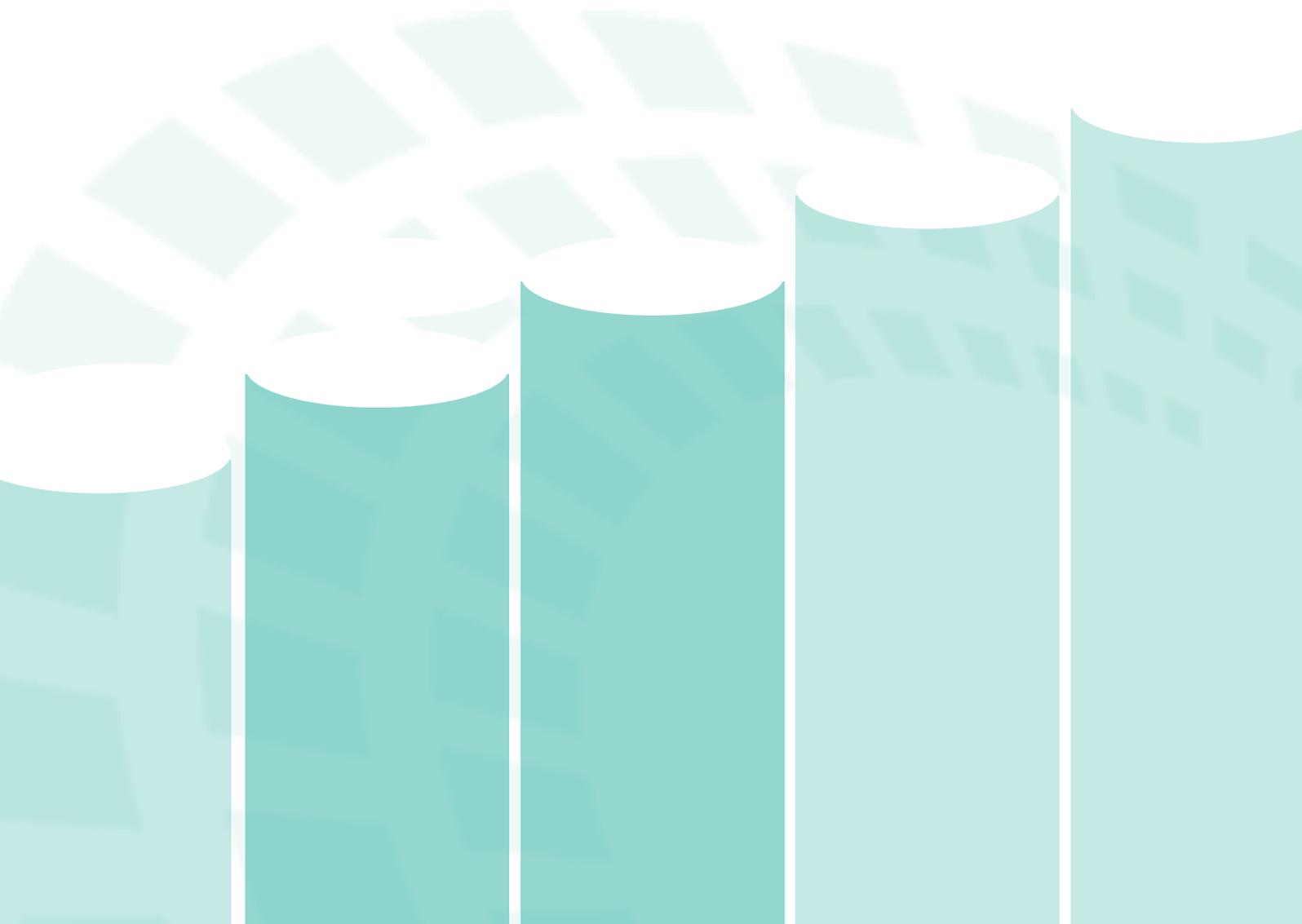# From pillars to practice

Devices and Connectivity

Pillars for Digital Inclusion in Digital Health and Care

In July 2023, The Digital Inclusion Programme published a paper - 'From pillars to practice: developing a framework for embedding digital inclusion in health and social care' (Slater and French, 2023). The paper shared a refined approach to digital inclusion involving five pillars: Motivation, Device, Connectivity, Skills and Confidence, and Inclusive Design. These pillars offer an evolving framework towards practical implementation of digital inclusion across health and care contexts, including implications for digital inclusion in practice in the design, development and delivery of digital services.

