

Improving Digital Health Inclusion: evidence scan

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1. Introduction

Our review suggests a lack of robust empirical evidence on approaches to improve digital inclusion (University of the West of Scotland, 2017). Much of the literature regarding solutions to digital inclusion comes from the grey literature.

Our earlier Evidence Signpost identified the following specialist organisations with a wealth of experience in tackling digital exclusion, which we have used to identify key literature focusing on improving digital inclusion:

- [Good Things Foundation](#): is a national digital inclusion charity, and NHS Digital's delivery partner in the Widening Digital Participation programme.
- [One Digital](#): partnership (funded by the Big Lottery) includes Age UK, Citizens Online, Clarion Futures (part of Clarion Housing Group), Digital Unite and Scottish Council of Voluntary Organisations (SCVO). They are developing a collaborative approach to training and supporting digital champions so they can help people to learn digital skills.
- [Citizens Online](#): is a national charity set-up to tackle the issues of digital exclusion.
- [Digital Unite](#): focuses exclusively on vocational training and support for digital champions. Their Digital Champions Network is a comprehensive training and support system for aspiring and experienced digital champions.
- [Social Tech Trust](#): a charity that challenges themselves and others to think differently about the relationship between technology and society. They provide the investment and support needed for 'social tech' ventures to grow and scale their social impact.
- [AbilityNet](#): is working to build a more digitally accessible world, through accessibility audits, user testing, and expert advice to deliver more accessible websites and apps.
- [mHabitat](#): is an NHS hosted team specialising in codesign, digital skills and inclusion, policy and strategy, and evaluation. mHabitat has been leading work on digital practitioners: helping health and care practitioners develop digital skills and confidence so they can make things better for people who access their services.

We also used NHS Evidence, HMIC and Google Scholar to identify grey literature.

2. Introduction to Digital Inclusion

2.1 What is digital inclusion

Digital inclusion is defined in various ways and is often used interchangeably with terms such as digital skills, digital participation, digital competence, digital capability, digital engagement and digital literacy (Gann, 2019a).

In their guide to digital inclusion for health and social care, NHS Digital (2019) describe digital inclusion as a concept that encompasses:

- **Digital skills:** Being able to use digital devices (such as computers or smart phones and the internet). This is important, but a lack of digital skills is not necessarily the only, or the biggest, barrier people face.
- **Connectivity:** Access to the internet through broadband, wi-fi and mobile. People need the right infrastructure but that is only the start.
- **Accessibility:** Services need to be designed to meet all users' needs, including those dependent on assistive technology to access digital services.

Many of the other definitions identified in the review focus specifically on skills and capabilities. For example, Health Education England (2018) define digital literacy as *"the capabilities that fit someone for living, learning, working, participating and thriving in a digital society"*. The Department for Education (2019) has developed an 'Essential Digital Skills Framework' to define the digital skills adults need to safely benefit from, participate in and contribute to the digital world. There are five categories of Essential Digital Skills for life and work:

- Communicating
- Handling information and content
- Transacting
- Problem Solving
- Being safe and legal online



Figure 1. Essential Digital Skills Framework (taken from Department for Education, 2019)

The framework also includes a core section on ‘foundation’ skills. Digital foundation skills are typically aimed at people who are not currently using digital technology or using it in limited ways. Adults need to have the following foundation skills which underpin all essential digital skills (Department for Education, 2019):

- Turn on a device
- Use the available controls on my device
- Make use of accessibility tools on my device to make it easier to use
- Interact with the home screen on my device
- Understand that the internet allows me to access information and content and that I can connect to it through Wi-Fi
- Connect my device to a safe and secure Wi-Fi network
- Connect to the internet and open a browser to find and use websites
- Understand that my passwords and personal information need to be kept safely as they have value to others
- Update and change my password when prompted to do so.

The Lloyds Bank Consumer Digital Index 2019 (Lloyds Banks, 2019) uses the behavioural and transactional data of one million consumers to build a view of digital capability in Britain. The 2019 Index includes the first measure of the Essential Digital Skills Framework for life and work in the UK. The analysis shows that:

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- One-fifth of the population do not have foundational digital skills: The results show that 81% of those aged 15+ can carry out all seven of the Foundation tasks and therefore are eligible for Essential Digital Skills for life.
 - Nearly one in ten (8%) have zero digital skills: 8% of those aged 15+ are unable to complete any of the Foundation tasks at all. This is equivalent to 4.3 million people.

2.2 Barriers to digital inclusion

The Digital Skills and Inclusion Policy published by the Department for Digital, Culture, Media & Sport (2017) highlights that digital inclusion is more than having the access and skills to go online; it also involves the motivation to confidently go online to access the opportunities of the internet.

NHS Digital (2019) also highlight these four barriers to digital inclusion:

- **Access** - not everyone has the ability to connect to the internet and go online
- **Skills** - not everyone has the ability to use the internet and online services
- **Confidence** - some people fear online crime, lack trust or don't know where to start online
- **Motivation** - not everyone sees why using the internet could be relevant and helpful.

In an increasingly digital age, where equipment is cheaper and easier to use and broadband is faster, Gann (2019a) provides a useful reassessment of what these barriers in skills and access can mean and how they can change over time. For example, where skills once meant the basic skills of carrying out a search or setting up an email account, we are now more likely to mean information literacy skills – being able to distinguish good quality health information from 'fake news'. For access, this once meant owning or being able to use a device, however this is now more likely to mean having sufficient data on a mobile phone contract, access to free wi-fi or high-speed broadband.

