Health Innovation
Kent Surrey Sussex

Part of the
Health Innovation Network

Office for Life Sciences

NHS

Digital Inclusion and Health Inequalities: introducing the Sussex Digital Inclusion Framework for Health and Care

Kath Sykes

Transforming lives through innovation

Digital health and care

Digital health and care has the potential to empower people to manage their health and care better, and also improve clinical outcomes, effectiveness and efficiency across the health and social care system.

Yet despite its potential benefits,

the introduction of digital health and care solutions risks excluding the most vulnerable and highest need population(s) and perpetuating or exacerbating health inequalities.
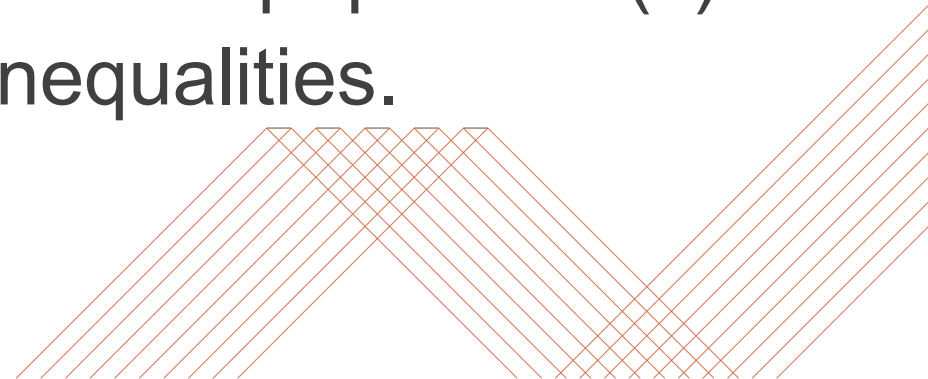
The challenge for health and care

Millions of people in the UK are unable to access essential services digitally for a variety of reasons.

And, we don't know who is being excluded, underserved, where they are, or their health status.

What is digital exclusion?

Digital exclusion refers to the lack of access, skills and capabilities needed to engage with devices or digital services that help people participate in society. https://phw.nhs.wales/publications/publications1/digital-technology-and-health-inequalities-a-scoping-review/

In health care, additional factors that are not relevant to other online interactions can contribute to digital exclusion, for example, privacy, … and in addition…, the health and care system is one of the most difficult organisations to navigate (Kings Fund 2023)
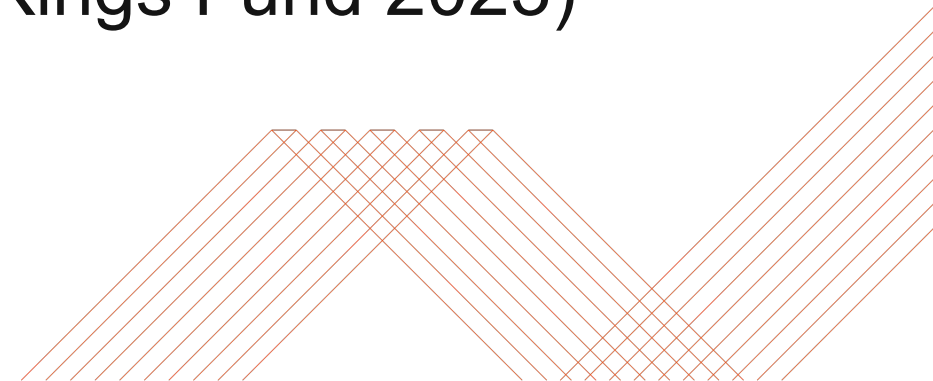
DIGITAL NATION UK 2023
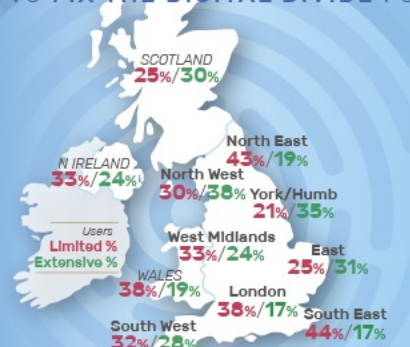
FACTS & STATS TO FIX THE DIGITAL DIVIDE FOR GOOD