In the 'Pillars Papers' series, we explore each pillar individually to offer insights on definitions, approaches and implications for digital inclusion to stimulate dialogue across health and social care on needs and requirements for the person, the workforce and organisations involved in person-centred care.

Definitions: Digital inclusion and digital health and care

Definitions of both digital inclusion and digital health and care vary across different settings and perspectives. In the 'Pillars Paper' series, we use the following terms:

Digital Inclusion: is our collective responsibility to ensure that everyone can benefit from being online. In the context of digital health and care this involves responsibility of organisations to ensure that where people choose to engage in digital services, they are offered and have the support they need to access these as part of person-centred care.

Digital Health and Care: involves organisations across all sectors in Scotland (Health, Social Care, Social Work, Housing, Third, Independent, Voluntary, Unpaid Carers) who are contributing to and providing person-centred care through services, interventions and support. It involves everything from prevention and self-management to technology enabled care, and from care in acute settings to care at home and community support.

Digital Inclusion Pillars: Device and Connectivity

In this paper, we focus on the pillars of 'Device' and 'Connectivity' - as interdependent key requirements for digital inclusion.

	Device		Connectivity
As someone that's digitally excluded I need...	access to a device that is suitable for my needs (in a place I feel safe) so that I can do the things I want to do online;	and...	affordable and reliable connectivity in a place I feel safe.
As part of the workforce I need...	to work with the person to understand what type of device would best meet their needs and situation, and identify how access to a device can be provided;	and...	reliable connectivity in my place of work and to signpost/offer appropriate connectivity options to people I support.
As an organisation or service we need...	to create pathways and networks for the workforce so that they can identify and access appropriate devices for the people they support;	and...	to ensure reliable connectivity across the organisation and widespread information for signposting options.

Device and Connectivity requirements for the person, workforce and organisation (Slater and French, 2023).

Individual needs, purpose and situation

Access to a device and connectivity are key challenges for people who are digitally excluded (Lloyds Digital Consumer Index, 2023). Devices and connectivity involve cost and people often wrongly assume that everyone has access to a device. 'Access' involves the device itself (which is covered in detail later in the paper) but also 'where' access and connection are possible - for example, if people are accessing a device in a personal/private space, or whether access is through a community/shared space (albeit these spaces may have private options). Place of access has specific implications when supporting people to be digitally included in health and care settings to ensure the person can access a device and connect safely in a private space given the personal and confidential nature of conversation(s)/intervention(s) involved.

Different types of devices available are available (e.g., smartphones, tablets, laptops etc.) and these continually evolve in their design, functionality and operating system developments. Preferences and requirements may vary for devices, meaning that access to a device does not necessarily equate to someone being digitally included. For example, around one in five adults only use a smartphone to go online, which can severely impact some online tasks

such as completing forms (<u>Ofcom Adults' Media Use and Attitudes, 2023</u>). Devices should meet people's individual needs for how they choose to use and interact with the device, for any core purpose or situation which the device needs to support. Individual needs may also involve ensuring accessibility requirements where additional features or accessories can support use. When supporting people to access digital services in health and care settings it is important to consider the interactions and/or interventions involved in the service and if/how it can be delivered on different types of devices. The type of device used may impact engagement and the online experience of the digital service. Some devices offer more flexibility for the type of interaction/intervention, e.g., devices with a larger screen may be more beneficial for interventions that involve detailed information. However, people may feel more comfortable using a device they have already used or one which feels familiar because it uses the same operating system so the interface and user experience are recognisable. Understanding what is important to the person around their device use in relation to the digital service can help ensure access to the appropriate device that will meet their need.

