



Designing GP Digital
Services, Together

Phase One Summary Report

October 2016

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Definition of terms

A number of terms are used throughout the document and are defined here for clarity as follows:

Carer: anyone who cares, unpaid, for a friend or family member who due to illness, disability, a mental health problem or an addiction cannot cope without their support. (Carers Trust)¹

Citizen: an inhabitant of Scotland

Digital technology: supporting ways of effectively finding, analyzing and communicating information useful to people, for example in the health system. This encompasses the use of web tools (apps), a range of media (social and other), programming tools and software applications

Digital health: use of digital technology for people to support health and wellbeing

General Practice: individual or clusters/federations of general practitioners who provide first point of contact services across the life course, for all health problems (Allen et al, 2005).

Internet of Things (IoT): refers to the transfer of data between objects, without any human interaction

Primary care: wider network locality services beyond GP services and integrated into health and care

Product owner: the key stakeholder with a vision of what they wish to build, who is able to convey that vision to the team building the prototype/product. In agile development terms this role includes the responsibility to support the team at each iteration in a product's development

¹ <https://carers.org/what-carer>

Social media: websites and applications that enable users to create and share content or to participate in social networking

Telecare: support and assistance provided at a distance using information and communication technology. It is the continuous, automatic and remote monitoring of users by means of sensors to enable them to continue living in their own home, while minimising risks such as a fall, gas and flood detection and relate to other real time emergencies and lifestyle changes over time

Telehealth: remote exchange of data between a patient at home and their clinician(s) to assist in diagnosis and monitoring typically used to support patients with Long Term Conditions. Among other things it comprises of fixed or mobile home units to measure and monitor temperatures, blood pressure and other vital signs parameters (and the answering of targeted questions) for clinical review at a remote location using phone lines or wireless technology.

Executive summary

Introduction

This document sets out a summary report for phase one of the OurGP project. The project is commissioned by The ALLIANCE on behalf of the Scottish Government and delivered by mHabitat. The project will be delivered in three phases and culminate in a report with recommendations for future digitally enabled GP services.

A review of the literature

A review of the literature was undertaken to understand the context for future digitally enabled GP services. The literature comprises strategic and policy documents, national and international reviews, local delivery plans and research literature focused on digital innovation in primary care. The insights gained from the review have been used to inform the hypotheses and generation of the co-design question to be explored in the workshops during phase two of the project.

The review focuses on digital innovation in GP services from a patient and citizen perspective alongside practitioner and organisational points of view. It sets out the current position with regard to digital uptake which indicates a positive context for the OurGP project. However, there are also a range of infrastructure barriers such as lack of interoperability between systems. There is an opportunity to develop digitally enabled self-care solutions which enable practitioners to share decision making with patients and support coordinated care (SBRI, 2016).

The review confirms the underlying assumption of the OurGP project that co-design is an essential principle of future digitally enabled GP services. If systems are to successfully solve the problems and needs of people who are going to use them, a deep understanding of both care pathways and the needs of end users is required. The OurGP project has co-design with patients, citizens and practitioners at its heart and this will provide a firm user focus for future GP services. The ALLIANCE in

partnership with the Scottish Government supports citizen participation in health and wider public services at a strategic level.

Stakeholder interviews

A number of in-depth qualitative telephone interviews were undertaken with key stakeholders identified by the product owners. The purpose of the interviews was to understand the wider context for the OurGP project and specifically to identify existing assets and enablers as well as barriers to the initiative.

A key theme identified by stakeholders is that views of patients and citizens have been largely absent in the development of digitally-enabled GP services to date. The OurGP initiative was therefore widely welcomed by all interviewees and a person-centred approach to digital health developments was endorsed. Four key themes were repeatedly highlighted by participants which are summarised below:

1. Strong third sector commitment to facilitating citizen and community involvement and enthusiasm about supporting digital inclusion so that disadvantaged citizens are less likely to be left behind
2. Concern that there are a growing number of online information resources that range from national initiatives to hyper-local services which are not sufficiently connected
3. Desire for a comprehensive and clear national digital offer for citizens which is integrated into primary care services in ways which are person-centred, accessible and both easy to navigate and understand
4. The primary care workforce has variable digital confidence and skills and this needs to be addressed to support effective, digitally enabled GP services.

A detailed summary of the strengths, needs, opportunities and barriers for the OurGP project is set out below in a strengths, needs, opportunities barriers matrix and asset map (page 31).

Hypotheses and co-design question

Two hypotheses and a co-design question have been developed as a result of the literature review and engagement activities in phase one of the OurGP project. They will frame the co-design workshops in phase two of the OurGP project:

Hypothesis	Supplementary questions for workshops*
<p>1. Staff want to spend more time supporting those who need their expertise the most. Technology can enable this by (a) freeing time from administrative tasks and enabling staff to consult with peers virtually (b) enabling people with lower needs to access information and support online and to self-manage where appropriate</p> <p>2. Citizens want to understand what is wrong when they are ill, know what might help, and get the help they need how, where and when it suits them. Technology can be a useful tool in enabling citizens to get the</p>	<p>What if OurGP digital solutions could be developed that helped citizens and also provided GP practices with useable data?</p> <p>What if citizens could be actively alerted to care options for themselves and in partnership with their GP/Practice or other staff?</p> <p>What if digital self-care could prevent citizens from developing some long term conditions?</p> <p>What if people knew exactly which sort of digital tools would help them manage their own conditions/needs?</p> <p>What if care became a shared decision making process between GP/staff involved</p>

information they need, engage in peer support and manage their condition(s) over time	in care delivery and citizens, by better use of these digital tools?
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The co-design question is used as an overall frame to shape the participatory exercises which take place during the course of the workshops:

“How can we look after our health in the future, accessing GP services when we need them the most and in the ways that work best for us?”

The question is deliberately broad and non-technology focused in order to encourage participants to think widely and resourcefully about the topic. The question will be introduced at each workshop and used to focus conversations.

Phase two workshops and data driven personas

Phase two of the OurGP project involves the delivery of six participatory creative workshops with citizens and GP staff. The workshops will facilitate a deep understanding of the challenges and opportunities of digital technologies as well as ideas for future GP digitally enabled services. The workshops make use of service design tools such as personas, user stories, prioritisation tools and journey mapping as well as rapid prototyping of ideas. This process helps identify key functions required from the prototypes that will be developed towards the end of phase two.

Data from a range of sources were reviewed for the phase one report and from this, key user groups were identified. The data was prioritised by focusing on the top five most commonly presenting needs in primary care (Information Service Division, 2013). Demographic data for each of the co-design workshop geographical areas were reviewed to identify any particular groups of citizens we might wish to recruit. The generated personas were tailored to these likely workshop participants. The

personas comprise the following groups - carers, working age and general adult long term conditions, young families and younger people, frail elderly and older people. They are set out in detail in the defining skeleton personas for co-design validation in the phase two section (page 37).

Market review

The purpose of the market review is to firstly set the context in terms of the digital technology market in Scotland and wider UK. Secondly, the review identifies existing digital technologies that are either being used in Scotland or could play a role in enabling future digitally enabled GP services.

The review found that whilst extensive innovation in the healthcare application sector is clearly evident globally, there is a current gap in terms of NHS approved applications. This disparity is currently being addressed through the NHS app endorsement framework being developed by NHS Digital and through accelerator programmes such as NHS England's SBRI (small business research initiative) programme, the NHS Innovation Accelerator, and the newly announced Digital Development Lab for digital mental health delivered by mHabitat^{2 3 4}. Charities such as Asthma UK, Mind and Youthnet are researching and/or developing digital technologies. Public Health England have a range of endorsed mobile applications on their One You website and in the future NHS Choices will do the same. Academic institutions such as Mindtech and Devices for Dignity are developing the evidence base for digital technologies in healthcare.

The dynamic and evolving development of digital technologies in health should be taken into account by the OurGP project in order to align outputs from the co-design process to the current market and evidence base. This will ensure OurGP builds on existing foundations, is informed by the evidence, and leverages collaborative and grant opportunities where appropriate.

² <http://sbrihealthcare.co.uk/>

³ <https://www.england.nhs.uk/ourwork/innovation/nia/>

⁴ <http://wearemhabitat.com/mhdigilab/>

Social media strategy

The social media strategy (Appendix 2) sets out how OurGP will harness online social networks to inform, amplify and engage with citizens in order to enable their participation in the project in a variety of different ways.

The project aims to use relevant social media channels to generate a buzz around OurGP and encourage the participation of specific groups, general public and GP practices across Scotland. The social media strategy and related content harness the power of online networks in Scotland to amplify OurGP as far and wide as possible.

The proposed social media strategy comprises two-aligned approaches to amplifying engagement with citizens through multiple networks as follows:

- A. Deploy a small number of dedicated OurGP social media accounts to share information and encourage participation
- B. Tactically engage with existing social media influencers to encourage them to share information and encourage participation through their networks.

The accounts will enable OurGP to be open, transparent and social - encouraging participation and demonstrating a willingness to engage with people in the spaces they occupy in the ways that they choose to participate. The social media strategy and content plan set out in full in Appendix 2 will enable OurGP messages to be shared widely and participation maximised with key target groups, citizens, primary care practitioners and other stakeholders.

Ethnography - a day in the life of GP practices

The mHabitat ethnographic approach enables an 'on the ground' view of general practice activities which are in scope for the OurGP project. It is designed to understand a typical day in the GP practice. A researcher will observe and interact

with the staff to build up a realistic picture of what currently happens day-to-day. The researcher will focus on the use of analogue and digital technologies throughout the practice but will also observe the wider context through the lens of the project brief.

There will be three ethnographic research days throughout October 2016 based in three varying GP practices across Scotland. The days will consist of observations, short informal interviews and activities with staff and patient interaction in the form of a survey. The results of the ethnography days will be presented in the phase two report.

Staff and citizen surveys

Two surveys are deployed during phase one to gather on the ground feedback from GP practice staff and Scottish citizens. Both surveys aim to uncover insights into how citizens are currently using digital technology to interact with GP practices and how GP practice staff see the future of GP digital services. The surveys will inform the delivery of the workshops during phase two.

Conclusion

In conclusion, the executive summary provides a brief overview of the full phase one report which can be found in the main document and appendices. The phase one report summarises all activities that have been undertaken and sets out activities for phase two. This is one of three reports for the OurGP project.

Introduction

This document sets out a summary report for phase one of the OurGP project. The project is commissioned by The ALLIANCE on behalf of the Scottish Government and delivered by mHabitat. The project will be delivered in three phases and culminates in a report with recommendations for future digitally enabled GP services.

The phase one report summarises the outputs from a two month research phase in which extensive background work has been undertaken to both provide a wider context and to identify opportunities and challenges for the OurGP project. The report includes the following summaries:

1. A rapid review of the grey and academic literature related to GP digital tools and services
2. Qualitative interviews with key stakeholders
3. A review of the current market in relation to GP digital tools and services
4. Background data for (a) personas and (b) workshops that will be used in phase two of the project
5. Plans to carry out 'a day in the life of' three GP practices in Scotland, using an ethnographic approach
6. Workshop locations, dates and timings for phase two of the project.