UK DIGITALLY EXCLUDED

10.2m LACK THE MOST BASIC DIGITAL SKILLS

5.8m People digitally excluded in 2032 without action

1 in 14 UK households have no home Internet access

2.5m UK households struggle to afford fixed broadband

UK DIGITALLY INCLUDED

32.6m HIGHLY ENGAGED USERS

£9.48 ROI FROM BASIC DIGITAL SKILLS SUPPORT

30m NHS APP USERS

UK Map — Users Limited % / Extensive %

SCOTLAND 25%/30%

N IRELAND 33%/24%

North East 43%/19%

North West 30%/38%

York/Humb 21%/35%

West Midlands 33%/24%

East 25%/31%

WALES 38%/19%

London 38%/17%

South West 32%/28%

South East 44%/17%

Users Limited % / Extensive %

▼ Compared to EXTENSIVE USERS ▼

NON-USERS are...
- 2 x more likely to have a disability or health condition
- 12 x more likely to be over-65
- 46% non-users asked someone to go online for them

LIMITED USERS ARE...
- 5 x more likely from low income households
- 6 x more likely to be over-65
- 74% mixed ethnicity and Black internet users faced potential online harm in the last 4 weeks
- 20% unemployed people can't do any essential workplace digital tasks

REASONS PEOPLE ARE NOT ONLINE

- 20% It's too complicated
- 70% I'm not interested
- 20% It costs too much

TRUST

MOTIVATION

Middle section

1m lose broadband access in cost of living crisis

77% believe Internet access is now an essential need

essentials can cost 25% more without internet access

27% low-income adults only go online by smartphone

2.3m young people rely on mobile data for internet access

5% of households on Universal Credit took a social tariff

68% community hubs need more devices for digitally excluded people

ACCESS

SKILLS

CONFIDENCE

76% support Government Investment in digital skills training to address digital exclusion

NATIONAL DATABANK

NATIONAL DEVICE BANK

NATIONAL DIGITAL INCLUSION NETWORK

BENEFITS OF GOOD THINGS

- 94% felt their digital skills improved
- 92% felt more confident
- 86% felt more able to stay safe online

Learn My Way

Better for business 41% of UK workforce can do all 20 essential workplace digital tasks.

Better for the planet 90% of CO$_2$ emissions could be saved by reusing smartphones.

Better for the UK £13.7bn benefit to the economy for fixing the digital divide.

BENEFITS OF BEING ONLINE

I'm happier 77% say the internet helps them connect with family and friends.

I'm better off Manual workers with high digital engagement earn £5K more a year.

I'm saving People with high digital engagement save £659 more a year.

I'm healthier 78% say they use the internet to support their wellbeing.

Good Things Foundation

#FixTheDigitalDivide

People who are more likely to be excluded

- Older people, especially people over 75 years old

- People in socio-economically disadvantaged groups, such as people that have lower incomes or who are unemployed, and people in insecure housing

- Socially excluded groups, including people experiencing homelessness and people seeking asylum, people in contact with the justice system

- Disabled people and people with life-impacting conditions

- People living in areas with inadequate broadband and mobile data coverage – more likely in rural and coastal areas

- People for whom English is not their first language.

- People with lower educational attainment and lower literacy

Digital inequality

Digital inequality is linked to a range of different intersecting and compounding inequalities.