Data from the Lloyds Bank (2019) Consumer Digital Index in the UK shows that while one-fifth of those offline in the past three months say they have not used the internet due to a lack of adequate connectivity, motivation and security concerns are the two significant barriers that prevent people going online. Of the offline population three-quarters of people (75%) lack the motivation to investigate what benefits the internet can offer, and more than half say that online safety concerns prevent them from using the Internet. Furthermore, cybersecurity concerns underpin motivational barriers to being online. Of the 75% of people offline who gave this answer, 89% gave reasons beyond 'no interest'. The top three other barriers given by this group are cybersecurity related: identity theft, privacy, and concern over the way their data may be used. After cybersecurity related barriers, 55% say there are other things they would rather spend money on and 51% say they are also offline because they lack the knowledge and capability to use the internet, were they online.

Lack of motivation, confidence and trust can be the most significant factor preventing a person moving from a reluctant, single-purpose user to someone who truly reaps the benefits of being online (Gann, 2019a). The Department for Education (2019) suggests that by gaining digital foundation skills, people will also have the motivation and confidence to engage with digital technology.

As access, skills and confidence improve, it is increasingly important to tackle other barriers, including:

- Design - digital services should be accessible and easy to use
- Awareness - not everyone is aware of digital services and products available to them
- Staff capability /capacity - not all health and care staff have the skills and knowledge to recommend digital services / products (NHS Digital, 2019).

2.3 Which populations are digitally excluded?

Data from the Lloyds Bank (2019) Consumer Digital Index in the UK found that 4.1 million UK adults (8%) have not used the internet within the past three months. The 'offline profile' shows:

- 80% are aged 50+
- There is no significant difference between genders
- White people are 50% more likely to be offline compared to Black, Asian or minority ethnic (BAME) people
- Three-quarters (76%) are: retired pensioners (36%), unskilled manual workers (16%), unemployed/long-term sick (15%), and skilled manual workers (9%)
- 71% have no more than a secondary school education
- Nearly one in two (47%) are from low-income households (medium 16%, high 9%, prefer not to say 28%)
- One-third (32%) have a disability.

In their guide on digital inclusion for health and social care, NHS Digital (2019) include a list of people who are more likely to be digitally excluded than others. This list supports the findings from the Lloyds Bank (2019) Consumer Digital Index with the additional inclusions of people living in rural areas, homeless people, and people whose first language is not English. The full list of people likely to be digitally excluded provided by NHS Digital (2019) is shown below:

- Older people
- People in lower income groups
- People without a job
- People in social housing
- People with disabilities

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- People with fewer educational qualifications excluded left school before 16
 - People living in rural areas
 - Homeless people
 - People whose first language is not English.

Evidence from a recent rapid evidence synthesis (Rodgers et al., 2019) specifically looking at digital use in primary health care found the available evidence consistently suggests that patients who use alternative consultation methods are younger and healthier and have higher levels of education, employment and income than patients who use traditional primary care services.

Research undertaken to inform NHS England policy in 'digital-first primary care', Rodgers et al. (2019) highlight a paucity of evidence with the following concerns:

- Evidence was often small scale or qualitative in nature
- Empirical evidence is either lacking or contradictory for health-related and service delivery outcomes, and
- Quantitative evidence on the benefits and disadvantages for different patient groups is lacking.

2.4 Digital exclusion and inequalities

Digital exclusion is a form of inequality. There is a close correlation between digital exclusion and social disadvantages including lower income, lower levels of education, and poor housing (NHS Digital, 2019).

The charity Cumberland Lodge aims to tackle the causes and effects of social division through dialogue and debate. A conference briefing prepared ahead of their Digital Inclusion: Bridging Divides conference in November 2019 (Elahi, 2019) refers to a UK Government report from 2008 expressing the important of digital inclusion: *"Digital equality matters because it can help mitigate some of the deep social inequalities derived from low incomes, poor health, limited skills or disabilities"*.

In a rapidly evolving digital world digital skills are increasingly important for connecting with others, accessing information and services and meeting the changing demands of the workplace and economy. This is leading to a digital divide between those who have access to information and communications technology and those who do not, giving rise to inequalities in access to opportunities, knowledge, services and goods (Office for National Statistics, 2019).

The Topol Review (Health Education England, 2019) highlights concern that digital healthcare technologies could exacerbate health inequalities unless consideration is given to how they affect equality and equity, including the risk that vulnerable groups might be excluded or exploited.

2.5 Benefits of digital inclusion for health and care

A review of the literature on digital inclusion in health and care (Gann, 2019b) highlights benefit opportunities for individual patients and carers, include:

- Improved self-care for minor ailments
- Improved self-management of long-term conditions
- Improved take-up of digital health tools and services
- Time saved through accessing services digitally
- Cost saved through accessing services digitally
- Reduced loneliness and isolation.

The review (Gann, 2019b) continues by summarising the benefit opportunities for the health and care system:

- Lower cost of delivering services digitally
- More appropriate use of services, including primary care and urgent care
- Better patient adherence to medicines and treatments.

3. Improving Digital Health Inclusion

3.1 Programmes improving digital health

We identified two key programmes aimed at improving digital health:

1. Widening Digital Participation programme
2. Reboot UK programme.

The following sections provide a summary of each programme and key achievements reported.

3.1.1 Widening Digital Participation programme

[Widening Digital Participation](#) is a national programme aimed at improving digital skills specifically for the use of digital health services.

The programme consists of two phases:

- Phase one ran from September 2013 to March 2016 and aimed to improve the digital skills and digital health literacy of groups most affected by health inequalities, by using local community networks to support the use of expert online content. Phase 1 of the programme provided funding for hundreds of hyper-local UK online centres to support their communities to improve their digital health literacy skills, as well as funding a smaller number of Innovation Pathfinders to test innovative approaches to embedding digital health literacy within existing provision, testing new technologies and working with new partners. The initial phase of the programme also led to the creation of two online courses on the [Learn My Way](#) learning website to support people to improve digital literacy skills. One course is focused on finding information on NHS Choice and the other covers using GP services online.
- Phase two ran from April 2017 to March 2020 and aimed to reach those with the greatest need first including homeless people, older people in rural areas, patients in secure mental health hospitals and those whose first language is not English. This phase of the programme has involved working with a further 20 Pathfinder projects across England. Projects have focussed on working in partnership across an area, working with local authorities, NHS Testbeds, Vanguard, Health and Wellbeing boards, Public Health England and other local initiatives.