Full reports are available for each of the five thematic areas set out above and can be found in the appendices.

Phase two of the project will be undertaken over a three month period and will comprise six stakeholder workshops followed by development of high level prototypes and a roadshow in which a wider group of stakeholders will be invited to comment on and help further iterate the designs. The final phase of the project will comprise a final 'show and tell' event followed by a write up of the outputs of the

project with a prototype of a future digitally enabled GP digital service and recommendations for consideration by the Scottish Government.

Rapid review of literature to influence phase two activities

Introduction

The mHabitat team have undertaken a high level rapid review of the grey and academic literature relevant to the OurGP project. The purpose of the review is to provide context for the initiative as well as to identify any relevant evidence to support future digitally enabled GP services.

In this section, our approach to reviewing the literature is set out and the opportunities the evidence might present are explored. The citizen voice in digital GP service design is also highlighted.

The insights gained from this review have been used to inform the hypothesis and generation of the co-design question which are set out in more detail in stakeholder interviews – assets and enablers, section 4: Focus on phase two.

Project focus/approach to the rapid review

The literature included in the review comprises strategic and policy documents, national and international reviews, local delivery plans and research literature focused on digital innovation in primary care. Key Scottish strategy and policy documents include but are not limited to:

- eHealth Strategy 2014-2017 (The Scottish Government, March 2015)
- The Scottish Health Survey (The Scottish Government, 2014)
- Making Time in General Practice (October 2015)
- The Communications Market Report (August 2015).

Preference has been given to systematic and high level reviews where possible. The review found limited Scottish specific research in the target area of digital service

delivery. The review was therefore extended to more generic sources and a more detailed example of digitally enabled asthma care is included for illustrative purposes. It is important to note that there is currently a paucity of evidence available, particularly from the UK, on the potential return on investment from digital technologies in healthcare (Imison et al, 2016). This reflects the emergent nature of digital technologies applied in a healthcare context.

Out of scope for this review were publications which specifically focused on electronic patient records, appointment booking and e-prescriptions. The basics of e-health are already the focus of a significant programme of work in Scotland and so are only touched on here in brief. These e-health tools provide the fundamental building blocks for day-to-day interactions with primary care upon which future digitally enabled GP services can be built.

Context and opportunity

In this section the context and opportunity are set out, firstly in terms of citizen take up of digital technologies and secondly in relation to practitioners and healthcare organisations. Key aspects of future digitally enabled GP services are outlined, such as design principles and use of data and analytics.

The review identified a number of existing developments coming to fruition which have the potential to add significant value to citizen's digital engagement with primary care in Scotland and these are described in more detail below.

Citizen context and opportunity

Public uptake of digital technologies offers a positive context for the OurGP project. The scale of Internet use has dramatically increased year on year since recording began and it is now the case that 90% of people in Scotland are online. The Ofcom Communications Market Report (2015) reveals that it is now the norm for the

majority (63%) of the public to access the Internet via a smartphone, with Scotland having the fastest growing 4G uptake in the UK (up 15% from 2014, to 34% in 2015) (Ofcom, 2015) 78% of households can access the Internet at home via any device and the public are increasing the hours they spend online (19.9 hours, up from 16.5 hours in 2014).

75% of the UK population report that they use the Internet to search for health information and there is increasing use of social media by people with health conditions to exchange experiences with others⁵. A 2015 survey of attitudes towards use of digital technologies in health found that two thirds of British adults believe that the NHS should use technology more in order to increase efficiency as well as improve patient experience and outcomes. However, this enthusiasm is not matched by experience, with 96% of respondents reporting they have not accessed their health records online⁶.

People aged 75 and over are slower to adopt use of online resources, with the smallest increases seen in this group (Sosenko et al, 2013). It should be noted that older age groups are most likely to lapse in their use of the Internet and therefore digital solutions could be most useful to those around them such as family and informal carers who are managing their support needs (Office for national statistics 2015). Digital technologies have significant potential benefits to informal carers by providing psychological reassurance, enabling remote monitoring and care, and by enabling peer-to-peer support with people in similar circumstances⁷.

The potential of online social networks which facilitate peer-to-peer encouragement and motivation is another aspect of digital which has rich potential for future digitally enabled GP services⁸. Patients Like Me is an example of a health-related social

⁵ <http://www2.deloitte.com/uk/en/pages/life-sciences-and-healthcare/articles/connected-health.html>

⁶ <http://www.trustmarque.com/report-the-digital-nhs-healthcheck-citizens-view/>

⁷ <http://www2.deloitte.com/uk/en/pages/life-sciences-and-healthcare/articles/connected-health.html>

⁸ <http://www2.deloitte.com/uk/en/pages/life-sciences-and-healthcare/articles/connected-health.html>

media platform that has a growing membership and collects large amounts of data (with consent) about issues such as drug side effects⁹.

Citizen experience of GP services

Often a patient's first and only contact with the NHS is through their GP practice. It is vital, therefore, that every member of the public has ready and appropriate access to their local primary medical services to ensure better experience and outcomes.

100,000 citizens registered with a GP service in Scotland were surveyed for their views in 2016. The report reveals a broadly positive citizen view of GP services with 87% of respondents giving an overall positive rating of GP care (Scottish Government 2015-2016). Whilst the survey did not specifically measure the use of digital tools in primary care, the key themes for improvement may give clues as to where digital technologies could have the highest levels of impact. For example, four out of five respondents reported a negative experience of access and waiting times for GP services. Getting through to the GP practice on the phone is one key component of access which has seen a small downward trend in positive responses since 2011/12. Online booking of GP appointments via a mobile or web app, telephone and video conferencing triage, as well as online video consultations are just some technologies that could improve access and waiting times for GP services.

Another example is the considerable variation in experience of co-ordination of health and care services alongside awareness of the help, care and support options that are available. Digital technologies have the potential to orientate the locus of control with the individual patient rather than the various organisations which may each keep information in separate silos. Good quality information about help, care and support on the Internet in easy to understand formats is another enabler of improved patient experience. A recent SBRI competition for transformative digital technologies in general practice identifies lack of integration between different parts of the health and care system as a key barrier to patient care. The competition challenges innovators to develop self-care solutions that enable practitioners from

⁹ <https://www.patientslikeme.com/>

across the NHS to share decision making with the person and support care in a coordinated manner (SBRI, 2016).

Scottish health and care strategic and local development plans

There is a well-documented commitment to citizen engagement which is evident throughout the Scottish health and care strategic and local development plans that were reviewed. The primary focus for technology in these plans is on GP information technology which places it out of scope for the OurGP project. The Scottish e-health strategy (2015) outlines the deliverables for digital services (Scottish Government, 2015)¹⁰. The strategy sets how national information for out of hours and other high pressure areas of the system will be delivered online, increasing the scope for people to self-assess their needs as well as better self-manage their conditions. These online sources of information will integrate with pharmacy and other professional services in local communities. The drive to focus on people with the most complex and urgent care needs means that consideration should be given to making systems as intuitive and accessible as possible. Issues of digital literacy and the need for assisted digital services must also be considered so that people who are most in need are not left behind. This is explored further below in the 'citizen voice' section.

Practitioner and organisational context and opportunity

There are a number of developments from within GP and health services, for example the growing integration of teams, which supports a consistent approach to use of digital solutions across sectors. Furthermore there is increasingly joined up (electronic) working between a range of providers such as non-GP based nursing teams, allied health professionals, pharmacists, social care and private providers such as care homes/home care, and third sector providers. There are many examples of digital tools and systems being used across these professional groups,

¹⁰ <http://www.gov.scot/Resource/0047/00472754.pdf>

including sharing good practice to support knowledge management, confidence in practitioners use of clinical systems and mobile device use with, for example, children (Scottish Government, 2009). Partnership working across providers and networked 24/7 teams supported by information technology infrastructure is an important enabler for future digitally enabled GP services (RCGP, 2016).

Staff have increasingly widespread access to wifi and broadband as well as less costly mobile smart technology. This infrastructure affords greater opportunities for mobile working associated with improved productivity and flexible working (Imison et al, 2016). However, many digital innovations have been technology driven without the involvement of practitioners. Staff can be reluctant to engage with and recommend digital technologies when they have concerns about safety and risk. Staff also report finding it hard to keep up with the pace of change in digital innovation. Lack of interoperability between digital technologies and electronic patient records is a significant barrier for adoption. The Digital Practitioner report produced by mHabitat found that while some practitioners are putting digital tools and information to good use for their patients and service users, others can feel held back by the equipment they have to use, or find it problematic to include digital in their service delivery (mHabitat, 2016).

The practitioner survey and ethnographic work undertaken as part of the OurGP project will generate further context about primary care staff use of and attitudes towards digital technologies in practice.

Digital technologies as enablers of transformation

Digital technologies have the potential to positively impact GP service delivery in a variety of domains, such as reduction in unnecessary visits and fewer unnecessary face-to-face appointments¹¹. However, it should be noted if analogue processes are merely replaced with digital versions then the true benefits of technology enabled

¹¹ <http://www2.deloitte.com/uk/en/pages/life-sciences-and-healthcare/articles/connected-health.html>

care will not be fully realised. Where technologies have failed it is often because they have been simply layered on top of existing work patterns, creating additional workload for practitioners (Wachter, 2016), (Imison et al,2016). Digital technologies should be an enabler for transformed care and new ways of working rather than the reverse. This should be an underpinning principle for the OurGP project (Britnell et al, 2016).

Whilst 96% of GP practices in the UK have installed digital clinical record systems, only 4% offer them to patients (Imison et al, 2016). A review of 42 English GP practices published in 2016 found that telephone triage undertaken by nurses is associated with a reduction in GP contact time but with an overall increase in clinician contact time (Holt et al, 2016). With increasing numbers of nursing and assistant staff working in this area, digital tools might provide a useful adjunct to face-to-face care in the future. This might also support a move from time-based patient review appointments (for example, annual review) to a more personalised self-management approach where the citizen and GP decide together what and when reviews are needed. The same study indicated how existing technologies, such as the telephone, can have a positive impact on how care is managed by appropriately trained staff when embedded into workflows that reduce pressure on more expensive GP time. One size does not fit all.

Research reviews largely focus on online delivery modes for patient care, such as online courses or mobile apps, equipment such as computers or smartphones which are explored further in the market review below. The research is limited by the paucity of description of both the intervention and the patient cohort and for the Scottish context, the wider, integrated team environment. The King's Fund have highlighted this issue stating that use of technology to support GP practice is 'under-developed and under-researched.' They also point to the need for service improvement expertise in order to support wider implementation of existing initiatives (Baird et al, 2016). Service improvement and/or innovation expertise and capacity within the Scottish health and care system could be leveraged to design

transformative digitally enabled GP services. Organisational development and leadership expertise and capacity could also be utilised to address issues of culture and leadership in developing digitally enabled GP services of the future (Imison et al, 2016).