Infrastructure implications of devices and connectivity

Seven percent of adults in the UK do not have home internet access, and a quarter of these cite affordability as the reason (Ofcom, Online Nation, 2023). For those aged 65+, 18% do not have home internet access. Low-income households, especially those with capped data allowances, need to budget their connectivity and this will impact on their ability to engaged with digital health and care interventions. Organisations need to be mindful that for individuals on a capped data allowance, digital delivery can come at a financial cost if they need to top-up to access the support. In 2023, around 4 million people in the UK have made more use of public Wi-Fi to save using mobile data. (Lloyds Consumer Digital Index, 2023)

The need for affordable and reliable connectivity is a growing concern as health and care services become increasingly digitised. For some individuals, the connectivity required to access support represents a financial burden, costing money to access public services. For others, the lack of connectivity infrastructure renders digital options inaccessible.

Understanding the burden of poor or zero connectivity is an important consideration for any health or social care provider delivering services digitally. The responsibility to address connectivity issues should be understood as a spectrum and should reflect the extent to which an organisation relies on digital for service delivery.

Poor connectivity infrastructure can impede someone's ability to engage with digital services. This is most acutely experienced in remote and rural areas, where connectivity issue impact digital access to health and care. In some cases, a complete absence of broadband infrastructure creates a reliance on mobile connectivity, which can also be extremely limited in remote and rural areas.(See, for example, Scottish 4G Infill programme, and R100)

The quality of connectivity can also present a significant barrier, especially for remote video calls. Poor or intermittent connectivity can create a frustrating user experience, with the potential for calls to terminate mid-session. For individuals with no or low digital skills, this can erode their trust in digital services. Services should consider how poor connectivity might impact on people and ensure that this does not delay or restrict access to support, e.g., being placed back at the beginning of a waiting list for in-person support after experiencing connectivity issues.

Enabling access and supporting device use

Helping someone access or confidently use a device has not traditionally been included in role descriptions for many health and social care practitioners. However, having access to a suitable device and being able to use it is an essential enabler to access digital health and care services. It can be helpful to reframe this as making digital services more accessible. For example, there is a better understanding of how physical spaces can be adapted to support accessibility, but this has yet to be translated to how we can improve accessibility for digital services across the landscape of health and care.

There are different approaches to how digital inclusion can be embedded in core health and social care service delivery. In relation to devices, the broad spectrum of approaches can extend from signposting, to device access schemes provided via other organisations, to investing in a dedicated pool of devices for loan. The level of support provided to assist someone to access a device, or confidently use their own to access a service, will vary, but it is essential that a universal minimum standard can be expected from any digital health or care service. Different approaches will require different levels of resourcing, which may be justified by a business case with a cost/benefit analysis.

For some people, they may already have a suitable device, but they are unsure of how to get started. Foundation Digital Skills are the core skills required to set up and navigate a device e.g. logging into a device, connecting to Wi-Fi or opening an app. In Scotland, 15% of working-age adults do not have Foundation Digital Skills (Lloyds Consumer Digital Index, 2023).

An investment in workforce time to help an individual set up their device and learn the basics can be a key motivator towards someone engaging with digital services. For example, someone would be shown how to use an inhaler so that they are able to confidently use this on their own. A prerequisite for engagement in digital services is a digitally confident workforce, built on an understanding of the digital landscape in which many services are now delivered.

The scope of support provided should be determined by the organisation's reliance on digital for service delivery, where heavier reliance requires greater responsibility to invest in the necessary time and resource to help individuals access and use a device. No service is exempt from this given that awareness and information regarding services may be held online. The service may also be a point of signposting to other resources and supports available in online formats.

Device accessibility

For many people, device use can be restricted due to visual, auditory, cognitive or motor impairments. This can make some digital health and care options difficult or impossible to use where these have not been designed inclusively. Most devices come with a range of in-built accessibility features that can support greater use of digital tools and services. These settings might include text-to-speech, screen readers, screen colour settings, or magnifiers. A workforce that is aware of the range of different options can make a huge difference to someone's online access and experience of digital services.

In addition to accessibility software, there are considerations around hardware. This might be a consideration of which type of device is best suited to an individual's impairment or the need for additional equipment to aid use, e.g., a protective case to make holding a tablet easier, a tablet stand, or a stylus.

Awareness of organisations who can provide support is important, for example, support can be accessed from specialist organisations such as AbilityNet which provide a free helpline and a My Computer, My Way portal to make devices easier to use.