For example, for internet non-users, a large proportion across all age groups, have a disability. Further, amongst those who are not online they are not just older, they are also likely to be in worse health, poorer and less well educated than their peers: 71% of those offline have no more than a secondary education, and nearly half (47%) are from low-income households. DIGIT

Once the poor are online, they seem to be included at a disadvantage. 3.3 million households with the lowest incomes in the UK are spending, on average, over 4% of their disposable income on fixed broadband. This is nearly four times more than the proportion of an average household.
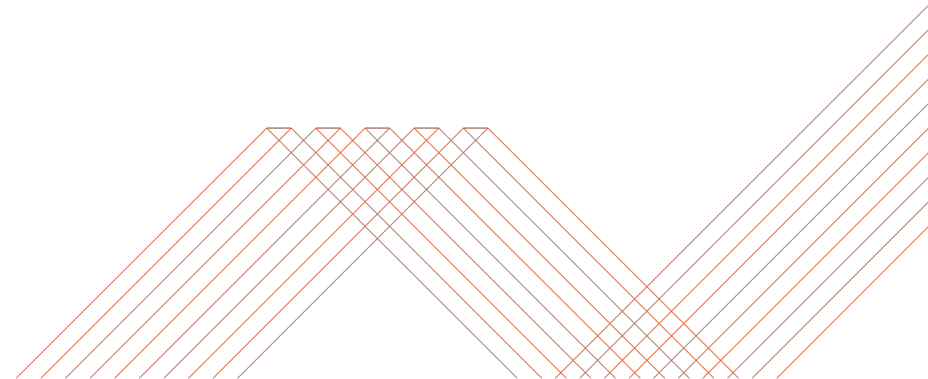
Digital inclusion is a social determinant of health
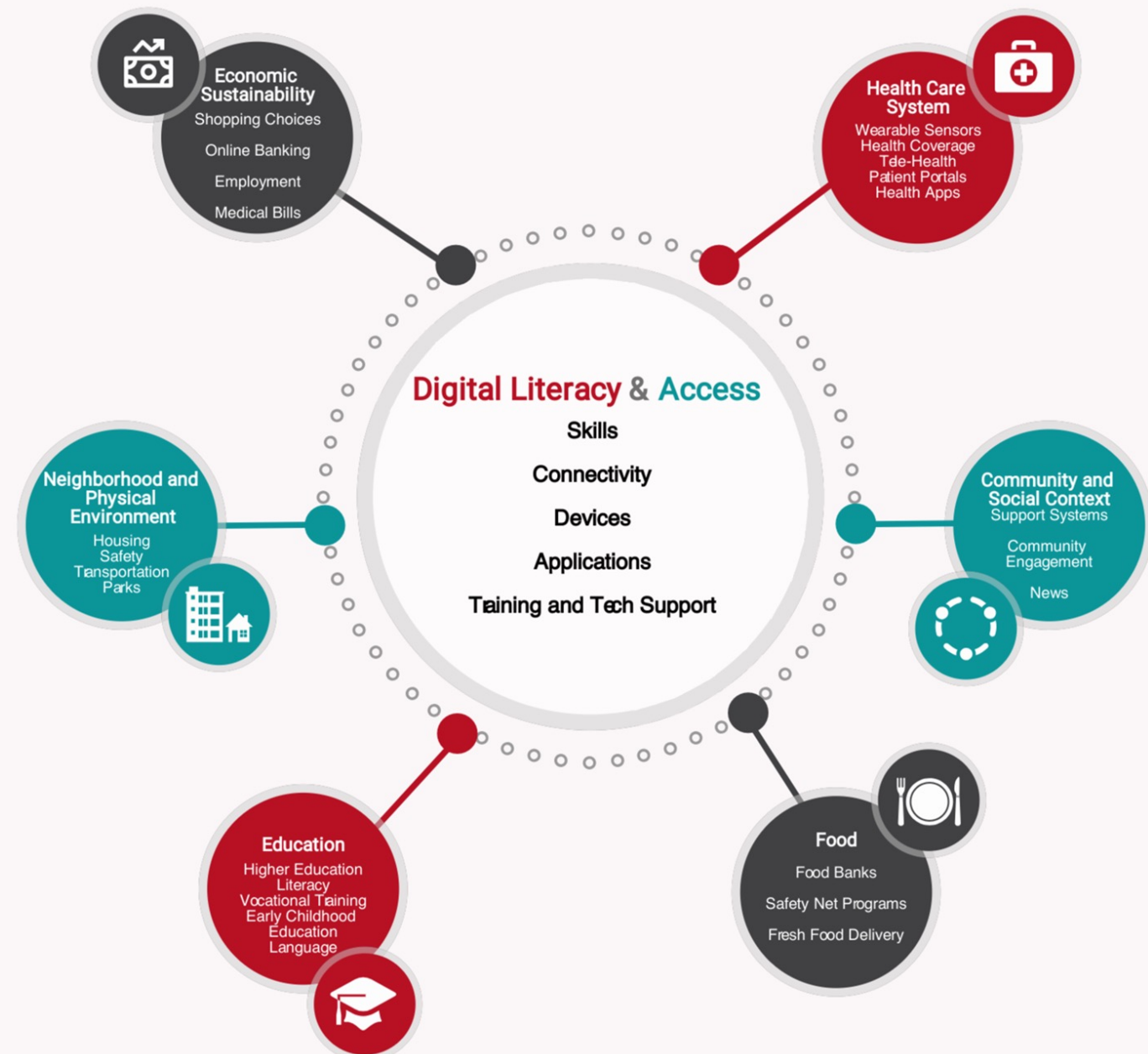
Potential impact on health and care:
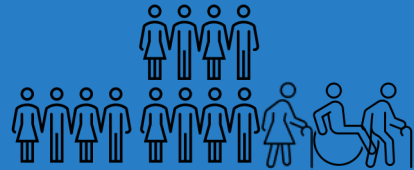
?80% population digitally included? If so, they are likely to be younger, healthier, richer