Design principles for digitally enabled GP services

The required characteristics of public digital services are set out in Scotland's Digital Future: Delivery of Public Services (2012) to underpin the roll out of all government services in an online format (The Scottish Government, 2012). They provide a useful guide with a set of underpinning principles for future digitally enabled GP services.

Citizens will access government digital services:

- Quickly and conveniently at times and in ways that suit them
- In a seamless and effortless way
- Using digital channels because they meet their needs.

The imperative to develop digital services which are co-designed with their intended users has also been recognised by the Government Digital Service (GDS) and their design manual sets out a methodology and a set of tools¹². It should be noted that the mHabitat approach to co-design in digital health is informed by the GDS design manual. In a recent Nuffield report on digital technology in healthcare, the importance of user-centred design is similarly recognised (Imison et al, 2016). The report argues that if systems are to successfully solve the problems and needs of people who are going to use them, a deep understanding of both care pathways and the needs of the user is required. The OurGP project has co-design with patients, citizens and practitioners at its heart and this will provide a firm user focus for future digitally enabled GP services.

¹² <https://www.gov.uk/service-manual>

Self-management and behaviour change theory

The evidence shows that self-management, with a focus on behaviour change, can have a positive impact both on clinical outcomes and use of emergency services (de Silva, 2011)¹³. An orientation towards supporting self-management may lead to more appropriate use of limited GP services under pressure and enable practitioners to focus on those most in need at key points in their journey (Baird et al, 2016). To this end, digital solutions are currently provided by the Scottish Government to provide citizens with a range of tools which help them access good quality information and self-assess their needs. For example, NHS Inform provides a single source of online quality assured and care information for the people of Scotland; the NHS 24 website provides symptom checkers, self-help guides and self-assessment tools. These resources build capacity in health systems (for example out of hours) and reduce variation in practice (for example, a government commitment to all patients having access to their summary record) to improve quality (The Scottish Government, 2015). The provision of accessible information for citizens via integrated platform technologies is a stated priority in the Government's eHealth strategy (The Scottish Government, 2015).

Digital technologies that are underpinned by behaviour change theory have been shown to be more effective than those that have not (Alkhalidi et al, 2016). The Behaviour Change Taxonomy developed by University College London has been rated, grouped and agreed on by international behaviour experts. Digital technologies enabling future GP services should be considered in relation to their fidelity to theories of behaviour change¹⁴. It is also pertinent to note that use of digital technologies for health are more sustained when they are promoted to patients through a digital system (such as emails and text messages) rather than an analogue system (Alkhalidi et al, 2016). Using paper based means to promote digital

¹³ <http://www.rcgp.org.uk/rcgp-nations/rcgp-scotland.aspx>

¹⁴ <https://www.ucl.ac.uk/health-psychology/bcttaxonomy>

technologies is therefore linked to slow uptake and decreased use over time (Chant et al, 2015).

Data and analytics - the use of data and analytics should be a key component of future digitally enabled GP services. Capturing data and the ability to generate learning and insight from data collected via digital technologies will be an important enabler in improving care alongside the ability to learn and adapt (Britnell et al, 2016). However, organisations must give due thought to transparency in the use of data alongside a clear explanation of the benefits of using data, and informed consent by patients and citizens (Britnell et al, 2016).

Citizen 'voice'

The citizen voice in this developing area of joined up care is hard to discern from the literature reviewed. It is therefore imperative that citizens are supported to participate in generating ideas and innovative solutions in primary care. Citizen participation will ensure that digital solutions are more likely to address real world problems and will not only meet their needs but are more likely to be taken up and used.

The advent of the Patient Participation Groups attached to GP practices provides the potential for sustaining the participation of citizens over time at a local level (RCGP, 2014). A national network of these groups would significantly amplify sharing of what works and support ongoing innovation, as outlined by the RCGP Scotland P3 report (RCGP Scotland, 2012). There has been reference to the increased use of Patient Opinion since its endorsement by the Scottish Government in 2013 and patient driven models for embedding feedback using digital tools are being implemented in some areas¹⁵ (NHS Ayrshire and Arran, 2014-15). The ALLIANCE partnership with the Scottish Government supports citizen participation in health and wider public services at a strategic level.

¹⁵ <http://www.gov.scot/News/Releases/2013/03/patient-stories19032013>

A strong citizen focused third sector (such as Your Voice in Inverclyde) and initiatives directly addressing digital literacy and participation, indicates there may be capacity to address any equality impacts resulting from development of GP digitally-enabled services^{16 17}. However, many third sector organisations are funded for short term projects, impacting on availability of this type of support over the longer term. Even if the population reaches 100% digital literacy, it could be argued that at any point in time, a percentage of citizens will not have the means or motivation to access available online resources due to a range of circumstances. Namely this provision requires a model which can meet those people's needs to ensure they can access digital health interventions or be supported to do so. It is therefore imperative that future digitally enabled GP services are aligned to and take into account the capabilities, support needs, trust and motivation of citizens.

A spotlight on asthma – digital care for long term condition management.

Long term condition (LTC) management is a core issue for GP services and more broadly primary care with 50% of consultations relating to issues directly attributable to these often limiting diseases and over two million people in Scotland experiencing at least one. The scale of need is growing, especially in an aging population (Clay et al, 2015)¹⁸. Citizens should be at the centre of this process if strategies are to be effective and personalised approaches for individuals would appear to be helpful (Chant et al, 2015).

To explore the challenges for digitally enabled care/self-management of long term conditions, an example is explored using asthma. Asthma and other respiratory conditions which can be made worse by smoking, are a well described priority in Scotland, especially for older people^{19 20}. While the scale of need may not on its

¹⁶ http://www.scottishhealthcouncil.org/patient_public_participation/our_voice/our_voice.aspx#.V96njlgrLIU

¹⁷ <http://www.scvo.org.uk/news-campaigns-policy/campaigns/digital-participation/>

¹⁸ <http://www.gov.scot/Topics/Health/Services/Long-Term-Conditions>

¹⁹ <http://www.gov.scot/Publications/2015/09/6648/318806>

²⁰ <http://www.scotpho.org.uk/health-wellbeing-and-disease/asthma/key-points>

own be the top source of demand, it is a useful case study of the challenges GPs face when trying to promote a more digitally focused service for people with long term conditions. Breathing difficulties and wheezing are often part of a wider set of co-morbidities such as smoking related health issues.

Early scoping work is being undertaken to clarify the requirements of those with comorbid conditions which might add insights to enable more self-management strategies to be tailored to this diverse cohort (El Ferkh et al, 2016). A recent asthma review assessed 3810 studies regarding digital interventions in primary care (Morrison et al, 2014). The review concluded that:

Digital self-management interventions show promise, with evidence of beneficial effects on some outcomes. There is no evidence about utility in those over 65 years and no information about socioeconomic status of participants, making understanding the “reach” of such interventions difficult. Digital interventions are poorly described within reviews, with insufficient information about barriers and facilitators to their uptake and utilization.

The lack of evidence of efficacy and utility provides a challenging context for a GP practice considering how to invest in future digital tools and services for patients affected by asthma. Despite showing promise, the review indicates that there is an ongoing query over the use of digital technologies to support asthma self-management in day to day care when resources are stretched and staff are not convinced of the benefits.

A paper by Dima et al (2016) explores the use of a logic model to map the interplay between healthcare professionals, patients and caregivers (Dima et al, 2016). It identifies a model which could be perhaps developed across long term conditions to capitalise on helpful behaviours. This approach may be useful in the development of digital solutions in so far as it integrates user requirements (clinician and person with

asthma and their caregiver) in the context of their belief systems and other human factors. The authors highlight a lack of research in this area.

A 2016 Cochrane review of telemonitoring in asthma care using clinician feedback, concluded that the case had not been made for using digital technologies to support people with asthma (Kew et al, 2016). The Asthma UK report (2016) on self-management and digital technology identifies telemonitoring as an option for remote-monitoring for those with asthma but also highlights the need for further research and the limited integration with GP information systems (Asthma UK, 2016).

While the BTS/SIGN guidelines for asthma (2014) do not expressly identify an approach for the use of digital tools, they do set out expectations for promoting patient self-management and require primary care organisations to benchmark the best approaches for patients (Healthcare Improvement Scotland, 2014). The review found that currently only one GP IT provider offers a digital asthma action plan which can be emailed to patients. However, it cannot be edited or added to by the patient at present.

Digital options for people diagnosed with asthma in primary care settings are still very limited at this time. Asthma UK and NHS Choices provide an online tool for self-assessing asthma. The tool does not retain personal information and cannot be downloaded but does signpost the user to information or their GP. The benefit of tailoring the health technology offer to individual needs is well described but the asthma evidence base regarding the efficacy of interventions using digital delivery modes is a long way from being a scalable well evidenced and effective self-management service for the needs of citizens accessing GP services (HM Government, 2014), (Snowdon et al, 2014).

Conclusion

The example of asthma care demonstrates the lack of evidence and complexities for citizens and primary care health professionals in implementing digital services which can improve experience and outcomes. Digital assets being developed in Scotland seek to provide the building blocks of accessible, platform based information services and tools which provide information to guide citizens and clinician's decision making. However, citizens will require a more personalised, networked approach to using digital tools which can influence behaviour change and encourage effective self-management across a wide range of conditions, across the life course.

Effective coordination of complex long term conditions is a priority for future GP services. Co-designed, collaborative, care coordination is needed for people not accessing technology themselves but cared for by integrated community teams in partnership with informal carers.

The two elements of personal tools and networked, collaborative care planning/intervention will be further explored in phase two of the OurGP project.

Stakeholder Interviews - Assets & Enablers

Introduction and approach

A number of in-depth qualitative telephone interviews were undertaken with key stakeholders identified by the product owners. The purpose of the interviews was to understand the wider context for the OurGP project and specifically to identify existing assets and enablers as well as barriers to the initiative. In this section the outputs from these interviews are summarised.

Stakeholder interviewees comprised the following:

- Strategic and programme leads for the Scottish Government in a range of core areas relevant to the project
- Primary care clinicians
- Primary care operational managers
- Third sector organisations
- Citizens.

Ten interviews have been carried out to date with further interviews planned leading up to the workshops that will take place in phase two. The outputs from the interviews will inform the co-design and prototyping in phase two.

The mHabitat team took into account previous engagement work that has already been undertaken on the theme of primary care innovation by the Scottish Government, NHS 24 and NHS Education for Scotland. This ensured we built on and triangulated previous engagement work rather than duplicating or replicating what has already taken place.

Insights

Themes arising from the stakeholder interviews work are set out and themed in a Strengths, Needs, Opportunities and Barriers (SNOB) matrix below. A number of specific assets which include projects, services and organisations are set out in the OurGP Asset Map (Appendix 8) as examples of enablers for future GP digitally enabled services.