Analysis of survey data from of phase one of the programme (Tinder Foundation, 2016) shows that learners have gained skills and confidence to access health information online, which has in turn led to more people using the internet as their first port of call for information, which resulted in:

- 21% of learners made fewer calls or visits to their GP, with 54% of those saving at least three calls in the three months before being surveyed and 40% saving at least three visits over this period.
- 10% of learners made fewer calls to NHS 111, with 42% of those saving at least three calls in the three months before being surveyed.
- 6% of learners made fewer visits to A&E, with 30% of these saving a minimum of three visits in the three months before being surveyed.

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- 29% of learners have gone online to find health services, such as looking for a new GP.
 - 22% of learners have progressed to booking GP appointments online and 20% have ordered repeat prescriptions online.
 - 17% of learners have gone online to rate or review their GP or another health service they have used.

The estimated annual saving based on the behaviour change reported in the survey data includes:

- £3.7m in saved GP visits
- £2.3m in saved A&E visits.

This equates to a return on investment of £6.40 for every £1 invested in year three of the programme.

3.1.2 Reboot UK programme

The Reboot UK programme funded by The Big Lottery was aimed at improving wellbeing through improving digital skills for the most vulnerable people.

The research phase of the project (Piercy, 2016) identified the following interventions to help engage and support families in poverty, people with mental health issues, and homeless people:

- Peer support: The peer support model trains and supports mentors with experience of a particular condition or service to engage fellow service users in informal learning. The programme focused on the peer-led development of digital skills.
- Home Access: The home access model loaned and provided grants for internet-enabled devices to beneficiaries.
- Shared Practice: The shared practice strand focused on the development of cross-organisational working. Primarily, it developed the provision of digital skills and informal learning within specialist services, such as community mental health services, psychiatric care, and homelessness services.

The evaluation of the first two phases of the Reboot programme (Good Things Foundation, 2017a) found that between January and August 2016, Reboot UK supported 994 beneficiaries to improve their digital skills and wellbeing through 21 delivery partners. Key improvements included:

- Learners increased their digital skills by an average of 14.6%
- Learners were 17% more confident to use the internet without help
- Improved digital skills helped beneficiaries feel more confident, in control, and ambitious about the future
- Both quantitative and qualitative evidence shows digital skills increased mental wellbeing for individuals supported by the programme. The average wellbeing score for beneficiaries increased from 21.41 to 23.46, against a national mean of 23.6.

The third phase of the Reboot project introduced the provision of a dedicated Community Connector role based on the following two key learnings from phase 1 and 2 of the reboot programme (Munoz, 2019):

- The embedding of digital skills support within specialist (non-digital) services can be highly effective in creating positive outcomes for individuals
- Peer mentoring is a powerful vehicle to support vulnerable people to develop digital skills.

Community Connectors were either beneficiaries with lived experience of the issues faced by others, or people who are committed to co-production with people with lived experience. They engaged local Mind and Homeless Link partners to support them to embed digital skills in frontline delivery. Community Connectors then went on to recruit Digital Champions, who were frontline workers and volunteers in these local organisations. The Digital Champions were trained by Community Connectors to offer digital skills support to service users.

Through this model the following roles and support have been achieved:

- 15 Community Connector roles created, appointed, trained and active as a network across community-based organisations in England and Wales
- 259 Digital Champions trained. These were specialists in Mental Health and Homelessness services working across 74 community organisations
- 2,507 Service Users supported within the two target groups (people who are homeless or at risk of homelessness and those with mental health problems) to develop digital skills through embedded one to one support and drop in / peer support sessions.

As a result of services users being able to undertake digital interactions such as setting alarms and reminders for appointments and taking medicine, or identifying online platforms that list local community activities and events services users reported the following benefits:

- A sense of independence
- Support with loneliness and isolation issues
- Increased confidence
- Increased relaxation and calm
- Better financial management
- Greater knowledge of local service.

3.2 Approaches to improving digital inclusion

Key approaches covered in the two large programmes were:

- Digital skills training
- Community Engagement and Co-design

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- Digital Champions and Digital Ambassadors used to cascade skills and knowledge
 - Peer support and mentoring
 - Intergenerational support
 - Community outreach
 - Shared practice
 - Social prescribing
 - Staff Training.

The following sections consider each approach in more detail, drawing on evidence from other programmes and projects where available and relevant.

3.2.1 Digital skills training

The Good Things Foundation delivered the Widening Digital Participation programme through Online Centres. The Good Things Foundation have also used Online Centres to deliver other funded programmes, including the Future Digital Inclusion programme, a general digital Inclusion programme funded by the Department for Education.

Online Centres provide free or low-cost access to the internet, alongside friendly, informal support to help people develop Basic Digital Skills, with learning tailored to individual needs and interests rather than following a fixed curriculum (Good Things Foundation, 2017b). They operate from community-based venues of any kind including libraries, community centres, and informal learning providers, social housing associations, often alongside other services such as employability skills training, debt advice and guidance, volunteering opportunities, library services, exercise classes, and ESOL classes (Tinder Foundation, 2016; Good Things Foundation, 2017b).

The Starting Point Community Learning Partnership community cafe in Stockport is an example of an Online Centre (Tinder Foundation, 2016). The centre works predominantly with older people. Regular learners at Starting Point have been using their new skills with computers and the internet to explore the potential of online health resources.

The Good Things Foundation (n.d) hosts The Online Centres Network made up of over 5,000 grassroots organisations, all working to tackle digital and social exclusion by providing people with the skills and confidence they need to access digital technology. The site can be used to identify local Online Centres.

