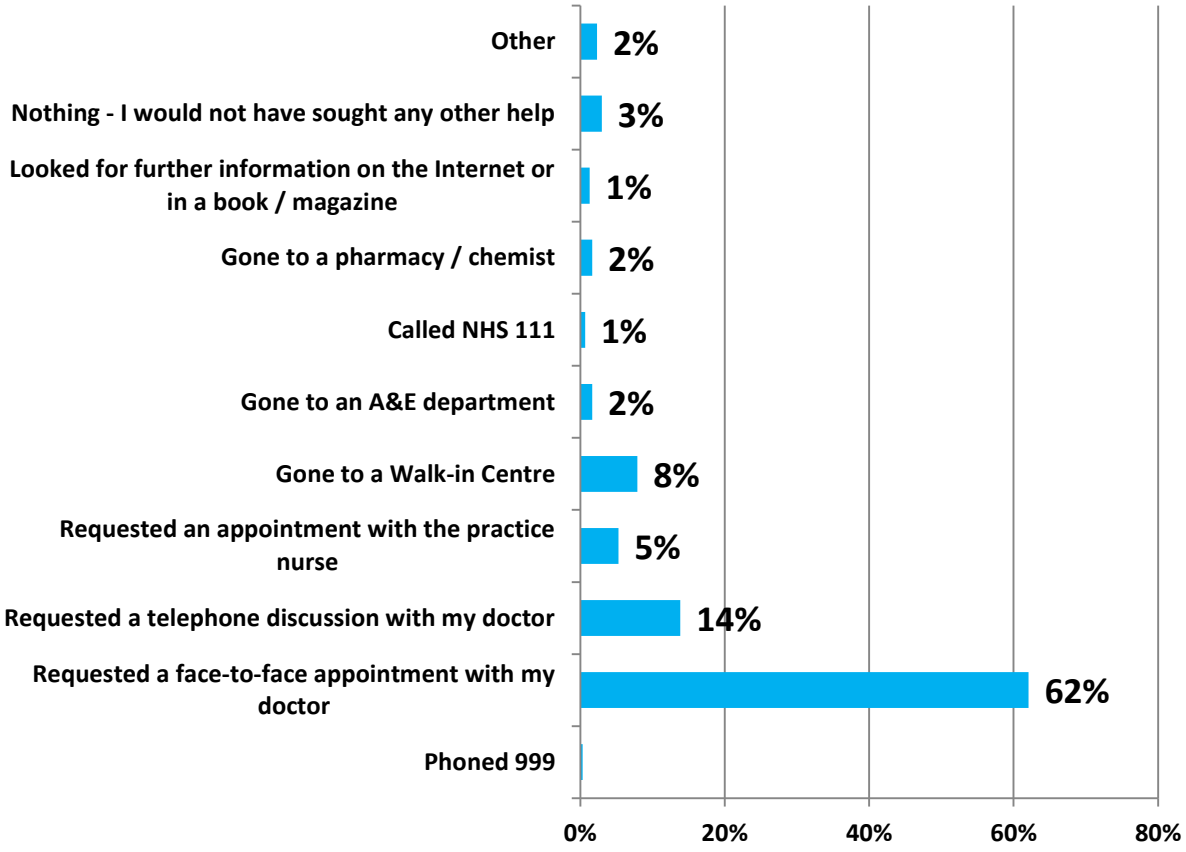
Figures clearly show a drop in walk-in centre numbers following the introduction of eConsult.

4.5.2 A&E attendances

Data also shows that the presence of eConsult significantly reduced inappropriate patient movement from one type of service to another. Data from the GP Patient Survey 2014 suggests that when patients from the Hurley Group's Lister Health Centre were unable to get an appointment, very few decided to visit A&E or an NHS walk-in centre as an alternative. In the Hurley Group's earlier survey, 14% of these patients reported that they would have attended an NHS walk-in centre if the eConsult service had not existed. However, there was no further data available to demonstrate conclusively that eConsult led to a direct reduction in inappropriate attendances at A&E, in this instance.

The eConsult user survey did confirm, albeit in very small numbers (2%) that had eConsult not existed, patients *would have* gone to A&E and 8% to a walk-in centre instead. This can be seen in the table below (Fig. 10). This was also supported by the telephone interviews with patients, who all confirmed they would have waited for a face-to-face GP appointment.

Fig. 10 If the Consult Online from Home Service had not been available, what would you have done about your health problem?



5. Reflections on findings

Domain 1: *Patient experience*

Based on the insights from the patient survey and the feedback from conversations with patients, it is clear that there is a very high level of patient satisfaction in eConsult. This is largely due to the fact that it saves time and is more convenient than traditional ways of accessing primary care services. Online consultations offer patients greater flexibility, which satisfies many of their needs and provides an easier way to access GP services.