? 20% of Health and care system demand

20% of population digitally excluded?

? 80% of health and care system demand

Digital Access in the UK 2023

- 1.7 million households had no broadband or mobile internet access in 2021
- 1 million people have cut back or cancelled internet packages in the last year (2023)
- 2.5 million people are behind on their broadband bills
- 53% of people offline can't afford an average broadband bill
- 26% of young people do not have access to a laptop or similar device
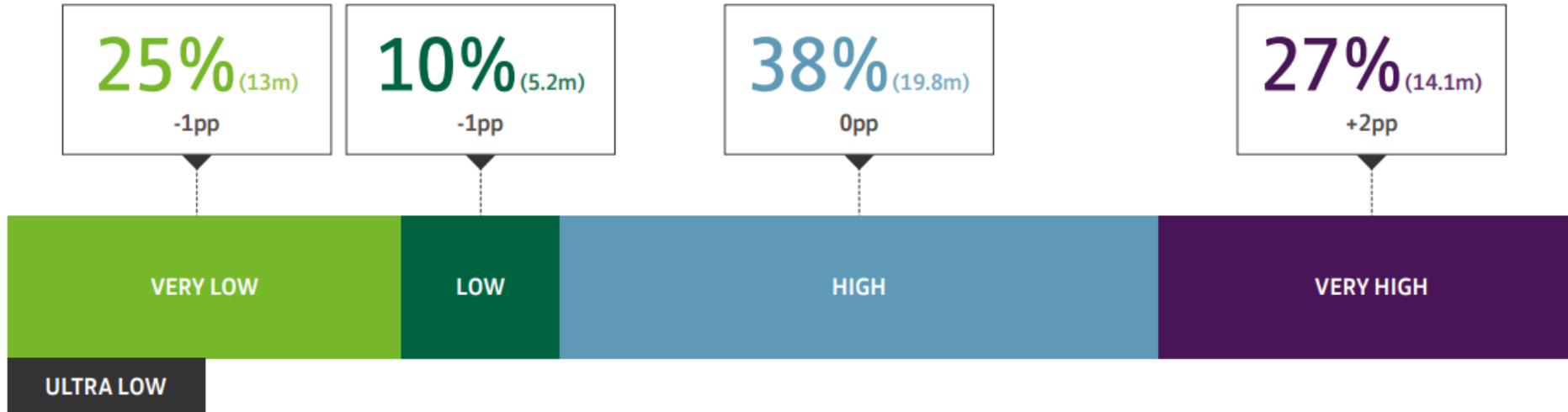- 65% of adults over 65 use a smart phone (2021)