3.2.2 Community engagement and co-design

Community engagement is an important element of digital inclusion programmes. For example, in the third stage of the Reboot UK programme Community Connectors, either beneficiaries with

lived experience of the issues faced by others, or people who are committed to co-production with people with lived experience, were introduced (Munoz, 2019).

A key theme of the Widening Digital Participation programme is co-design. The programme has developed a set of co-design principles (see Box 1) alongside a guide to co-design (Box 2) (Good Things Foundation, n.d).

Box 1. Widening Digital Participation Programme Co-design Principles

1. Design with people, not for them

The whole premise of co-design is including those who will be affected by decisions. They are the experts in their lives and know their world better than anyone else.

2. Go where the people are

Conversations are more open and honest when people feel comfortable and safe. Spend time where they spend time. Don't ask them to come to a formal building as it shifts the power dynamic. Consider your local community spaces.

3. Relationships not transactions

Health is a very emotive subject. People's relationships with professionals, peers, digital tools and their environment are unique to them and must be taken into account.

4. Work in the open

Share your learning. Share your work. Be transparent in your design decisions. Have the confidence to tell people why something has worked and why something hasn't. It will help others.

5. Understand underlying behaviour

Look beyond immediate causes to understand the many different factors underlying behaviour: personal and social, cultural and economic. Be conscious of the assumptions that you might make. We look beyond those that others might have made.

6. Do it now

We learn so much more by trying things. Get it out there and see what works and what doesn't. This will unearth things that you will have never considered before and make things better.

Box 2. Widening Digital Participation Programme Guide to Co-design

Step 1: User needs

User needs not wants. Spend time with people to understand their needs.

Step 2: Stakeholder needs

Understand their pressures, expertise, view of current system and how things can improve.

Step 3: The thing

Create a set of recommendations to try out. Using things that already exist to prove concept.

Step 4: Iterate

Try it for a while. Take stock. Find out what is working and what isn't then iterate.

Step 5: Deliver

Deliver and evaluate.

3.2.3 Digital Champions and Digital Ambassadors used to cascade skills and knowledge

Digital Champions and Digital Ambassadors are generally people who already interact with service users, who receive extra training to enable them to cascade skills and/or knowledge. NHS Digital (2020) describe the role of a Digital Champions as *“providing flexible, ongoing digital skills support that is targeted to the needs of their learner. They may be staff or volunteers and they may also be friends and family members but crucially they already interact with the people who need better digital skills”*.

Three digital champion models have been identified as being used by a collaboration bringing together diverse partners to promote basic digital skills through digital champions known as One Digital (Dunn S et al., 2017):

- Professional community digital champions
- Volunteer community digital champions
- Digital champions 'embedded' in third party organisations.

Each model was found to have strengths; the professional digital champions were highly effective, the volunteer digital champions offered the potential for scale, and the embedded digital champions had potential for both scale and sustainability, but were highly dependent on strategic buy-in from the host organisation (Dunn S et al., 2017).

The Reboot UK programme used Community Connectors to recruit frontline workers from local organisations and then train to become Digital Champions so that they could offer digital skills support to service users. The programme recruited 15 Community Connectors who then trained 259 Digital Champions who were specialists in Mental Health and Homelessness, who then went on to support 2,507 Service Users (Munoz, 2019).

Another example of a programme targeting service users is a digital citizen education programme established by the North West London Collaboration of Clinical Commissioning Groups (NHS Digital, 2019). The programme has trained volunteers as Digital Ambassadors who in turn are responsible for training residents who need support using digital health services.

Digital Ambassadors in London have also been used with service users to codesign and promote services; Healthy London Partnership (2019) advertised Digital Ambassador roles aimed at children and young people (aged 14-24), who receive training from digital experts who also review

products, help co-design adverts and campaigns and promote digital initiatives amongst their peers.

Digital Unite (n.d) runs the Digital Champions Network providing tools and support for Digital Champions.

3.2.4 Peer support and mentoring

Many Online Centres participating in the Widening Digital Participation programme recruited former or current learners as volunteers, recognising their value as peer advocates for digital health (Tinder Foundation, 2016). Peer support also helps advanced learners build their confidence even more by helping and guiding newer learners to try new things (Good Things Foundation, 2018a).

The Centre for Ageing Better (2018) suggests peer support is a promising, yet under-explored and under-utilised model to support older people to get online. Trusted peers based within existing communities are more likely to be able to provide support that is sustainable and self-supporting, are likely to be known and trusted, and seeing 'people like me' succeed with digital is a valuable source of self-efficacy (Centre for Ageing Better,2018; Richardson, 2018).

Peer mentoring, encouraging people from similar circumstances to support each other to build independence and resilience, was one of the key approaches to digital skills support adopted by the Reboot UK programme (Good Things Foundation, 2017a). Peer mentoring creates a non-hierarchical learning environment, which facilitates support and 'discovery learning'. In Reboot UK, this model of support has often been facilitated by volunteer peer mentors and expert tutors (Good Things Foundation, 2017a).

3.2.5 Intergenerational support

The Nailsea pathfinder site from the Widening Digital Participation programme used a strong partnership to work with the local sixth form to recruit several cohorts of school-age volunteers, who have provided a consistent workforce community hub as well as a route for intergenerational support (Good Things Foundation, 2018b). The evaluation of the pathfinder reports that the model is mutually beneficial for both older people as well as the school-age volunteers. The model utilised the digital skills of engaged young people, which has in turn increased the digital skills of older customers. At the same time school-age volunteers have reflected on the language that they were using to explain concepts about digital technology meaning they are now more reflective and mindful in the way they approached other people (Good Things Foundation, 2018b).