However, the significant problems that arise when patients do not receive a response to their health-related query are a cause for concern. This is a potential risk to new users, not just of eConsult, but of online GP platforms in general. In light of this, steps should be taken to mitigate such risks — particularly for newly-subscribed practices, which may be unfamiliar with its protocols, workflows, and individual responsibilities.

Domain 2: *Health outcomes and support for self-management*

There is some evidence that, for certain conditions (for example, anxiety), patients are more likely to contact their GP if they have access to an online consultation tool. Of particular note was the increase, post-introduction of eConsult, in reported instances of rectal bleeding in GP settings. This should be welcomed given current government targets concerned with the diagnosis of colorectal cancer. It could thus be inferred that online consultation tools enable, or even encourage, patients to seek help when they might have felt unable or unwilling to do so previously.

Patient feedback also suggests that they feel eConsult has enabled more rapid diagnosis and treatment, and therefore a faster recovery time - or, in some cases, the proactive prevention of ill-health.

The evidence from this review also suggests that people are content to use the self-help content and seek advice informally away from the GP practice setting — provided this content is considered credible and trustworthy, and its provenance is clear.

When promoting greater patient autonomy and self-management, those adopting web-facilitated consultation need to ensure that their processes and safeguards are robust, to ensure patient safety and to maximise benefit. This will ensure that any individual needing a medical intervention does not get ‘lost’ or have their treatment delayed.

Domain 3: *Practice productivity ('workload')*

The eConsult ROI calculator demonstrates a clear net gain to practices in terms of capacity:

- For every one eConsult there are nine other interactions where patients have successfully helped, or at least tried to help, themselves - rather than simply booking an appointment.
- 60% of eConsults were closed remotely despite only 3% being attributable to supply-led demand (frivolous eConsults).

However, it should be noted that 'waiting list reduction' and 'workload reduction' are not always synonymous. Therefore, at the present time, it is likely that it is only those practices that have matched demand and supply that can reliably demonstrate a workload reduction as a result of eConsult in this context. Where demand currently outstrips appointment supply, practices will see less demand and shorter waits, but not necessarily empty appointments.

The growth of online GP platforms such as eConsult offer a real opportunity to address issues of supply and demand in the future, as long as this is accompanied by activity to raise patients' awareness of opportunities to engage with their GP practice in this way. Crucially, adequate support also needs to be given to practices, which are new subscribers to smooth out operational and cultural issues during the very early stages of implementation.

The impact of online GP platforms on GP waiting times is less well understood. During the review there was no hard data that practically demonstrated whether the use of eConsult had a positive impact on the reduction in waiting times. However, the Hurley Group states that waiting times typically drop from two to three weeks to two to three days; and additionally, of those eConsult interactions that do require a practice visit, 15% are re-allocated to a nurse appointment (rather than a doctor).

One of the key design features of eConsult was to intercept patients already planning to use GP services. This was a clear attempt to avoid creating supply-led demand, which were found to be 3% of all eConsults. Unlike improving telephone access to GPs – which arguably increases demand – online platforms have the potential to divert existing demand to self-management or faster GP resolution.

Finally, there is a general view that it is important to take steps at local (operational) and strategic (policymaking) level to enhance the evidence base for the benefits of online GP platforms and similar innovations – in terms of their contribution to making efficiencies, freeing up demand in the system, and improving health outcomes.

Domain 4: *Use of NHS system resources*

The Lister Walk-in Centre example clearly shows a reduction in attendances since the introduction of eConsult. It is likely that a high proportion of this is directly attributable to eConsult, as there were no other local service changes in the area at that time.

Another consideration of the benefits of this type of technology were the results of the Hurley Group's patient survey, as 14% of patients reported that they would have attended an NHS walk-in centre if the eConsult service had not existed. This further outlines the importance of the implementation of such services, as means of promoting appropriate care in the right place at the right time.

Our analysis demonstrates that eConsult and other similar innovations are an asset in attempts to address the ever-growing demands on NHS services. Using a tool such as the ROI calculator, developed for eConsult, there is a finance and productivity case to be made for this type of technology.

It is important to balance the understandable enthusiasm around the opportunities and benefits offered by online GP health platforms with steps to ensure robust and effective operational delivery — ensuring that local arrangements at practice-level are fit for purpose, appropriately governed, and safe.

Patients expressed, clearly and passionately in this review, how important it was to them that their feedback should continue to inform developments in this area – and this consideration needs to be taken forward seriously. It seems in little doubt that this sector will continue to grow for the foreseeable future, and by placing patient – alongside professional – insights at the heart of this growth, we can ensure that it develops in a positive direction.

6. Conclusions and recommendations

The findings of this case study review suggest that systems such as eConsult have the potential to deliver benefits in a number of areas. These include improving patients' access to primary care services, delivering process and cost efficiencies within general practice, and improving health outcomes.