BUSINESS

The digital divide is wider than ever during the cost of living crisis

Families can lose £286 a month on average if they do not have access to the best deals and prices online

However Internet Access does not necessarily = digital inclusion focussing on this figure obscures the extent of digital exclusion and the further barriers internet users may face once they have access (DIGIT). Old tech, broken tech, limited/restricted use……

https://ukparliament.shorthandstories.com/digital-exclusion-comms-digital-lords-report/index.html?utm_source=committees.parliament.uk&utm_medium=news-referral&utm_campaign=digital-exclusion-comms-digital-report&utm_content=launch-news-story; https://digitalpovertyalliance.org/news-updates/tackling-digital-exclusion-cost-living-crisis/; https://www.statista.com/statistics/300402/smartphone-usage-in-the-uk-by-age/ ; https://digit-research.org/data_commentaries/measuring-digital-exclusion/ https://www.standard.co.uk/business/the-digital-divide-cost-of-living-vodafone-b1044913.html

Digital Skills in the UK 2023

25% (13m)
-1pp

10% (5.2m)
-1pp

38% (19.8m)
0pp

27% (14.1m)
+2pp

| VERY LOW | LOW | HIGH | VERY HIGH |

ULTRA LOW

13% (6.8m) Ultra Low are a subset of the 'Very Low' with the lowest digital engagement score of 0-5.

6.8 million people (13%) have Ultra Low digital skills

Of those in the 'Ultra Low' group four years ago, 60% have remained in that segment ever since vs. 45% of the rest of the people in the very low digital segment, indicating it is harder for those people with the lowest digital behaviours to improve their digital engagement.

Figure 6. Those in the Ultra Low digital segment are most likely to be:

In older age groups
Over two thirds of 'Ultra Low' are over 70 compared to one third of 'Very Low' and 'Low' groups.

Earning lower incomes
Almost three in five (59%) earn up to £20,000 per year.

Female
14% of females are in this segment vs. 12% male.

https://www.lloydsbank.com/assets/media/pdfs/banking_with_us/whats-happening/231122-lloyds-consumer-digital-index-2023-report.pdf

Additional complexity in health and care
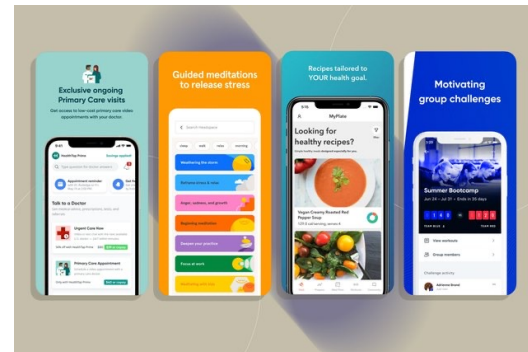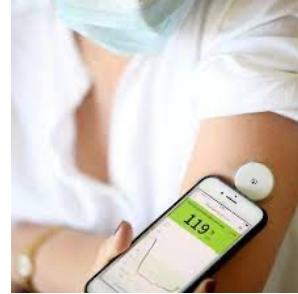
Personalised health care records

NHS app

GP access

Smart phone text messaging/ **emails**

Virtual consultations

Virtual monitoring, BP, Sats, ECG, wards

Apps- various- incl. long term conditions, MSK, well being

Personal monitors (fitbit etc.)