Device security and updates

Data security can be a significant concern for both individuals and the workforce, and this can be further exacerbated when considering the sensitive nature of our health and care information. Understanding device security can help individuals feel more confident to engage in digital health and care and contribute to a safer online experience. There is a role for the workforce to understand the importance of device security to help build trust and empower people accessing support to have safer online experiences.

Software updates are essential to ensure that devices are protected from new and emerging malware. Updating to the latest version of an operating system can also ensure that people can access apps, which can stop working if the device operating system has not been updated and is not compatible with the latest version of the app. Likewise, this can also happen if apps are not updated to the latest version. This can result in frustration and disengagement, as these apps may stop working for no apparent reason. Auto-updates can be helpful for keeping on top of device security, however, sudden and unexpected changes to the visuals or functions of a device or app can be unsettling for someone with lower digital skills and confidence.

An example of the importance of device updates can be found in the use of Near Me. Near Me, powered by Attend Anywhere, is no different from any other digital platform in that it has minimum requirements for both the browser version and the operating system version. Someone with low or no digital skills will struggle to understand the implications for not meeting these requirements. Additionally, there are further device permissions requirements around the camera, speaker and microphone. Information leaflets (in accessible formats) can provide guidance for people so they can test equipment prior to a call.

Technology enabled care

Technology enabled care (TEC) - like telehealth, smart speakers, wearables, and remote monitoring - can support an individual's health and care. While some of these options (e.g., telehealth) rely on third-party support, many can be used for self-management. In the context of digital inclusion, the requirement for TEC (e.g., wearables or remote monitoring) to be paired to another device should be considered. In practice, this means assessing whether someone has a suitable device (e.g., smartphone or tablet) that they can use to interface with their TEC.

The Public Switched Telephone Network (PSTN), which uses copper wires, will be underlineswitched off/underline by the end of 2025 in favour of new digital phone lines. Similarly, the 3G network will also start to underlineswitch off/underline from early 2024, which will impact any digital device that isn't 4G/5G compatible. Both switch offs will impact older telehealth systems that still rely on traditional copper wire phone lines of the 3G network.

Understanding data usage

How much data does a 60-minute video call use? It depends. There are many different factors that impact data usage e.g., resolution, video quality, the platform being used, and the number of people on the call. With unlimited data this is not a problem, however with data limits, it is something that many people need to consider before they can decide if they can afford to engage. Simple actions like supporting someone to reduce the quality on a video call (where appropriate for the interaction/intervention) or not relying on video content on websites for information delivery can make a difference in reducing the cost of access.

Device and connectivity models

It may not be a widely held view that organisations providing health and care services occupy a role in supporting access to digital devices and connectivity. However, the continuing evolution of our reliance on digital technologies to support health, care and wellbeing outcomes means that organisations providing digital services assume a degree of responsibility for digital inclusion. There are different options that organisations can explore, and this will be driven by the nature of the service and the available resources. The most appropriate model should correlate with the reliance of technology in service delivery, the device needs of the individual, geography/place of access, other available resources and the duration and intensity of the engagement/service interaction.

1 Signposting

As a minimum, understanding the different pathways and signposting options for access to devices and/or connectivity is required. This can be a simple mapping exercise undertaken by the organisation to identify options available (in the local area) to signpost an individual to for device and/or connectivity access.

The workforce should be briefed appropriately on these options and equipped with the information required to discuss these options with people they support. Signposting may be the most appropriate option in services that already have considerable time constraints, short-term engagement, minimal reliance on digital, and parity of in-person options.

For example, connectivity signposting might include initiatives like the National Databank from Good Things Foundation or making people aware that they could be eligible for broadband social tariffs (although social tariffs are still unaffordable for many households).

2   Public Access

Public access options with secure connectivity, such as community hubs, can provide access for individuals who do not have their own device or connectivity e.g., Tech Hubs in Scotland. In some cases, the home may not be the most suitable location for privacy, depending on a person's living arrangements and household composition. In the context of digital health and care, this should be considered in light of privacy and security of sensitive personal information and dependent on the type of interaction/intervention involved. Public access options should have:

- Private spaces so that individuals have the confidence to engage openly and safely with their health and care support.
- Dedicated support in using devices and connecting to the internet, given that individuals with no home access to the internet are more likely to have lower digital skills and confidence.
- Secure connectivity to minimise the risks associated with public Wi-Fi and data being compromised.
- Mobile Device Management (MDM) and policies to manage the use of shared devices and to protect user data.