A key theme identified by stakeholders is that the views of patients and citizens have been largely absent in the development of digitally-enabled GP services to date. The OurGP initiative was therefore widely welcomed by all interviewees and a person-centred approach to digital health developments was endorsed. This feedback should be viewed by the product owners as indicative of positive support for the OurGP project which is promising both for phase two and three and also for the final report and recommendations.

A further key theme identified by several strategic programme leads is a concern that the context for OurGP could be negatively impacted by current challenges with recruitment of general practitioners. Recruitment is a key priority for practices facing increasing demand and significant pressures on staff already working to integrate technology solutions outside the scope of this project. Further concerns related to the slow roll out of broadband in some geographical parts of Scotland; high health service user by particular groups of citizens in some urban areas; an ageing population; and impact of caring for family members and friends.

Four themes were repeatedly highlighted by stakeholders:

1. There is a strong third sector committed to facilitating citizen and community involvement and enthusiastic about supporting digital inclusion so that disadvantaged citizens are less likely to be left behind
2. There is concern that there are a growing number of online information resources that range from national initiatives to hyper-local services which are not sufficiently connected. Fragmentation of online resources increases

maintenance costs and can lead to duplication of information where they are not syndicated. Unconnected resources can be confusing for the public and can make it more difficult for citizens to find information they can trust

3. There is a desire for a comprehensive and clear national digital offer for citizens which is integrated into primary care services in ways which are person-centred, accessible and both easy to navigate and understand
4. The primary care workforce has variable digital confidence and skills and this needs to be addressed to support effective, digitally enabled GP services. Health practitioners are often the gatekeepers to digital services and their willingness to recommend digital technologies and/or use them as collaborative tools will directly influence citizen take-up.

Further details about assets which provide a positive context for the Our GP project can be found in Appendix 8: OurGP Asset Map.

SNOB analysis

A more detailed summary of the strengths, needs, opportunities and barriers for the OurGP project is set out below in a SNOB matrix.

Strengths	Needs
<ul style="list-style-type: none"> • Asset based conversations across the sector • Strategic embedding of user involvement in digital developments • Local delivery plans supporting regional digital infrastructure implementations • 3rd sector support for increasing the digital skills/confidence of citizens in key groups/geographical domains • Range of funding streams to support digital health developments 	<ul style="list-style-type: none"> • Sustained funding for digital skills/confidence building for staff • Provide sustainable support for citizens digital health literacy • Consistent access to health e-transaction systems to enable future innovations • To better surface the citizen voice in digital primary care service development • Build a culture of digital as 'business as usual' choice for citizens accessing GP services

<ul style="list-style-type: none"> • Nationally recognised priority areas for digital developments • Small pots of funding available for digital innovation and people based activities to support use in the 3rd sector • Embedding of patient direct feedback online, increasingly across pathways of care 	<ul style="list-style-type: none"> • Increased support for carers as the level of self-management activity and care provided by communities increases • Systems in place to minimise the risk of digital solutions increasing the digital divide for those unable to access it • Improve access to high quality evidence for clinicians to make informed decisions about the effective digital tools for key conditions and cohorts of patients
<p>Opportunities</p> <ul style="list-style-type: none"> • Federations of GPs seeking to optimise resources and build digital tools together • Development using open source technology which can be repurposed • Building to open standards to enable integration with existing tools • Digital infrastructure roll-out timescales would map to testing of an OurGP proof of concept prototype development • Clearer understanding of citizen's views of their interaction with the new digital landscape and the opportunity to articulate and then innovate in this space • Wider digital practitioner developments/leadership, as (non-practice based) nurses and integrated teams become more embedded in primary care • Develop innovative methods of data collection to build insights into digitally enhanced pathways • Increasingly collaborative citizen and clinician agreed outcome measures which could be digitized 	<p>Barriers</p> <ul style="list-style-type: none"> • Inconsistent implementation of basic transactional systems and shared processes – wide spectrum currently • 'opt-in' approach to using the full range of digital tools and systems available currently • Current high-speed broadband roll out limiting belief in the extended use of technology in primary care • Potential overload for citizens from IT system developments in play, impacting on citizens • Lack of defined 'space' for citizens to self-manage when IT systems developments are already being implemented • Funding to support digital inclusion/literacy at a scale that will be required, is unclear

Focus of phase two

OurGP offers an opportunity for people accessing and working in GP services to explore how digital technologies can improve citizen experience and outcomes as part of high quality, effective and efficient services.

The phase one research activities have provided a wider context for the OurGP project, reviewed the evidence, and indicated a number of high impact areas which are likely to benefit from the implementation of digital technologies. These outputs will provide structure and guide conversations which take place in the phase two co-design workshops.

This phase of activity has also supported the generation of a research question for participants and several hypotheses for consideration by participants in phase two. They are set out below:

Hypotheses:

The following two hypotheses will frame the co-design workshops in phase two:

Hypothesis	Supplementary questions for workshops*
1. Staff want to spend more time supporting those who need their expertise the most. Technology can enable this by (a) freeing time from administrative tasks and enabling staff to consult with peers virtually (b) enabling people with lower needs to access information and support online and to self-manage where appropriate	What if OurGP digital solutions could be developed that helped citizens and also provided GP practices with useable data? What if citizens could be actively alerted to care options for themselves and in partnership with their GP/Practice or other staff? What if digital self-care could prevent citizens from developing some long term conditions?

<p>2. Citizens want to understand what is wrong when they are ill, know what might help, and get the help they need how, where and when it suits them. Technology can be a useful tool in enabling citizens to get the information they need, engage in peer support and manage their condition(s) over time</p>	<p>What if people knew exactly which sort of digital tools would help them manage their own conditions/needs?</p> <p>What if care became a shared decision making process between GP/staff involved in care delivery and citizens, by better use of these digital tools?</p>
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*Informed specifically by Making Time in General Practice²¹ (2015) and review of a recent SBRI call regarding General Practice – self-management aspects of digital and data focused innovation.

Co-design Question:

The co-design question is used as an overall frame to shape the participatory exercises which take place during the course of the workshops. The question helps keep people on track and ensures the outputs are aligned to the purpose of the OurGP project:

“How can we look after our health in the future, accessing GP services when we need them the most and in the ways that work best for us?”

The question is deliberately broad and non-technology focused in order to encourage participants to think widely and resourcefully about the topic. However, the question will be introduced by the facilitators in the wider context set out in this document, for example, reduced resources and higher demand for services. This will

²¹

<http://www.nhsalliance.org/wp-content/uploads/2015/10/Making-Time-in-General-Practice-FULL-REPORT-01-10-15.pdf>

ensure outputs from the workshops are feasible and deliverable for future digitally enabled GP services.

Persona generation

Phase two of the OurGP project involves the delivery of six participatory creative workshops with citizens and GP staff. The workshops will facilitate a deep understanding of the challenges and opportunities of digital technologies as well as ideas for future GP digitally enabled services.

The mHabitat co-design approach employs tried and tested service design methodologies aligned to agile digital development principles. In phase one, the team have undertaken a rapid review of the literature and data to surface evidence and research insights to generate typical users of a service. Personas have also been created for healthcare professionals most involved in GP practices, namely a GP and practice nurse. These will be further developed by staff participants at the workshops and used to inform workforce related aspects of journeys. We call these outlines of users 'skeleton personas' and they include people's use of technology, goals and aspirations, challenges and wider social and support networks.

These personas are then validated and further developed by workshop participants to hone a clear view of how these personas might want to use future digitally enabled GP services.

The persona tool enables people to share their own experiences without having to make personal disclosures and also enable participants to generate a composite of many perspectives rather simply their own. Similarly GP practice staff will bring practitioner and sometimes personal experiences to inform the persona development, adding different perspectives to the persona needs and goals. The mHabitat team regularly work with vulnerable groups and are skilled at supporting participants to share experiences safely.

Once each of the skeleton personas has been brought to life by participants, they are used as a focal point for the rest of workshop activities so that ideas can be validated against the needs and aspirations identified. While target groups attending the workshops across the different locations will be focused on a persona most closely aligned to their needs, all the personas will be available for participants to review in breaks during the day, providing often surprising and unexpected nuances which can add significant value. The mHabitat team have witnessed this many times with co-production workshops and actively encourage participants to add post it note comments/observations to the personas. At the end of the six workshops the personas will be finalised, ready for the prototyping phase. They will be used alongside scenarios at the roadshow event which follow the workshops.

User needs for each persona are identified using this simple template:

As a... [who is the user?] I need/want/expect to... [what does the user want to do?] So that... [why does the user want to do this?]
(Government Digital Service Manual²²)

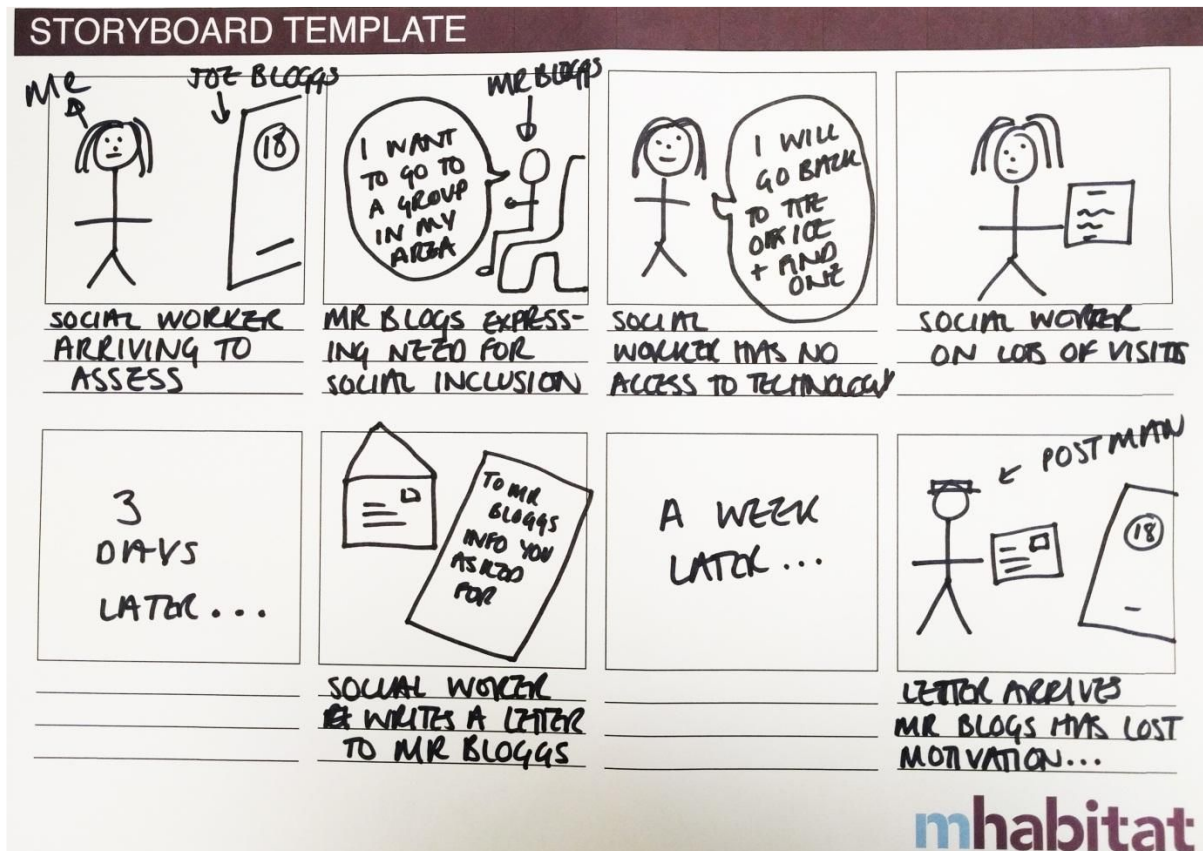
Each user need represents a specific piece of functionality that could be included in the OurGP prototype. The user needs are prioritised through a group negotiation process using a matrix from 'must have and hard' through to 'nice to have and easy'. This process helps identify key functions required from the prototypes that will be developed towards the end of phase two.