+++

It's not just about individual technology

It's also the pathway around it, and all the other pathways people are expected to engage with.

Fred is 80 years old, he only receives the state pension, and is in increasingly frail health. Fred has COPD, hypertension, a tremor. He's been falling recently, and has a COPD exacerbation that could be treated on the virtual ward.

To fully benefit from digital health and care, Fred would need a smart phone or computer, internet access, and typically Fred will need to navigate:

- GP website (appointment)
- NHS app (repeat prescriptions)
- A separate link for an online consultation at GP
- My health and care record (letters and results)
- Text messages, a BP monitor to record his own BP, and the confidence, literacy, numeracy, and dexterity to upload his results.
- An app for managing his COPD
- A different app for strength and balance support
- A different BP, sat monitor, and virtual consultation platform for virtual wards

Some of what we've heard:

I can get so far and then something goes wrong. I don't know how to move forward. I have to start all over again. **Often I give up**

Its already too **complicated**- I have 4 different apps in place just to access my GP

Even though I live with this condition every day, I **don't always understand the information** the app is telling me

I didn't know the NHS app existed. It is amazing for repeat prescriptions, so convenient. But how do people get to know about this?

Sometimes I **want to see my doctor**/nurse/HCW

There is n**o way to feedback** about how a technology works

My mobile is old, and software **updates don't always work** on it

Touch screens are really tricky, my tremor means **I press the wrong button**

The in person help was really helpful- I couldn't have done this on my own

For some things you need two technologies, one to authenticate who you are

Can I really trust this- I want feedback that someone has looked at the data?

When I am unwell or stressed **the last thing I can do is learn something complicated and new**

All technologies need to **interoperate with assistive technology or I can't use them.**

Some local context:

I help support a group of over 400 older adults living alone in Sussex. We have to send about half of them letters if we want to share information, they don't have/use mobile phones or email. (Volunteer)

Our practice held a menopause workshop, and none of the 8 women who attended were able to access the online resources. (GP)

I estimate 50% of our patients do not have smart phones or access to the internet (GP)

Everyone is at risk of digital exclusion

Everyone is at risk of digital exclusion over their life course, including health and care workforce and informal carers.

As a result, all digital health and care services, pathways, and technologies must be designed to be as inclusive as possible by considering the diverse and complex factors that can lead to individuals being temporarily or permanently excluded from digital health and care.

Statutory duty to reduce inequalities
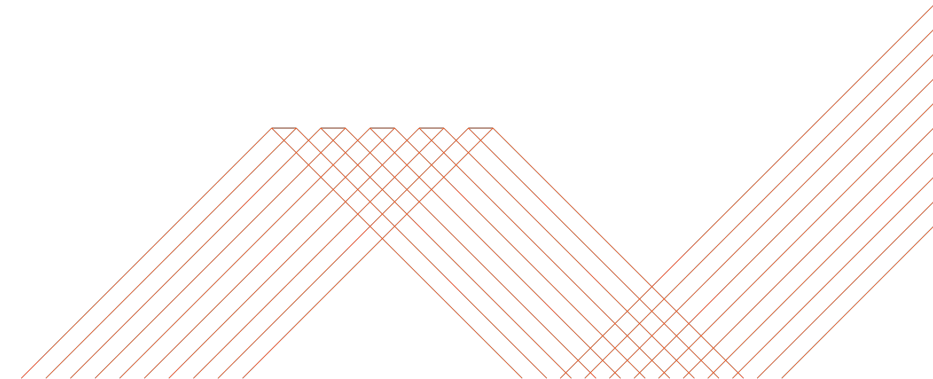
- NHS England and integrated care boards have a <u>statutory duty</u> to consider how to reduce inequalities in access to and outcomes from health services. This duty on health inequalities is alongside public sector equality duty. It means that the NHS must consider and take steps to address the barriers to digital health that some groups of people may face.