NHS Digital (2019) highlight the Digital Heroes programme in Wales as the best developed example of intergenerational digital mentoring. Digital Heroes can be pupils from school, colleges or university, or volunteers from community groups such as Scouts/Guides or Police Cadets, who

are linked up with a community organisation such as a hospital, care home or library, to support people from that organisation to get online (Digital Communities Wales, n.d). A case study published on the Wales Co-operative Centre (n.d) website provides an example of a digital heroes partnership between Ty Llandaff care home and Ysgol Pencae primary school in Cardiff which meant that older people who had never been online found out what the internet could offer them from primary school children. Digital Communities Wales provided training to 21 pupils aged nine and ten. Ysgol Pencae then hosted a visit from the Ty Llandaff residents for Safer Internet Day 2018. Three residents visited Ysgol Pencae, where the Digital Heroes showed them how to use digital technology. The case study reports that meeting the Digital Heroes had a positive impact on the residents' mental wellbeing and helped minimise the risk of loneliness. The Digital Heroes also gained important interpersonal skills and skills needed to help others to use technology such as patience and inclusive language.

3.2.6 Community outreach

The Widening Digital Participation programme found that a common and successful model for engaging and training people with digital health involves community outreach activities and events (Tinder Foundation, 2016). Outreach activity varied widely. Examples ranged from centre staff taking tablets and laptops to community group gatherings such as coffee mornings, to provide demonstrations of online health resources to structured learning courses using the Learn My Way resources being conducted in partner venues.

3.2.7 Shared practice

One of the delivery approaches trialled in the Reboot UK programme was Shared Practice. Shared practice brings together specialist services and digital skills support. In the Reboot UK programme shared practice was predominantly used as a way of engaging the mental health target group and was adapted to suit the needs of this group in the most effective way (Good Things Foundation, 2017a). Some delivery partners used this model to reach out to crisis services, such as food banks, but the greatest success using this intervention was seen through the coupling of specialist social care and mental health provision with digital skills delivery (Good Things Foundation, 2017a).

One of the ways Online Centres worked with GPs in the Widening Digital Participation programme was by directly engaging and training patients with digital health in a GP surgery (Tinder Foundation, 2016). By partnering with local GP practices, Online Centres were able to develop an offer of support for patients, to encourage them to take advantage of online health resources, transactional services, and opportunities to provide feedback on GP services. Online Centres staff and trained volunteers ran one-to-one drop-in or scheduled sessions in the GP practice also known

as 'digital surgeries'. Digital surgeries followed either a generic approach such as showing all patients the online booking or feedback facilities and offering support on how to use them, or a tailored approach to specific health needs such as showing patients pages on NHS Choices relevant to existing health conditions (Tinder Foundation, 2016).

3.2.8 Social prescribing

As part of the third year of the Widening Digital Participation programme, the 'social prescribing' model and how it can be linked to digital skills and digital health training was investigated by four of the Innovation Pathfinders: Edlington Hilltop Centre Associates (near Doncaster), Bromley by Bow Centre (London), Inspire Communities (Hull) and Southampton Libraries. Key insights from the pathfinders for supporting social prescribing include:

- Having health services and provision for digital health training on the same site is beneficial to staff, patients and UK Online Centres.
- Integrating a social prescribing approach with digital health training leads to a reduction in the number of GP appointments made and an increase in satisfaction ratings.
- Strong partnership working and allowing time for trust-building between health professionals, patients and training delivery centres is crucial.
- Establishing clear referral pathways and processes is key and should be done collaboratively between health professionals, surgery staff, community workers, volunteers and digital inclusion tutors.
- Enabling social 'prescriptions' to be made by non-clinical staff allows demand to be diverted away from health professionals when appropriate.
- It is essential to understand which devices are used by patients and how they access the internet. This ensures that the right interventions are prescribed and can be tailored accordingly.
- Demand for the wider services of UK online centres has increased through links with social prescribing initiatives (Tinder Foundation, 2016b).

The Sheffield Pathfinder project tested a range of models designed to find ways to socially prescribe digital skills. Social prescription of digital skills can provide goal-oriented support or process-oriented support (Good Things Foundation, 2018f). Process-oriented support includes learning skills such as ordering prescriptions online and booking appointments online whereas

goal-oriented support focuses on embedding digital skills to support the users moving towards their goal e.g. using [diabetes.org.uk](https://www.diabetes.org.uk) to help a user develop a diet plan or finding a walking club online (Good Things Foundation, 2018f). Based on the six-month Pathfinder project in Sheffield the Good Things Foundation (2018e) have produced a how-to-guide that sets out how to embed digital skills into existing social prescribing provision.

A report by the Social Market Foundation (Keohane and Petrie, 2019) exploring delivering digital health for all warns that there is a risk that many of those who have the most to gain from condition self-management technology do not have the digital skills to benefit. The research recommends the social prescription of digital skill classes to those who struggle to keep up with advances in technology or for whom increased digital skills would lead to improved health and wellbeing outcomes (Keohane and Petrie, 2019).

While social prescribing to digital inclusion support is in its infancy (Gann, 2019b) digital inclusion guides for health and social care in England (NHS Digital, 2019) and Wales (Wales Co-operative Centre, 2019) suggests it has considerable potential and therefore recommend social prescribing to improve digital inclusion. A scoping report produced by Health Education England (2016) exploring the benefits of social prescribing to promote wellbeing proposes that the opportunity to link the digital inclusion agenda to social prescribing activity is significant as a digitally empowered patient or member of the public can do more to manage self-health.

3.2.9 Staff training

One of the biggest barriers to digital inclusion can be health and care staff not having the knowledge and confidence in using digital health resources and therefore not being able to recommend digital tools to their patients (NHS Digital, 2019).

In 2015, the National Information Board in England invited Martha Lane Fox, founder of [lastminute.com](https://www.lastminute.com) and technology think tank Doteveryone, to make recommendations to the Secretary of State for Health on the key steps which should be taken to tackle digital exclusion and accelerate digital adoption. One of her recommendations included building the basic digital skills of the NHS workforce to ensure that everyone has the digital skills needed to support people's health needs (NHS England, 2015). Digital inclusion guides for health and social care in England (NHS Digital, 2019) and Wales (Wales Co-operative Centre, 2019) recommend improving digital skills of staff to improve digital inclusion.