This model may meet some needs, but not all (e.g., opening time availability). Individuals who rely on readily available access to digital health or care support would more fully benefit from access to their own device at home. The public access model can work in both a community or a residential setting, e.g., Connecting Residents in Scotland's Care Homes.

3 Lending Library

Lending libraries offer an opportunity for an individual to take a device home for their own use for a short period of time, usually around 6 months. This approach can help introduce someone to digital health and care before they commit to buying their own device or offer a short-term solution for someone who does not have the financial

recourse to buy their own device. Where necessary, a device loan should also be provided with connectivity e.g. a Mi-Fi device with sufficient data.

For organisations, there is a resource commitment to buy the devices and/or connectivity, and to managing the administration and data wiping process. This approach can offer a more sustainable option than gifting models as it can support multiple people over the lifespan of the device.

A decision would need to be taken at an organisational level as to whether MDM would be beneficial. The benefits of MDM include the ability to limit access to restricted or inappropriate online content, manage device updates and security, and remotely wipe the device if it is lost or stolen. Conversely, the use of a managed or 'monitored' device may act as a barrier for some individuals to trust or make full use of the device. This may be a particularly acute concern in the digital health and care context.

Lending libraries can be administered from a community hub or from within a residential setting or hospital. This model may be most appropriate when delivering time-limited support or interventions e.g., a six-week group programme.

4   Gifting

A gifting model provides a device and/or connectivity to an individual as their own. Gifting models became popular during the Covid-19 pandemic, with national programmes such as Connecting Scotland using this model to meet needs. In a gifting model the device and/or connectivity is given to the individual to keep, and MDM should not be used.

Pre-paid data sim cards can be provided as part of a gifting model, to be used in either a smartphone or in a mobile Wi-Fi (Mi-Fi) device. Organisations can acquire pre-paid data sims through retailers, or for free as a member of the National Digital Inclusion Network by Good Things Foundation or through schemes like Vodafone's Charities Connected campaign (for charities only). Pre-paid data sims do have limits on data allowance, so an alternative used by some organisations is the provision of unlimited data through managed contracts.

Gifting may be the least financially sustainable model, but it does meet a specific need e.g., people at risk of harm from using drugs have benefited from this model to provide access to smartphones and unlimited data in Digital Lifelines Scotland. Gifting models might be considered when an individual would benefit from 24/7 access to digital health and care support. This is particularly relevant as managed devices can represent monitoring and surveillance of activity, limiting how freely someone might use it for personal or sensitive matters.

5 Housing providers and residential settings

Housing providers have a unique opportunity to provide digital inclusion support given that home internet access is lower for social rented housing (80%) than it is for people who own their homes (94%) (Scottish Household Survey, 2022). An investment in mesh Wi-Fi systems can create better opportunities for free or reduced rate access to connectivity living in social housing. Similar approaches can be deployed in care homes, sheltered housing and other residential settings, paired with a device access model.

Sustainability considerations and embedding digital inclusion

Models of device and connectivity support have implications for sustainability and continuation of digital inclusion support for people accessing digital health and care. Sustainability of connectivity involves cost and the need to prepare for when contractual arrangements end. Losing connection after having been able to connect online

can be like facing a 'cliff edge' for people when that connection may have brought a much needed lifeline. Prioritising digital inclusion in the organisation as part of strategy, policy, and across the workforce, supports embedding of approaches across service delivery and the planning required to ensure sustainability of digital inclusion support.

Workforce considerations

Workforce considerations have already been touched on. Health and social care practitioners are well-placed to engage in conversations with people accessing support about their device and connectivity requirements. In the context of digital health and care delivery, this conversation should be included as part of any initial assessment of needs. This can help identify if the individual has the access they need, or if they would benefit from further support - consistent with assessments and support for other interventions.