Several techniques are used to map citizen journeys through services. The citizen groups use 'storyboards' to map a journey through a service enabled by digital technology. They use pictures and narrative to define the needs of their persona as part of a story or journey. The primary care practitioners are supported to process

²² <https://www.gov.uk/service-manual/agile-delivery/writing-user-stories>

map a typical citizen journey through their service and identify where the digital touchpoints may be. The two processes are reviewed at key points during the workshop through 'show and tell' sessions during the course of the day. These short sessions punctuate the day and allow for the citizen and practitioner groups to see the outputs of their work and to adjust and amend their work in the light of feedback from others.

An example storyboard is below:



Defining skeleton personas for co-design validation in phase two

Data from a range of sources was reviewed and from this, key user groups were identified including sources from Scottish national data sets such as the Information Services Division Scotland and the Scottish Government, Office of National Statistics. The data was prioritised by focusing on the top five most commonly presenting needs in primary care (Information Service Division - Office for National Statistic Scotland, 2013):

- Circulatory & Respiratory (coughs, wheezing or breathlessness)
- Hypertension
- Skin/subcutaneous
- General abnormal signs/symptoms - undefined
- Digestive/abdominal signs and symptoms.

The nurse and GP roles were reviewed in terms of conditions most seen, and diabetes and psychological consultations were included to reflect a more balanced picture. Diabetes (type not specified) was the second most frequent reason for patients to see a nurse with almost 80% having more than one consultation for this long term condition.

It has been reported that up to 27% of GP appointments are potentially avoidable whereby patients could be directed to other primary care team workers such as pharmacy staff or a 'navigator' such as a health trainer (Clay et al, 2015). This is a helpful insight for the workshops as digitally enabled future GP services should be considered in the context of integrated care teams and new models of care. It should also be noted that many people have several conditions and therefore a pragmatic approach has been taken to developing the personas that enables co-morbidities to surface and be considered by participants.

The age groups most likely to use GP services were also reviewed, with men over 35 and women over 15 being the most significant users. The project focused on adults over the age of 16 for recruitment purposes and adopted the view that parents rather than children were the key age groups to focus on. High users of GP services were identified, with common conditions requiring the regular consultations with GPs and practice nurses. The same data set for 2013 indicated that men consulted their GP slightly less than women (2.3 versus 3.5 per year on average). Therefore there are more female personas than male and participants are anticipated to reflect this gender mix.

Demographic data for each of the co-design workshop geographical areas was reviewed to identify any particular groups of citizens we might wish to recruit. The generated personas were tailored to these likely workshop participants.

Purpose of personas and underpinning assumptions:

The personas and user journeys ensure a strong user-focus when designing a digital service or tool. They are a commonly used tool for this purpose during digital co-design activities²³. The approach adopted is mindful of the core values document produced by RCGP which positions GP services in a context of complex care coordination, generalist practice, leadership supporting a closer multidisciplinary team 'network' and new models of care that deliver improved outcomes²⁴. These values are supported in the vision for Scotland's clinical services published in 2015 (Cameron A. et al, 2016):

The planning and organisation of care delivery for individuals and communities will be based around practices, with GPs increasingly taking on a role in dealing with complex cases, and providing expert assessments of new cases. (p9)

²³ <https://www.gov.uk/guidance/digital-and-technology-skills/user-research>

²⁴ <http://www.rcgp.org.uk/rcgp-nations/rcgp-scotland.aspx>

The assumption was made that care encompasses the life-course for people and their unpaid carers. The review took account of gender and socio-economic status, likelihood of the level and type of technology and Internet access in use by each cohort considered during the review.

One limitation that should be noted is that the practice data reviewed reflects only the reason for a consultation and not the complexity of the conversations and range of other conditions which might be discussed, such as mental health related issues that may not be recorded in the usual clinical coding system²⁵.

People aged 25-54 were the most likely to consult a GP for common mental health problems such as anxiety and depression (slightly older for women). Therefore this was anticipated in each workshop as an embedded element of user need. Work stress was similarly likely to be a focus for this group so a balance of these factors has been embedded in the personas to reflect this particular range of needs. Obesity is a significant health issue in Scotland with 67% men and 62% women having a BMI of over 25²⁶. It is anticipated that this will present across the workshops as a need and enmesh some high demand aspects of GP services relating to Type 2 diabetes, hypertension, joint related issues and other frequently seen needs for this cohort of the population.

This approach has supported event recruitment (led by the Alliance) and also in defining the potential challenges that our persona might face in using digital GP solutions to meet their future needs. The aim was not to identify individual stories but rather embed the most common challenges and elements of care which might benefit from digital technology in GP services.

²⁵ <http://www.scotpho.org.uk/health-wellbeing-and-disease/mental-health/data/depression-and-anxiety>

²⁶ <http://www.gov.scot/Publications/2015/09/6648/downloads>

Phone interviews with stakeholder contacts provided by The Alliance and Scottish Government sought to delve more into the barriers and enablers, assets and challenges for people working in a range of services. These are summarized in the SNOB analysis (see section Stakeholder Interviews – Assets & Enablers) but also added to the early validation of the skeleton personas and surfaced a few nuanced insights from individual journeys which were added to the skeleton personas. For example, the indirect impact of delays in some diagnostic pathways precipitating secondary health issues such as mild depression which would not always be captured in the data.

Aspects of technology use outside the scope of the project brief were considered as part of the workshops group work plans. An example of this would be the current e-consult trial. It is still in pilot phase trial in 11 practices and has yet to report more formally but early insights raised interesting questions about people logging requests for a consultation on Sundays. While not wanting it on the Sunday, it was clearly a time when people were turning decisions to ask for assistance, into an action. The cohorts of citizens it was hoped to specifically surface during the recruitment phase of the project are described below in general terms and in relation to this emphasis on the workshop locations.

It should be noted that the recruitment strategy used for the workshops, was underpinned by the data analysis alongside the literature reviewed in phase one. This helped to ensure the participants reflect *likely* users of a digital GP service in the future. It sought to influence the balance of participants rather than dictate a formulaic approach, as participants are self-selecting. It should also be noted that for very frail elderly people who may be unable to attend, the emphasis was to explore the technology solutions that might support their care in a person-centred way in future, as indicated in the rapid literature review.

Persona groups are set out below:

1. Carers

A significant body of evidence exists to emphasise the needs of unpaid carers in an ageing population and caring at both ends of the life-course. Much is known about these carers. Meshing together the Scottish demographic data, health survey and Ofcom report, Local Delivery Plans and strategy documents from organisations such as Highland Health Board, it is clear there is an opportunity for a high impact intervention for midlife, working and retired female carers who are likely to have a degree of access to digital technology. They are also the group most likely to be affected by common mental health issues and have at least one long term condition.

On Skye the census data indicates a growth in population linked to new house build with increasing numbers at the younger end of the population. A key group for the workshops is also those who are 56-68 years of age and likely to experience health impacts which will require future GP services on the island and similarly to other areas of the Highlands and islands.

Skye has been a target for rolling out telehealth and telecare and the impact of this may be evident in the workshops²⁷. Including telehealth and telecare as considerations within the workshop will enable the team to connect existing assets to prototype designs for future digitally enabled GP services.

Ayr data highlighted that the average age of someone who is in poorer health is approximately 60 with carers average age at 51 years. 32% of adults have one or more long term condition, bringing similar primary care demands to elsewhere in Scotland. There is a 17% unemployment rate with the average age of an unemployed person being around 30 years old. Women in the area are more likely to be carers whereby 59% are female and 21% are over 65 years. This data sets out

²⁷ <http://www.gov.scot/Publications/2012/12/7791/4>

the scope of an Ayr workshop in which the expectation of attendance is adults with generalised conditions.

2. Working age and general adult long term conditions

Projections indicate that those currently of working age, and more likely to be digitally literate, will represent a good target group to explore future digitally enabled GP services. These two workshops are in area well served by Internet access. There is a large working population at the younger end of demography with key common health conditions being cancer, circulatory and respiratory disease. There is a clear association between individuals with alcohol issues and those living in deprived areas with more males than females being affected. 64% of admissions of people aged 15-19 take place on Saturday and Sunday (Information Service Division, 2015). The focus is therefore on future generation's well being in the context of a digitally enabled population growing up in Glasgow and Inverness.

In Inverness the population is growing, linked to new homes being built. A younger workforce and large ageing population provide a good demographic for the generalist GP user population. There is some evidence of Inverness having the highest alcohol related admission rates in Scotland, 10% higher than the average (Vaughan et al, 2013).

3. Young families and younger people*

The demographic for Glasgow is younger and may surface parents of younger children who are by nature of their stage in the life-course, to be regular users of GP services in a wide range of ways (National record of Scotland, 2016).

We will garner ideas for digital GP services which will bring routine users of technology who are perhaps not using health tech for their own wellbeing. They are

already reliant on and used to living via mobile technology but also experiencing some of the associated stressors. Demographics in Edinburgh are much younger than other areas with 23% of the population aged 16-29 yrs. This group has the highest in/out flow (people entering and leaving) and approximately 39% of students are employed but on low wages.

The birth rate is falling in Edinburgh and is below the rate for Scotland as a whole so this cohort are less likely to present, supporting the focus for the Glasgow workshop. Circulatory disorders and cancer are the main causes of death in Edinburgh and projections flag significant increases in young and very elderly groups. 53% of carers are in employment and there is a higher level of education than in other areas.

*Two personas were generated.

4. **Frail elderly and older* people**

Data indicates that particular areas of interest for workshops in Inverness are people on lower incomes on the fringes of the city and older people in more remote areas who are utilising services. Very remote areas are more make lower use of services due to the local community's levels of self-reliance. Clarifying their anticipated use of health via online digital services will be helpful during OurGP. The over 75 age group is expected to increase by 111% by 2035, and 17-18% of adults have never accessed the Internet in the highlands.