However, realising these benefits requires an investment of effort to bring about change. We should not underestimate the importance of ensuring that the services are appropriately configured and prepared for these new tools and ways of working. Practices need to ensure, in particular in this case, that patients are well-informed about the online consultation service, and that practice staff are clear about their responsibilities — not least in terms of responding to eConsult requests. The experience of the Hurley Group team suggests that this preparatory and ongoing work is not a trivial undertaking.

It was clear during the implementation of eConsult that it was important for practices to understand the changes to supporting workflows, as well as to staff responsibilities, to ensure the service was robust. This insight illustrates that it is not just the product of an innovation that is important; the setting-up, bedding-in, orientation and familiarisation processes that surround it are absolutely critical — not only if the service is to be delivered safely, but also if benefits are to be realised.

Reflecting on the experience of implementing eConsult, our recommendations for other, similar services are as follows:

- **Recommendation 1:** Practices should establish a clear process for responding to patients following their initial contact, and this should be agreed and tested rigorously prior to go-live.
- **Recommendation 2:** In support of the above, training and development activity with practice staff should highlight the importance of a having an agreed patient call-back protocol.
- **Recommendation 3:** To gain full benefit practices should engage with their patients to optimise the implementation and supporting workflows.
- **Recommendation 4:** GP practices using online GP consultation services should routinely examine their return on investment, contributing to the overall 'business case' for the use of this kind of digital health technology within the NHS.

Our case study findings have bearings on broader discussions about the nature of effective innovation, implementation and spread within the NHS, providing important insights into the practicalities of implementing innovations in a specific healthcare

environment. As such, its contribution to this broader discussion is fairly focused – but we believe no less valuable for it.

One significant point of agreement between this case study and other contemporaneous investigations into innovation, spread and adoption in healthcare, is of the importance of patient involvement in adoption and implementation processes. There are echoes of the third recommendation above in the second "lesson for primary care" in the Nesta (2014) report, *Which doctors take up promising ideas.* The report authors suggest that patients should "be involved more consistently in adoption processes". From our point of view this should stimulate appetite for innovation within local healthcare organisational culture, driving the discovery of innovations in collaboration with healthcare professionals, and in assisting with the pragmatic organisational aspects of adoption and implementation.

Epilogue

Initiatives such as eConsult have demonstrated scope for improvements in patient access, health outcomes, practice efficiency and commissioner savings. However, we would conclude that there is further benefit to be achieved by optimising use of self-management tools and online consultations in general practice. Adding product enhancements and functionality can play a role in this success, but a core challenge is to ensure that local ownership is undertaken to deliver the potential of the service. In the next iteration planned for 2016, interoperability with clinical software systems will allow coding of eConsults that go directly into workflow, for asynchronous triage or case closure by GPs using a RAG rating mechanism. They will also be able to instant message authenticated patients back with semi-prepared responses.

7. Appendices

Appendix A

Please find detail on patient self-helping and sign posting in the period detailed for Anxiety, Bacterial Vaginosis, Cystitis, Depression and Rectal Bleeding. This data is in addition to patients that presented in practice.

Period March 2015 - August 2015 (post launch of eConsult)

Condition	Self-help	Signposting
Anxiety	197	43
Bacterial Vaginosis	239	67
Cystitis	286	162
Depression	184	51
Rectal Bleeding	347	37

Appendix B

eConsult – Product features

eConsult links from a GP's existing website and gives their patients access to a suite of online services, including:

- **Symptom checkers and condition finders**, so patients can ensure they are using their general practice appropriately.
- **Self-help guides and videos**, so a proportion of patients are given sufficient information with which to self-manage.
- **Sign-posting and self-referral options** to alternate local services, so patients can see and access a wide range of resources that might help with their issue e.g. pharmacy, third sector organisations.
- **Sign-posting to NHS 111**.
- **Requesting an e-consult** by submitting a condition-specific web form, from their practice website to the practice itself. These web forms relate to any of over 100 common general practice conditions. The practices can then respond with advice and treatment within one working day. This allows their own GP to evaluate their structured history report (e-consult) and triage patients into those that need a face-to-face appointment (40%), those that can be managed on the phone (20%), and those that can be offered a treatment based on the e-consult alone (40%).
- Using the **Generic Template** to capture patients who either are unsure of their specific condition or are unable to source their condition within the specific 100 common conditions. These are treated as a normal eConsult by the practice when received.
- **Administrative requests** can also be managed via an eConsult. Patients who require fit note renewals, medical letters or reports can complete an eConsult with all the information that the practice requires to complete this task. This prevents the need for unnecessary appointments for patients that can be dealt with remotely.
- **Test result** queries from patients can also be submitted in the form of an eConsult and thus dealt with remotely without the requirement for a face-to-face appointment.