The role played by individual practitioners across health and social care sectors will vary when it comes to devices and connectivity. In some services, which rely heavily on the use of digital, it may be expected that the entire workforce is digitally confident (e.g., services providing digital therapies). The 'ask' might be to support some basic

device problem-solving around Foundation Digital Skills e.g., connecting a device to the internet, demonstrating accessibility settings. For other services, there may be designated roles that support this work e.g. Care Technologists model from Scottish Care. Regardless of the roles assumed, practitioners may be confronted with a digital challenge during service delivery that could be the difference between someone engaging with a service or not.

To help unlock the 'devices and connectivity pillars' of digital inclusion the workforce across the landscape of health and care sectors need:

- An understanding of how devices and connectivity are essential for access to digital health and care, and may present financial barriers to support for some people.
- Processes that enable them to assess the digital needs of the people they are supporting.
- Clear pathways to signpost or refer people who do not have access to a suitable device or connectivity.
- Foundation digital skills so that they are confident with the basics of using a device.
- Clear pathways to signpost or refer people to support for more challenging or complex device setup issues, or where basic support is not possible within the organisation.
- Access to their own workplace devices and connectivity to assist in digital service delivery.

Organisation considerations

At an organisational level, there are various considerations as to how digital inclusion can be embedded. This should be underpinned by a strategy or policy, regardless of the level of responsibility an organisation has to digital inclusion. Key actions that will be universal for all organisations include:

- Cost/benefit analysis of providing a device and/or connectivity, versus in-person delivery (for those that choose digital delivery).
- Mapping services that are being delivered digitally against the optimum device for each service to establish a baseline understanding of user requirements.
- Establishing an estimate of how much data someone is likely to use to access the digital intervention and what this means in financial terms for someone paying for a data allowance.
- Deciding on the model to be used to support device and connectivity access.
- Partnership working with local stakeholders to build a coordinated approach to digital inclusion.
- Processes to empower the workforce to discuss and assess the digital needs of people they support.

- Recognition of the initial time commitment for the workforce to support someone to access and set up their device, where appropriate.
- Support for the workforce to build their Foundation Digital Skills to confidently use different devices.
- Access to appropriate devices and connectivity for the workforce to be able to deliver care digitally, recognising that the health and social care workforce are also impacted by digital poverty.

Organisations that rely more heavily on digital delivery will have additional considerations:

- Device procurement channels, and the availability of refurbished devices from community-based projects that are more affordable and help reduce e-waste.
- Policies on data privacy and data cleansing, if applicable.
- Dedicated ICT support for device setup and MDM, if applicable.
- A dedicated Digital Coach, or similar, to help individuals get started in using a device.
- Administrative support to manage any processes for device allocation or lending.
- Procurement channels and resourcing for unlimited data sims.
- Creating private spaces in public access hubs.

Scenario: Devices and Connectivity in practice

The following scenario involving a person accessing support, a digital worker and a Health and Social Care Partnership, highlights the considerations and implications of 'devices and connectivity'.

'My income makes it difficult for me to be able to get online, I'm unemployed and have no qualifications, and I didn't have a way to get a phone or laptop. I have depression and suicidal thoughts, as well as chronic pain. I don't really feel like anything better is possible sometimes, but I wanted to be able to connect with other people.

When I was getting discharged from the hospital a support worker was able to connect me in with the digital project and I now have a tablet. It's a really good size for me for what I'm wanting to do and easy to use. The digital worker helped me get set up with the device and spoke with me about what I wanted to be able to do online. They also showed me different options and helped me be able to do virtual counselling. I now go to the drop in group and have met some new people so I'm finding my confidence. When I'm ready, the digital worker has said I can borrow a laptop which might be easier for me for things like forms as I'd like to look at courses through the local college.'