A small number of Online Centres in the Widening Digital Participation programme trained local health and social care professionals to use digital health resources with the public (Tinder Foundation, 2016). This involved introducing health and social care workers to online resources such as NHS Choices, and to the issue of digital exclusion. This enabled professionals to draw on

additional resources in the clinical/service setting and created opportunities for professionals to cascade awareness of digital health resources to patients/clients and encourage them to get online.

The Sheffield City Region Perfect Patient Pathway Test Bed (Good Things Foundation, 2018c) conducted a pilot to help understand: health professionals' motivations and barriers when it comes to digital health; and how that has an impact on their interactions with patients, as well as the training needs and preferences of health professionals. The research found:

- There is a lack of confidence and willingness to engage amongst health professionals when it comes to their own digital skills in the workplace, let alone supporting others to engage with digital technology for health.
- To promote adoption by as many members of staff as possible, digital health training must be recognised at and promoted by all levels of the NHS hierarchy and should be incorporated into practitioners' CPD.
- Peer support amongst colleagues at all levels is key to raising awareness of digital health before it can be translated into conversations with patients.
- To engage health professionals in digital health, the benefits to patients must be clearly communicated when promoting any related training.

The Topol Review (Health Education England, 2019), an independent review into the digital training needs of NHS staff, highlights that introducing new technologies to support patient care and the workforce needs to be seen as change management, with the technology itself simply the tool to enable change. Most patient care pathways are multifaceted, involving staff with deeply held personal, social and institutional beliefs and practices. To be successful, technology-based change policies need to acknowledge and seek to understand these beliefs and practices. This requires organisations to focus on the following enabling factors:

- A culture of innovation
- Prioritising people
- An agile and empowered workforce
- Leadership
- Effective governance
- Investment.

Adoption of digital healthcare technologies requires an effective culture of learning at every level that enables the workforce to reframe their knowledge within an increasingly technology-driven world (Health Education England, 2019).

Digital literacy is a vital component for a learning workforce (Health Education England, 2019). Health Education England (2018) have published a health and care Digital Capabilities Framework to support digital literacy training for staff covering six domains of digital literacy:

1. Information, Data and Content
2. Teaching, Learning and Self-Development
3. Communication, Collaboration and Participation
4. Technical Proficiency
5. Creation, Innovation and Research
6. Digital Identity, Wellbeing, Safety and Security.

3.3 Lessons learned

3.3.1 Widening Digital Participation programme key lessons

From their findings from the Widening Digital Participation programme, the Good Things Foundation (Tinder Foundation, 2015) have produced a handbook aiming to help tackle digital health inclusion. See Table 3 for a summary of barriers to learning, delivery challenges and tips for delivery from Online Centres, which provide a useful resource for wider initiatives to promote digital inclusion for health and care.

Table 3. Widening Digital Participation programme summary of barriers to learning, delivery challenges and tips for delivery

Barriers to Learning
<p>Access:</p> <ul style="list-style-type: none"> • Limited home access: Cost and availability of broadband and kit remain a barrier to universal uptake of online health resources, especially for many of those at increased risk of poor health. • Language barriers: Online health resources can often be in English. Although machine translated versions are available, they may not always be of a high standard so ESOL learners tend to rely on family members or bi-lingual support staff at UK online centres to help them. <p>Motivations and skills:</p>

- Concerns about losing contact with GPs: Some older learners can be reluctant to use online health resources as they see it as a signal that face-to-face services they value will soon be shifted online. Centre staff may need to reassure learners that accessing health information online is a way of supplementing, rather than replacing, important frontline services provided by the NHS.
- Preference for offline: Many older people prefer using traditional offline means of transacting, especially those who are isolated, because they value the social contact. Those over 70 are very used to managing their health in more traditional, offline ways, and so can be resistant to the use of digital health resources. This is less of an issue among the 55-69 audience, who often have more of an understanding of the benefits of developing online skills.
- Assumptions about younger learners: Although young people are sometimes referred to as 'digital natives' (highly likely to be online and more willing to adopt new technologies) it isn't always true that they are all equally skilled in using the internet to find trusted health-related information.

Delivery Challenges

- Building partnerships: Partnerships between community organisations (such as UK online centres) and GP practices are often extremely fruitful, but Online Centres may initially struggle to engage local GP practices.
- Fears about too much or wrong information: There may be some concerns about widespread use of online health resources - by both learners and tutors - relating to the risk of misinformation and hypochondria. Although centres note that this usually happens with only a very small number of learners and can be dealt with through appropriate training.
- Lack of support from some GPs: Some centres identified that some GPs were wary of online resources and therefore reluctant to support their use. One focus group of learners identified a divide between older and younger GPs - with the younger group tending to be more digitally aware and embrace digital health for what it can add to the patient experience.

Tips for Delivery

1. Go to where people are: Engage people with digital health in a setting that is most convenient for them, and remember to present digital health as being relevant to the reason they are in that setting.
2. Make it easy: Help learners to engage with digital health resources by making the link between the non-digital and the digital as seamless as possible. For example, using the 'healthy eating' section of NHS Choices to look for recipes as part of a healthy cooking class, and highlighting other aspects of the site whilst there.