Attendance at GP services by people with high blood pressure is poor and it is estimated 25% of people over 16 in Scotland are affected by this particular health problem²⁸. It is likely therefore participants may experience this condition and identifying digital services that might address modifiable aspects could be very helpful at scale. The demographic for Stirling is mostly working aged adults and

²⁸ <http://www.scotpho.org.uk/clinical-risk-factors/high-blood-pressure/risk-factors>

indicates a population in middle years, typified by couples without dependent children.

*no age limits applied.

Market review of digital technologies

The purpose of the market review is to firstly set the context in terms of the digital technology market in Scotland and wider UK. Secondly, the review identifies existing digital technologies that either are being used in Scotland or could play a role in enabling future digitally enabled GP services. This section should be read in conjunction with the spreadsheet of reviewed digital technologies set out in Appendix 5. The types of digital technologies included in this review are:

1. Electronic health records
2. Electronic patient records
3. Mobile applications and web applications
4. Telehealth and telecare
5. Monitoring equipment, including wearable devices
6. Electronic communications
7. Patient/citizen social networks
8. Digital technologies in the GP practice such as check in kiosks..

Developments in natural language processing (which allow free text to be structured and analysed), artificial intelligence, decision support and cognitive computing are creating opportunities for automation and improved decision making in health (Imison et al, 2016). The emergence of Internet of Things (IoT) and sensor technologies open up opportunities for remote monitoring although information governance and security remain an issue. The market review excludes medical technologies such as diagnostics, genomics and robotics.

Digital technologies in health – scale and endorsement

On the Apple store alone, there are more than 165,000 health related mobile applications available for a wide range of purposes. However, Just five percent register any significant downloads suggesting that health and wellbeing apps have yet to make a significant impact in the health and social care context²⁹. There is also evidence that the international app market in healthcare is overcrowded with downloads of mobile apps slowing down. The most promising area of mobile app growth is in management of chronic conditions (Research 2 Guidance, 2016).

The plethora of digital technologies available in health and care can be overwhelming to patients, citizens and health practitioners. In England, NHS Digital (formerly Health and Social Care Information Centre) is leading a number of work streams aimed at creating national standards for digital tools used in a health context. This work is being delivered between Public Health England and NICE and a multi-stage certification process will be made available in 2018. The first stage is a self-certification undertaken by the app developer to assess if basic standards are met in terms of privacy, security, use of data and so on. The MHRA (Medicines and Healthcare Products Regulatory Agency) regulates digital technologies which meet the requirements of a medical device. There is also a BSI (British Standards Industry) code of practice for health and wellbeing mobile applications which has been developed with Innovate UK³⁰.

A number of commercial review sites also exist. [My Health Apps](#) is a site which curates patient, carer and charity reviewed healthcare apps. [Orcha](#) (Organisation for the Review of Healthcare Apps) is a commercial company that carries out independent reviews of health and care related apps and presents the information through their website in an easy to understand format. Orcha uses a clinically and academically validated framework for the assessments. [Our Mobile Health](#) is another

²⁹ <https://www.ft.com/content/ed3268f2-e620-11e5-a09b-1f8b0d268c39>

³⁰ <http://shop.bsigroup.com/ProductDetail/?pid=000000000030303880>

commercial company which hosts a curated library of health and medical apps which have been peer reviewed by experts.

The development and/or procurement of digital technologies which meet the right governance, safety and efficacy requirements of the Scottish healthcare system are an essential component of digitally enabled future GP services and so the endorsement landscape is relevant to note in this review.

Approach

The market review consisted of searching the Google Play store, App Annie database (a dedicated market review tool which provides details of apps across multiple platforms) and Google search engine to locate potential applications (both web based and native), solutions that include a hardware element (for example, a wearable or monitoring device) and websites that provide health advice or other basic web functionality. These search tools were harnessed to enable a wide return of results per search term entered and provide variety to inform the market review.

The search terms used were intended to give a wide view of the variety of what is currently available in terms of existing patient facing GP digital services, health and care information and health and care advice and monitoring tools. The products included in the spreadsheet are intended to give a sense of the variety of functionality that is available and were selected based on their relevance to the OurGP project, the size of their user base and the type of functionality offered. A minimum of two products per domain and/or condition were included and it is suggested that the outcomes of phase two could inform more focused market reviews.

GP and NHS applications and websites

The review used the following search terms to identify healthcare applications relevant to GP services and the NHS more widely - GP apps, GP practice apps, NHS apps and online GP services. This section includes websites and apps that provide information and decision aids, video consultations and online services.

The applications identified from the search terms entered fell into the following categories:

- Provide elements of existing GP services (such as booking appointments) through an online method.
- 'Repackage' existing information into new formats or incorporate that existing information into new applications (such as pulling existing information from trusted sources like NHS Choices into a website or app, as NHS Inform does).
- Template based website providers that aim their product specifically at GPs. As part of the offer they usually allow 'integration' with clinical systems (more accurately they embed the clinical systems existing patient portal in the website) and advertise themselves as providing user friendly content management systems
- Services that offer rapid access to an online GP via a video link (who can issue prescriptions and referrals) on a subscription or one of fee basis (for example, vitality.co.uk which forms part of an insurance package
- Technologies such as kiosks within GP practices which enable patients to self-serve or interact virtually.

The above categories are described in more detail below with examples of relevant digital technologies:

Electronic health records (practitioner access via mobile) - search results included versions of electronic patient records which are presented in different ways for practitioners, such as **EMIS web** or **Pocket EMIS**. These provide a GP or

medical professional with access to view or share a patient record and to add to it. In the case of **Pocket EMIS** (and similar products such as Vision) health professionals can access patient records remotely (although they seem to offer a cached and not live view of the records). Whilst these systems are out of scope in terms of the OurGP project, interoperability between electronic patient records and third party digital technologies is an important factor in designing future GP services.

Electronic patient held records - results returned when searching 'GP' provided appointment booking and other patient facing GP services that can be delivered online. For example **EMIS patient access portal** provides can provide the functionality for a patient to arrange appointments, order repeat medication, send secure messages, access their medical record and update their details. **Evergreen Life** is a personal health record that can be accessed via a desktop or a mobile app and is in the process of being integrated into a range of electronic patient record systems. None of these tools currently have an open API which would allow third party mobile applications to connect to them.

GP practice websites – websites for individual GP practices are an important window for patients and citizens wishing to find out about a local GP and interact with them. There are a number of companies who specialise in providing pre-built template websites for use by GP practices. They provide preset layouts for content to be dropped into and usually some basic form based functionality that allows users to request appointments online. One example that amalgamates many of the features outlined in the summary is **WebGP** (now rebranded as **e-consult**) which provides a self-diagnosis feature that pulls information from NHS choices with the intention of encouraging self-management. It also provides a facility for e-consultations which entails submitting information via email that is then processed by an administrator and reviewed by a GP. An initial pilot report indicates that provision of e-consultation led to 18% of service users who had intended to book an appointment not doing so (Hurley Group Partner, 2014).

e-Consultations - increasingly GP surgeries are offering video consultations to patients via platforms such as **Skype**, with the Moss Side Family Medical Service in Manchester being an early adopter³¹. There are also a range of mobile applications offering private video call consultations such as **GP Now**, **Babylon**, **i-GP** and **Push Doctor**. These are predominantly aimed at the commercial market and allow an individual to access them by paying for a subscription to the service or a one off fee for an appointment. The company websites state that they are authorised to deliver prescriptions and medications directly to a patient, provide referrals to specialists, and issue sick notes. A number of these GP digital services are registered with and inspected by regulators such as the Care Quality Commission.

Decision aid mobile applications – the search returned a range of NHS decision aid apps which provide existing information from the [NHS Decision Aid website](#) in a format suitable for consumption on a mobile screen. These apps simply repackage what is already available online. The review found that, despite having been available since 2013 in most cases, these apps had extremely low numbers of users and although receiving high star ratings, these tended to be the result of between 1 - 10 users undertaking the review.

Information directories - the search returned many websites which repackage existing information or act as directories. **NHS Inform** along with many of the GP website templates (referred to above) that offer information on various health conditions and symptoms simply repackage that which already exists on NHS choices. The **Living It Up** website provides information and resources on site which encourage self-management as well as acting as a user friendly gateway to more specialist information.

Public health - Public Health England have a number of mobile applications promoted on their **One You** public facing website, namely a **Stoptober** app, a **Couch to 5K** app, **Drinks Tracker**, **Easy Meals** and **NHS Smoke Free** app. The website also contains a **How are You?** web app quiz which provides a health score

³¹ <http://www.gponline.com/gp-pilots-skype-consultations-patients/article/1174766>

and recommends steps to improve health. These tools are aimed at helping people make steps to self-assess their health and take positive steps to reduce food and alcohol consumption as well as take more exercise and stop smoking.

Telehealth and Telecare Services and Applications

As acknowledged in the A National Telehealth and Telecare Delivery Plan for Scotland to 2015 (The Scottish Government, 2012) telecare and telehealth have already made an effective contribution to the early redesign of health, social care, housing, third and independent sector services in Scotland. Our review shows areas of innovation within the telehealth sphere in Scotland, such as the NHS Grampian **No Delays project**³² which empowers patients to take responsibility for the self-management of their condition and/or recovery process through the provision of tailored information in the form of personalised digital packs and electronic postcards.

Other telehealth developments identified through the market review include the NHS developed **Florence**, (a simple application that allows tailored information and reminders to be sent to patients via a text messaging system and allows patients to send self-monitoring information to their clinician which can be accessed via a web portal) and **VitruCare** which allows two way communication between a user and their wider care team, empowering them to take control over who has access to what information and providing them with online access to test results and other personalised information.

Shared decision making between patient and clinician is another aspect of self-care which can be supported by digital technologies. **Pain Sense** is an NHS England funded digital tool which enables patients to self-assess, access clinically validated

³²

<http://www.ehealth.nhs.scot/2015/11/02/no-delays-using-electronic-postcards-to-improve-patient-understanding/>

resources and self-manage chronic and persistent pain³³. Pain Sense is significant because it was deployed in a redesigned primary care pathway across the city of Leeds and has shown significant savings in healthcare budgets. **UMotif** is another NHS England funded mobile application which enables self-monitoring information to be collected and shared with a health practitioner.

Lastly, a number of mobile applications have emerged which enable friends, families and carers to communicate and collaborate around an individual's care. An example is **Rally Round** which is available to be licensed by health and social care organisations. **Jointly** is a mobile app developed by Carers UK which is marketed directly to individuals and families to enable collaboration and coordination.

Specific health condition related applications and websites

We searched for mobile applications and websites that are focused on general conditions that fall into the following categories:

- Circulatory & Respiratory (coughs, wheezing or breathlessness)
- Hypertension
- General abnormal signs/symptoms - undefined
- Digestive/abdominal signs and symptoms.

This section includes peer support platforms, goal setting and lifestyle monitoring applications.

There is a large and diverse range of applications available for the conditions searched. Many of these applications (with the exception of those developed to address anxiety and depression) have been developed outside of the UK and the range available through Google Play (which has less strict requirements than the Apple app store) demonstrates that even applications developed by novice

³³ <http://pain-sense.co.uk/>

developers with little in the way of design input (see Hypertension Treatment JNC 8 and Poop Diary in the market review spreadsheet) can prove popular and be perceived as useful by their target population.