# Scenario: Devices and Connectivity in practice

'I'm employed by the local Health and Social Care Partnership as a digital worker in our community hub. I met Barry when he was discharged from hospital and his support worker made a referral. The support worker identified that isolation and loneliness was an issue for Barry, so we were able to gift him a tablet. I helped him set it up and we installed some streaming apps and games together.
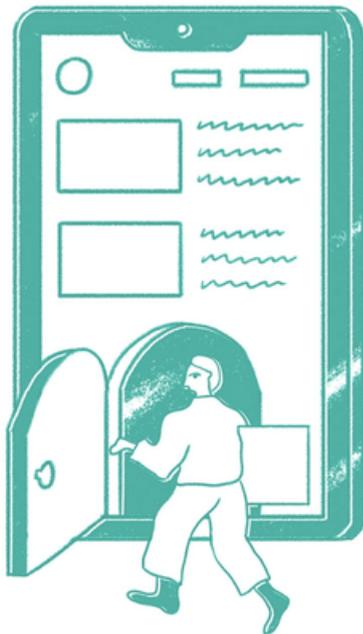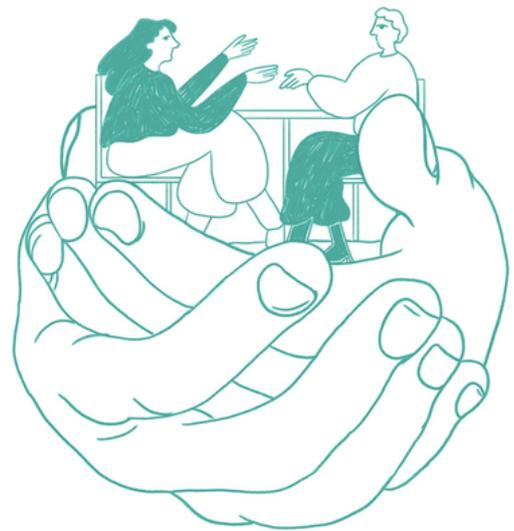
Initially, he was reluctant to take the tablet and was afraid of breaking it and having to cover the costs. I talked him through our gifting model and explained that the tablet was his to keep. I also got him a protective case for it. More recently Barry has turned his thoughts to apply for a college course, but he finds it hard to do writing tasks and attaching files on his tablet. When he's ready, we will be able to lend him a laptop from our device library to help him while he studies.'

Scenario: Devices and Connectivity in practice

'Digital inclusion is a priority for the mental health support service with the Health and Social Care Partnership having recently updated their strategic plan to include a commitment to inclusive service design and digital access.
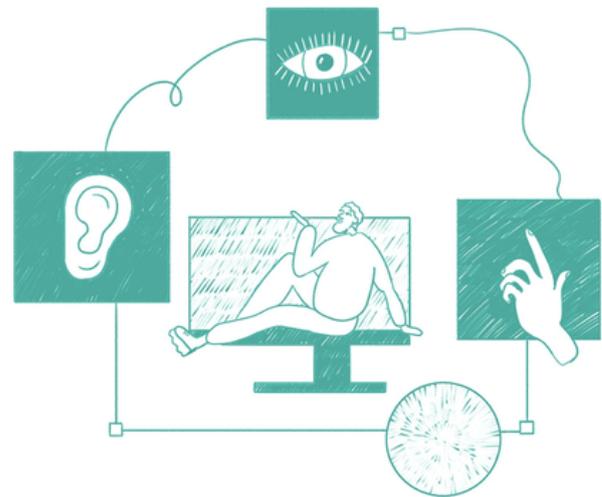
In partnership with another local community-based service there are different options to provide device and connectivity access support to people – a gifting model where people who are accessing the service and have no means of device access are gifted a tablet – and a device library scheme operated by the mental health support service who are able to loan a range of devices to the people they support based on specific outcomes they are working towards as part of their care plan. Access to device and connectivity options are included as a core part of service induction and training, with updates and reminders of the device models available provided regularly to staff through newsletters and awareness raising.'
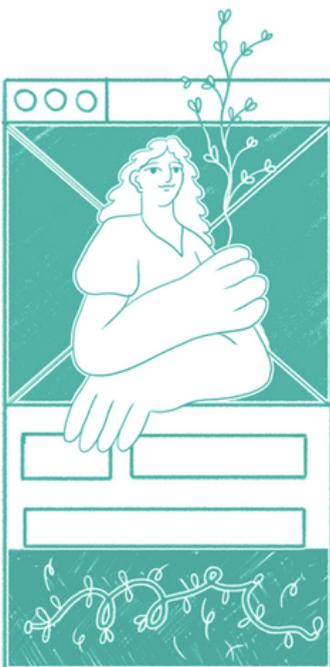
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