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3. Use portable technology: Tablets are more user-friendly, especially for older adults engaging in informal learning.
 4. Think about ways to overcome additional barriers: For example, language or disability barriers may require online translation tools, specialist equipment or accessibility software.
 5. Identify digital champions in the health sector: Work with health professionals who are early adopters of technology and are looking for ways to embed digital into their practices.
 6. Run events: Many people prefer a hands-on approach to engaging in new things. An event is an excellent way to let people to see and touch new technology and learn about ways to improve their health.
 7. Offer supported, flexible, learner-led learning in a one-to-one or small group: This approach enables tutors to identify learners' needs and interests and respond accordingly, and also provides added social benefits and the possibility of peer-supported learning (especially valuable for older people).
 8. Make it clear: Ensure learners understand that the tutor's role is to support learners to locate health information online and signpost to useful resources, not to provide clinical advice.
 9. Embed digital health learning: For digitally excluded people who might not have otherwise identified a reason to get online, health and wellbeing can be the hook that's needed to encourage them - to get online. Make sure health learning is embedded into services other than IT classes.
 10. Develop partnerships with the local GP practice: Make sure GPs have a sound understanding of what the UK Online Centre can offer the referred patients.
 11. Privacy considerations: Think about how adequate privacy can be offered to patients when delivering in a healthcare setting.

More recently, Widening Digital Participation pathfinders have designed the following set of design principles for digital inclusion in health and care (NHS Digital, 2019):

1. Go to where people are
2. Work with the people who know them best
3. Co-design: from initial discovery phase to live service and beyond
4. Build solutions that fit into people's everyday lives
5. Use existing tools and resources wherever possible
6. Outcomes first, then digital
7. Watch your language.

3.3.2 Reboot UK programme key lessons

The evaluation of the Reboot UK programme (Good Things Foundation, 2017a) identified factors key to the success of the three trial interventions for health and care, including:

Peer mentoring

- Reboot UK's peer mentoring model is an adaption of the successful therapeutic model used most commonly in mental health. For this reason, peer mentoring interventions were particularly successful in mental health and homelessness services
- Peer mentoring creates an open and informal learning environment, through the sharing of skills, which facilitates learning for individuals with low confidence
- Volunteering pathways give vulnerable people progression routes after crisis points in their lives, providing a structure and purpose to beneficiaries' lives
- Peer mentoring provides a clear route back to employment and positive employment outcomes, for people supported through the programme
- The peer mentoring model has shown significant wellbeing benefits for individuals supported by it.

Shared practice

- The shared practice delivery model has helped to improve the capacity of organisations who are unable to provide digital skills support in-house, helping them to achieve positive outcomes for their beneficiaries by building sustainable partnerships
- The digital skills training and support provided by Reboot UK has provided a significant value particularly to specialist mental health services, contributing to recovery and integration
- Reboot UK has helped delivery partners with digital inclusion expertise to find new ways to reach and engage target audiences by adapting to their needs.

Home Access

- Home access has the potential to lead to significant impacts for individuals, as it allows them to reinforce digital skills with home learning
- The model is most successful where it combines digital skills training with device loans
- However, as home access requires the organisation of equipment loans, and in some cases home tuition, it is resource intensive and difficult to manage
- Because home access is so resource intensive, it has been difficult to implement across Reboot UK
- Evidence suggests that, despite its benefits, this model is best delivered by local practitioners where resources and conditions allow, and so it is difficult to scale.

3.3.3 Digital inclusion for health and care: lessons learned

More detailed exploration of the Widening Digital Participation and Reboot UK programme, as well as more general digital inclusion programmes and projects, identifies the following important lessons when engaging learners in digital skills and delivering digital skills training.

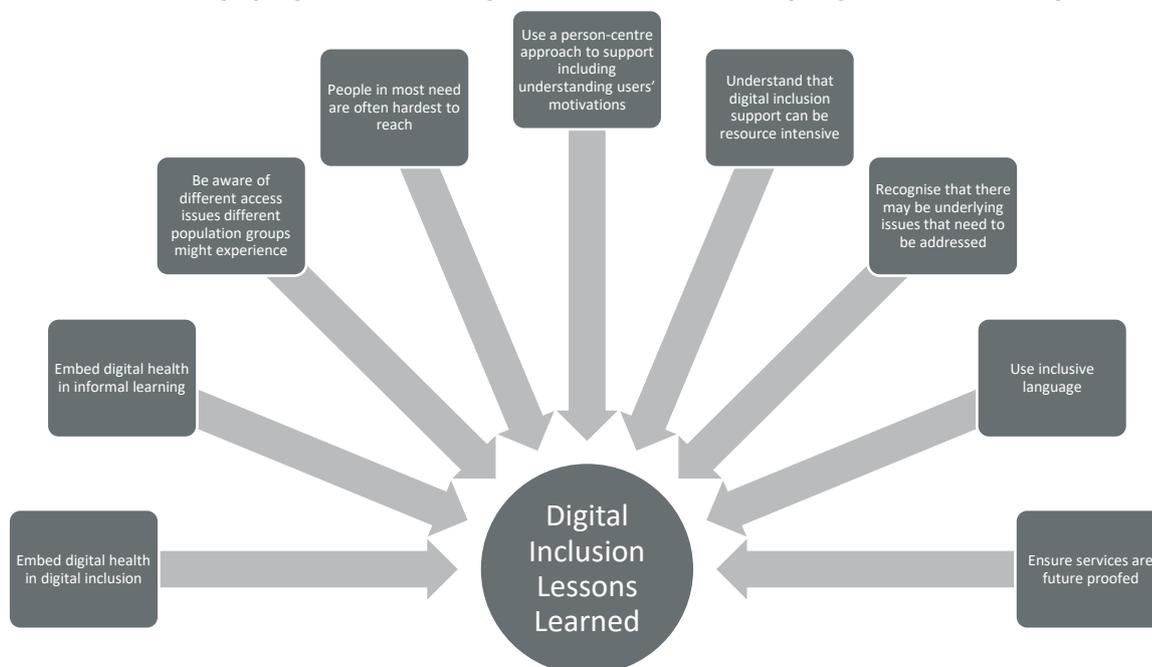


Figure 2. Digital Inclusion lessons learned

3.3.3.1 Embed digital health in digital inclusion

The Widening Digital Participation programme found the most effective model for the Online Centres involved in the programme was embedding digital health training into wider digital skills training (Tinder Foundation, 2016b). This included both structured classes and in less formal models of training such as drop-in sessions.