The applications vary in their functionality from provision of information to diary style applications, goal setting and recording. The Scottish Government, NHS24 and New Media Scotland developed the **Ginsberg app** is such an application and uses self-monitoring as a tool for reflection and to stimulate behaviour change. Available information indicates that the Ginsberg app is available under an open source license and could potentially be reused and repurposed as part of the OurGP digital offer should phase two workshops demonstrate a demand for the type of functionality it offers.

In terms of addressing anxiety and depression there are a number of UK developed web based applications that provide peer support services. **Elefriends** is a free online social network run by national Mind and **Big White Wall** has both a peer support network and offers video consultations. **MoodPanda** enables users to record and track their mood over time. Based on download statistics and feedback (on the web versions) these services appear popular with committed user bases. However the app versions vary widely in their perceived usefulness by those users who have left feedback. Often feedback is related to user experience and gaps in feature provision. The development of online peer support services is a growing trend. However, whilst evidence is available of the effectiveness of face to face peer support there is limited research in terms of its application in an online environment (Van Straten et al, 2008).

Specific health condition related apps with a wearable / hardware component

This section makes reference to biosensors (devices that convert a biological recognition element into a signal output) and wearable technology (on or in body accessories that enhance user experience technology) and monitoring devices

(those that attach to another object and convert a physical process into a signal output).

The solutions reviewed synchronise data from a monitoring device with a user account and provide access to this data through a smartphone application and/or a web portal.

Rock Health (2014) concluded that 'A long tail of evolved biosensing wearables, enabled through platforms, has the potential to improve health outcomes and lower cost³⁴. However, they also noted that early attempts to develop such tools were all too frequently not reaching fruition. Whilst consumer interest in the use of wearable biosensors and activity trackers in the form of fitness devices, such as **FitBit** and **Jawbone**, is a growing trend, the accuracy of such devices has been called into question and one brand is currently the focus of a lawsuit based on the accuracy of its heart rate monitors³⁵. The market review indicates that biosensing tools are yet to be deployed beyond initial trials in a health context (for example the contact lens developed by Google and Novartis that is designed to monitor glucose levels).

The **ADAMM** software and biosensor package (see market review spreadsheet) appears close to launch although no official date has been set³⁶. The application provides a sensor that monitors physical symptoms (cough rate, respiration patterns, heartbeat, temperature and other symptoms of interest) in asthma patients and uses the data to learn what is the norm for a user. The software element then processes the real time data from the user and is able to alert them should they stray from their norm.

Monitoring devices for health use have more evidence and a number have been launched commercially. The **Propeller** application (see market review spreadsheet) has been shown to have a significant impact on the frequency of condition related events. For example, the company claims that users have 79% fewer asthma attacks

³⁴ <https://rockhealth.com/reports/the-future-of-biosensing-wearables/>

³⁵ <http://time.com/4344675/fitbit-lawsuit-heart-rate-accuracy/>

³⁶ <http://healthcareoriginals.com>

and there have been numerous studies and randomised clinical trials to back up its claims (Merchant et al, 2016).

Digital technologies in the GP practice setting

Whilst many of the digital technologies reviewed aim to enable remote contact with a GP practice, there are some technologies that make better use of the primary care environment. Self-check kiosks have been available for some time and allow an individual to undertake a number of screening checks such as weight and BMI (body mass index), body fat, blood pressure and heart rate. Kiosks such as those provided by **Wellpoint Group Ltd**³⁷ allow results to be accessed online from a tablet, laptop or desktop. **Dean Street Express**³⁸ offers free and confidential sexual health screening with a touchscreen check-in, self-taken tests and fast bloods. Time slots can be reserved via a mobile phone and results are provided within six hours via a text message. The Good Things Foundation have piloted **digital surgeries** in which targeted digital inclusion support is provided in the GP practice settings to encourage patients to take advantage of online health services, transactional services, and opportunities to provide feedback (Good Things Foundation, 2015). An evaluation found that people engaging with the programme felt greater control over their health and able to engage in more informed dialogue with professionals. 48% of learners reported that they saved time by doing something health-related online, and 32% reported saving money, mostly through avoided travel costs. These three examples show different ways in which a digitally enabled GP practice environment can enable people to make productive use of their time and learn how to transact with health services online.

³⁷ <http://www.wellpointgroup.com/index.php/products/kiosk/>

³⁸ <http://express.dean.st/>

Spotlight on asthma applications

This section sets out an asthma case study as a more in depth analysis of digital technologies relevant to primary care and should be read in conjunction with the asthma case study in the literature review.

There are a wide variety of asthma apps available (see **Asthma Check**, **Asthma Logger**, **Propeller**, **Asthma MD** and **ADAMM** on the market review spreadsheet) with the most basic being essentially decision aids whilst the majority of the more popular solutions enable users to enter their symptoms, frequency of medication and other data. They either provide a cumulative view, for the user to reflect upon or provide tailored 'advice' and suggestions for appropriate self-management of the condition. The benefits and impacts of encouraging self-management are examined in a Health Foundation publication (De Silva, 2011). This report also referenced a randomised trial in the US which tested an asthma education video game as part of a self-management programme. This video game was associated with improved quality of life and asthma knowledge.

Asthma UK have recently published a report entitled Connected Asthma in which they argue that technologies already in existence, including smart inhalers, electronic alerts and digital action plans could be used to completely transform the NHS asthma care pathway by reducing routine GP appointments and enabling people to manage their own condition³⁹. Currently asthma accounts for 2-3% of all primary care consultations at a cost of £52 million each year. The report makes the following recommendations for the use of digital technologies in asthma care:

- Immediate action should be taken to ensure every person with asthma has an action plan available to them digitally
- Establish an NHS testing programme for smart inhalers and mHealth systems

³⁹ <https://www.asthma.org.uk/get-involved/campaigns/asthma-needs-research/connected-asthma/>

- NHS bodies should prioritise the full deployment of electronic alerts, allowing GPs to follow up emergency admissions and provide increased support to people over using reliever inhalers
- UK and EU funders should invest greater funding in collaborative asthma research bringing together life sciences and tech companies with academics and people with asthma.

Conclusion

In conclusion, this section provides a summary of the market in respect of digital technologies. It should be read in conjunction with Appendix 5 which sets out the technologies identified in the market review in a spreadsheet format.

Whilst extensive innovation in the healthcare application sector is clearly evident globally there is a current gap in terms of NHS approved and endorsed applications. This disparity is currently being addressed through the NHS app endorsement framework currently being developed by NHS Digital and through accelerator programmes such as NHS England's SBRI (small business research initiative) programme, the NHS Innovation Accelerator, and the newly announced Digital Development Lab for digital mental health delivered by mHabitat^{40 41 42}. Charities such as Asthma UK, Mind and Youthnet are researching and/or developing digital technologies. Public Health England have a range of endorsed mobile applications on their One You website and in the future NHS Choices will do the same. Academic institutions such as Mindtech and Devices for Dignity are developing the evidence base for digital technologies in healthcare.

The dynamic and evolving development of digital technologies in health should be taken into account by the OurGP project in order to align outputs from the co-design process to the current market and evidence base. This will ensure OurGP builds on

⁴⁰ <http://sbrihealthcare.co.uk/>

⁴¹ <https://www.england.nhs.uk/ourwork/innovation/nia/>

⁴² <http://wearemhabitat.com/mhdigilab/>

existing foundations, is informed by the evidence, and leverages collaborative and grant opportunities where appropriate.

Social Media Strategy Summary

Introduction

This section summarises a full report (Appendix 2) which sets out how OurGP will harness online social networks to inform, amplify and engage with citizens in order to enable their participation in the project in a variety of different ways.

Our mission is to use relevant social media channels to generate a buzz around OurGP and encourage the participation of specific groups, general public and GP practices across Scotland. Our social media strategy and related content will harness the power of online networks in Scotland to amplify OurGP as far and wide as possible.

Social media strategy

The proposed social media strategy comprises two-aligned approaches to amplifying engagement with citizens through multiple networks as follows:

- A. Deploy a small number of dedicated OurGP social media accounts to share information and encourage participation
- B. Tactically engage with existing social media influencers to encourage them to share information and encourage participation through their networks.

This approach enables OurGP to develop a small number of social media accounts which are the most popular and least time-consuming to maintain. These dedicated accounts provide a central point with a clear OurGP identity and branding for information and engagement.

In addition to this, developing content that can be shared with an extended diverse range of influencers in the Scottish health ecosystem provides the potential for OurGP messages to be amplified well beyond the constraints of a small number of

dedicated accounts. This is where a networked effect has the potential to significantly boost the OurGP message to wider and more diverse networks.

It is proposed that a small number of dedicated OurGP social media accounts are established for the duration of the project. These accounts will serve the following functions:

- Provide dedicated space for sharing relevant content
- Enable people to search for and find relevant content using a channel of their preference
- Enable The ALLIANCE to curate content about OurGP for the duration of the project to provide a legacy.

The accounts will enable OurGP to be open, transparent and social - encouraging participation and demonstrating a willingness to engage with people in the spaces they occupy in the ways that they choose to participate. It is therefore critical that OurGP social media accounts have a clear content strategy with underpinning values that enable engagement with citizens and stakeholders.

The proposed dedicated channels for OurGP are summarised below:

- Free text messaging services via Textocracy
- E-newsletter updates
- Facebook fan page
- Twitter hashtag that is registered with Symplur.

A full strategy for use of each of the proposed channels can be found in Appendix 2.

Engagement with existing online influencers or networks

There are a wide range of organisations, projects and initiatives in Scotland connecting to people that OurGP would like to engage with. These organisations have the potential to act as central points or 'nodes' for OurGP messages to be diffused to wider networks beyond the confines of a small number of dedicated channels. In order to engage with these influencers effectively, OurGP needs a strategic approach to engagement which means efforts are channeled effectively and content is developed with is relevant and of interest to each of those nodes.

A review of websites and social media channels was undertaken and a list of key influencers were identified and can be found in Appendix 2. It should be noted that this is not an exhaustive list and local intelligence should be maximise existing local relationships. It should also be noted that these are organisational rather than individual influencers. It is suggested that each of the relevant organisations is contacted 'offline' with information about OurGP and a request to share content online as appropriate. Organisations may be prepared to put information on their main website and in e-bulletins and blogs.

Conclusion

In conclusion, the social media strategy and content plan set out in full in Appendix Two will enable OurGP messages to be shared widely and participation maximised with our key target groups, citizens, primary care practitioners and other stakeholders.

Ethnography: a day in the life of GP practices

The mHabitat ethnographic approach enables an ‘on the ground’ view of general practice activities which are in scope for the OurGP project.

Ethnography is defined as⁴³:

The recording and analysis of a culture or society, usually based on participant-observation and resulting in a written account of a people, place or institution.