3.3.3.2 Embed digital health in informal learning

Some people may not feel comfortable going to digital skills classes, so an alternative is to introduce digital to existing non-digital group work or support sessions (Good Things Foundation, 2020).

The Widening Digital Participation programme found including digital health training in other non-digital activities such as English for Speakers of Other Languages (ESOL) provision or healthy eating and exercise sessions was a successful way to introduce online resources and tools (Tinder Foundation, 2016b).

From experience working with low income families the Good Things Foundation (2018d) recommend connecting with other services that work with families in the local area such as

nurseries, food banks, healthcare centres or libraries to see if sessions can be run with families' own tablets or smartphones.

3.3.3.3 Be aware of different access issues different population groups might experience

While cost and availability of broadband and kit remain a barrier to universal uptake of online resources (Tinder Foundation, 2015a) other access barriers may exist for specific population groups. For example, in rural areas access issues such as lack of fast broadband; inaccessible outreach venues due to distance, time of travel, cost of travel and poor transport network; and shorter library opening hours may prevent access (Tinder Foundation, 2015b). People with physical impairments often find travel and access to outreach venues particularly difficult (University of the West of Scotland, 2017). Homeless people may have devices such as mobile phone however issues such as battery life and phone contracts including data restrictions can make even the reliability of phones a challenge (Good Things Foundation, 2020).

3.3.3.4 People in most need are often hardest to reach

A rapid evidence review exploring interventions promoting digital inclusion conducted by the University of the West of Scotland (2017) highlights concerns that those in most need are often the hardest to reach. The review highlights analysis of data collected from Scottish CAB clientele that shows that users who were least proficient in ICT were also the least likely to take advantage of training opportunities whereas the most proficient also expressed the most interest in taking advantage of training opportunities.

The same review highlights work by doteveryone that suggests going hyperlocal is the most effective way of engaging the hard to reach (University of the West of Scotland, 2017). The Widening Digital Participation funded hyper-local UK online centres to support their communities to improve their digital health literacy skills (Tinder Foundation, 2016b).

3.3.3.5 Use a person-centre approach to support including understanding users' motivations

The Centre for Ageing Better (2018) recommends providers of digital inclusion support should take a flexible, person-centred approach to support taking time understanding an individual's personal circumstances, interests and needs. Digital inclusion needs to be meaningful and consistent with users' overall needs and motivations (University of the West of Scotland, 2017). Evidence collected as part of a realist evaluation of the Future Digital Inclusion (FDI) programme funded by the Department for Education (Good Things Foundation, 2019) found that the programme worked well for many learners because it provided support that was personally relevant and focuses on motivation. Delivery was based on understanding individual learners' needs and personal

circumstances, and on helping them to develop the motivation they need to become long-term, independent users of digital technology.

3.3.3.6 Understand that digital inclusion support can be resource intensive

Digital inclusion programmes have been found to be resource intensive. Experience from the Future Digital Inclusion (FDI) programme found funding levels were low to support those with the highest levels of need (Good Things Foundation, 2019). Where learners have low skills and confidence the resource needed was higher. Greater need for 1-to-1 support and overall support time correlates with factors including age, lower educational attainment, unemployment, and not speaking good English.

A report looking at approaches to supporting people in later life online (Richardson, 2018) suggests helping older people to get online requires intensive, tailored support, and an open-ended time commitment, especially for those experiencing low confidence and facing multiple barriers and disadvantages. The report warns against a false economy of short-term 'tasters' and 'one size fits all' courses as these could damage older people's motivation and confirm their assumptions that the internet is irrelevant. Richardson (2018) concludes digital inclusion for older people should not be about high volume, low cost-per-head programmes that focus on specific skills as measures of success, but on focused activities aimed at improving the motivation and perceived value that creates independent, self-guided learners.

Other resource considerations might include time and cost of travel. For example, in rural areas offering support can be costly with volunteers more likely to have to travel between venues or learners' homes (Tinder Foundation, 2015b).

3.3.3.7 Recognise that there may be underlying issues that need to be addressed

The University of the West of Scotland (2017) highlight that some digitally excluded people will have specific issues that must be addressed first (such as literacy barriers) in order for them to be able to make effective use of the internet.

Findings from a programme of digital inclusion for vulnerable young people across the UK found poor literacy skills compound the difficulties in acquiring digital skills and have the potential to be lost in the focus on 'digital by default' (Wilson and Grant, 2017). Sessions with lots of reading or writing including flip chart use was found to be a challenge and could disempower young people (Wilson and Grant, 2017).

3.3.3.8 *Use inclusive language*

Using language that includes 'digital' words can make services exclusive. Digital is a misunderstood term which can scare people and disengage them from the conversation (Good Things Foundation, 2018d). Instead language needs to be inclusive and understandable.

When trying to engage people the Tinder Foundation (2015b) suggests thinking about the interests and hobbies of the people you're trying to reach and base your activity around ways of engaging with these interests online (e.g. saving money or skills for business) rather than calling a session a 'computer class'.

Wilson and Grant (2017) recommend language used to recruit young people into digital projects and throughout the initiatives should be framed positively. They should not focus on the skills which they may currently 'lack'. Furthermore, key language related to projects should be tested with young people (Wilson and Grant, 2017).

From experience working with the homelessness sector, the Good Things Foundation (2020) warn against saying things such as "can you use the internet or your phone?" and instead recommend finding out what people like doing and what some of their daily challenges are; so that you can then think about how to support them to access and use the internet to help make life easier or develop their interest.

3.3.3.9 *Ensure services are future proofed*

The growing prevalence of mobile connectivity needs to be built into the design and provision of services and skills development interventions if they are to be future-proofed (The University of the West of Scotland, 2017).

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