The team approach seeks to provide a toolkit of options for practice staff and people accessing services to build into a framework which addresses aspects such as safety, confidentiality and commercial sensitivity.

The ethnographic research is designed to understand a typical day in the GP practice. A researcher will observe and interact with the staff to build up a realistic picture of what currently happens day-to-day. The researcher will focus on the use of analogue and digital technologies throughout the practice but will also observe the wider context through the lens of the project brief.

There will be three ethnographic research days throughout October 2016 based in three varying GP practices across Scotland. The days will consist of observations, short informal interviews and activities with staff and patient interaction in the form of a survey. The results of the ethnography days will be presented in the phase two report.

This framework document is included in Appendix 6

⁴³ <https://www.discoveranthropology.org.uk/about-anthropology/glossaryofterms.html>

Staff and citizen surveys

Two surveys are deployed as part of phase one to gather on the ground feedback from GP practice staff and Scottish citizens. Both surveys aim to uncover insights into how citizens are currently using digital technology to interact with GP practices and how GP practice staff see the future of GP digital services. The surveys will inform the delivery of the workshops during phase two.

The staff survey is included in Appendix 3 and the citizen survey is included in Appendix 4.

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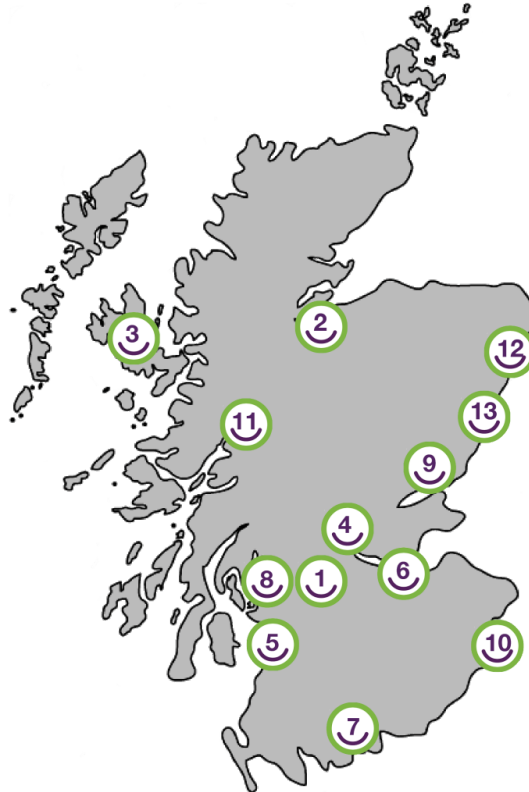
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Appendices

Appendix 1 - Workshop & Roadshow Destinations



1: Glasgow

Workshop 1: 12 October, 4pm - 8pm

Workshop 2: 13 October, 10am -
7.30pm

Roadshow: 07 December

2: Inverness

Workshop 3: 19 October, 12pm - 6pm

Roadshow: 05 December

3. Skye

Workshop 4: 20 October, 12.30pm - 8pm

4. Stirling

Workshop 5: 25 October, 12.30pm - 6.30pm

Roadshow: 01 December

5. Ayr

Workshop 6: 26th October, 10am - 4pm

Roadshow: 08 December

6. Edinburgh

Workshop 7: 27th October, Evening workshop

7. Dumfries

Roadshow only: 09 December

8. Inverclyde

Roadshow only: 07 December

9. Dundee

Roadshow only: 30 November

10. Berwick-Upon-Tweed

Roadshow only: 02 December

11. Fort William

Roadshow only: 06 December

12. Aberdeen

Roadshow only: 28 November

13. Montrose

Roadshow only: 29 November

Appendix 2 – Social media strategy

Please find Appendix 2 as an accompanying document.

Appendix 3 – Staff survey

Please refer to the accompanying document titled Appendix 3 - Staff Survey.

Appendix 4 – Citizen survey

The citizen survey can be accessed online here:

https://www.surveymonkey.co.uk/r/OurGP_Citizen

Please refer to the accompanying document titled Appendix 4 - Citizen Survey.

Appendix 5 – Market review

Please refer to the accompanying document titled Appendix 5 - Market Review.

Appendix 6 – Ethnography

GP Practice Ethnography DRAFT Proposal

GP Practice Ethnography Proposal

Dear Sir/Madam (Practice Manager),

Please find attached a proposal for ethnographic research that we would like to take place in your surgery.

'OurGP', a project funded by the Scottish Government lead by ALLIANCE Scotland, aims to design future GP digital services with people, as partners, and based on their needs.

Throughout the duration of this project, we will be engaging with GP practice staff, and patients to understand their behaviours, thoughts and feelings towards digital technologies in GP practices and what the future could hold.

This proposal of ethnographic research is designed to get a real life perspective of the use of digital technologies in the GP practice today.

We will undertake ethnographic research in three GP practices across Scotland - observing, having conversations and developing an understanding of the day-to-day flow of the practice setting.

Our ethnography will enable an understanding of the current context as well as being future focused, helping us consider the potential of new models of care with digital services embedded within them.

We will **not** be observing clinical practice.

We **will** be observing citizens and practitioners interaction with digital technologies in the practice.

We would like to invite a **patient rep / patient participation group member** to join us during the ethnography day. They would need to be familiar with the practice and understand confidentiality. If you have anyone in mind that would be able to help, please approach them and we will be happy to brief them nearer the time if they are agreeable.

Please read the following plan and contact us with any thoughts or ideas that you may have. We will then arrange a call with you to run through the details. This plan is for the researchers use only, to be used as a guide for the ethnography day. **This will not be shared with the public.**

Observation day: A Day in the Life

Our ethnographic research is designed to understand a typical day in the GP practice. Our researcher will observe and interact with the staff to build up a realistic picture of what currently happens day-to-day. The researcher will focus on the use of **analogue and digital technologies** throughout the practice but will also **observe the wider context through the lens of the project brief.**

DRAFT plan for the day:

Guided Tour

To start the day, a guided tour of the practice, given by one of the practice staff, will help map the user journeys that staff and patients take, and where interactions take place. We will draw these journeys on paper and mark down any interactions with

digital technologies along the way. Our researcher may ask questions during the tour to understand the process more. The journey maps will highlight what works well and what works less well along the way, and we will be happy to share them with the Practice Manager after the ethnography day.

This might last for an hour initially and then be added to/edited through the day.

We would like to carry out the following activities with a **GP, a nurse and a practice staff member**:

Observation

Observation in the GP practice is key to understanding how staff and patients currently interact with each other and digital technologies. GP practice online appointment booking and repeat prescription ordering are out of scope for this project therefore we will be focusing on the following:

- Remote monitoring / self monitoring / wearable technologies/off site access
- Medical / clinical apps
- Digital peer support
- Digital interaction between public and the healthcare environment
- Surfacing other digital tools that are being used.

We will record what works/what doesn't work and where patient experience is known to be good/where it could be improved with regards to digital technology. Throughout the observation sessions, we will record questions to ask during short interviews with the staff. For example, *it seemed really natural for you to use this piece of tech; have you always found it easy? Or which part of this interface do you struggle the most with?*

Interviews (20 mins)

Our researcher will undertake short interview sessions with a variety of staff members, for example over a cup of tea during break times. This is to understand their thoughts and ideas about digital technologies in their day-to-day job role. We will follow an anonymised semi-structured format based on a questionnaire (see appendix) that will also be disseminated across Scotland:

- General questions – Job role
- Understand their use of digital technology at home/outside of work
- Current thoughts and feelings (Positive/negative) about digital tech in GP practice
- Any questions that have arisen during the observations
- It's 2021, if money was no object I would want...

Quick Activities (5/10mins) TBC

These could take place during the interview or when a staff member has 5/10 minutes available throughout their day. We have a number of tools and will use the most appropriate one for the situation. For example, interactive **card sorting**:

- The Interviewee can ranking a series of cards by priority
- Eg. Q: Which object/tool is the most important in enabling you to carry out your job? Please rank the cards from the most to the least important.
- Eg. Q: Which object/tool is the most important for you to enable clear communication with your patient? Please rank the cards from the most to the least important.

IMAGE COMING SOON

Probe - TBC

We will leave a probe with the practice for them to record ideas / thoughts before and after the observation day. The probe will be quick and simple for people to interact with and should be returned to us 1 week after deployment. This gives staff an

opportunity to feedback to us anything that comes to mind after we've left. The format of this probe will be a postbox with comment cards, but could also use our free text service or an email address if that is easier.

IMAGE COMING SOON

Patient Interaction

We would like to provide the public with the opportunity to contribute during the ethnography days. A simple questionnaire (see appendix) to be completed in the waiting room will help us to understand their perspectives on digital technologies in GP practices and in their day-to-day life. The questionnaire can be completed on paper or on a device and would be provided with an information leaflet about the project listing the ways in which they can get further involved.

Where possible we will engage a **patient rep / patient participation group member** beforehand. If available, we would like to invite them to come along to the practice and contribute. They would be provided with the patient survey beforehand and interviewed at the practice. It would be great for the patient rep to help hand out the patient surveys in the practice, particularly if they're familiar with the practice, have done this role before and are familiar with confidentiality.

Recording and Data

We will abide by the practice requirements and local policies, laid out by the Practice Manager with regards to recording, storing and destroying information and data.

Our researcher, Helen Fisher, uses NHSmail (encrypted) for all communications and has an up to date DBS certificate. She will not be recording any personal information. She will take notes and a copy of the notes can be checked by the

Practice Manager for accuracy and anonymisation. The notes will be presented in a clear and easy to review format.

Ethics and consent forms

We will follow the 'Scottish Health Council Ethics Checklist' which 'was developed by Dr Fiona Wardell, Healthcare Improvement Scotland' - please see appendix.

We will not be taking photos, filming or recording patients, carers or staff.

Participation will be voluntary with the option to opt out at any point. No personal details will be required other than staff role and age bracket (optional)

A consent form will be available following the guidance provided by the NHS Health Research Authority and the Medical Research Council. Their 'Consent and Participant Information Sheet Preparation Guidance' can be found here:

<http://www.hra-decisiontools.org.uk/consent/>

Local nuances to this process will be added, eg any commercially sensitive aspects.

Documents used to produce this plan:

Ethnography: A stepwise approach for primary care researchers

William B. Ventres and R M Frankel

Accessed at:

https://www.researchgate.net/publication/14482638_Ethnography_A_stepwise_approach_for_primary_care_researchers

Consent and Participant Information Sheet Preparation Guidance

<http://www.hra-decisiontools.org.uk/consent/>

The participation toolkit - The Scottish Health Council

Accessed at:

http://www.scottishhealthcouncil.org/patient_public_participation/participation_toolkit/the_participation_toolkit.aspx#.V8Wdf2WJVjE

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Appendix - to be added (drafts in development)

1. Patient information leaflet
2. Practitioner Survey
3. Patient / citizen survey
4. Ethics Checklist/outline consent form.

Appendix 7 - OurGP Asset Map

Please refer to the accompanying document titled Appendix 7 - OurGP Asset Map.