https://www.england.nhs.uk/long-read/inclusive-digital-healthcare-a-framework-for-nhs-action-on-digital-inclusion/

NHSE Digital Inclusion Framework
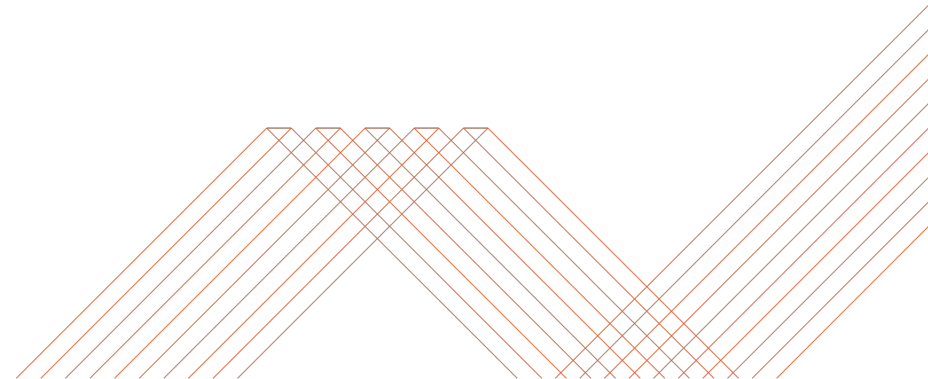
The framework identifies five domains where action is needed:

- **Access to devices and data** so that everyone can access digital healthcare if they choose to and experience the benefits

- **Accessibility and ease of using technology,** so that user-centred digital content and products are co-designed and deliver excellent patient outcomes

- **Skills and capability** so that everyone has the skills to use digital approaches and health services respond to the capabilities of all

- **Beliefs and trust** so that people understand and feel confident using digital health approaches

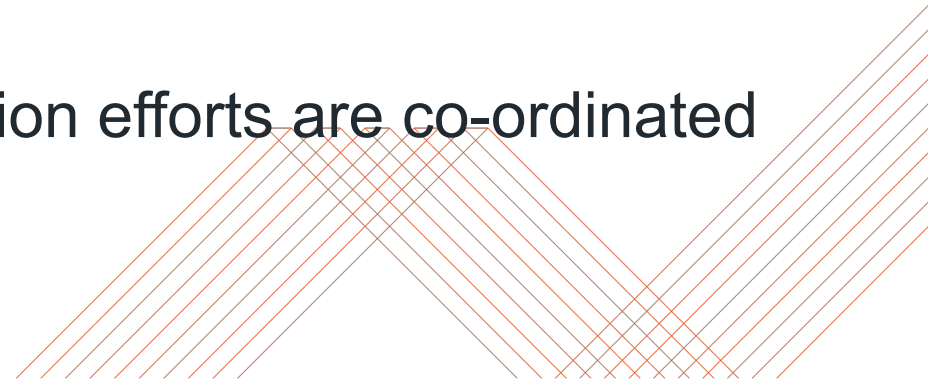- **Leadership and partnerships** so that digital inclusion efforts are co-ordinated and help to reduce health inequalities.

https://www.england.nhs.uk/long-read/inclusive-digital-healthcare-a-framework-for-nhs-action-on-digital-inclusion/

Digital Inclusion in Health and Care

To be digitally included in health and care a person needs to:

- To be **aware** of digital services, pathways and technologies that would benefit them.

- Have **access** to, and be able to **afford** the technology, and any associated requirements for access.

- Have the **skills**, and/or **support** needed to access the technology/pathway.

- Believe the **effort required to engage will be worth it (motivation)** (bearing in mind some people will have multiple barriers to overcome).

- **Trust** that the service, pathway and technology is safe and effective, and that individual's data will be collected and used in appropriate and safe manner.

- To have access to **accessible and useable** pathways, services and technologies that are easy to understand and interact with, and work alongside other pathways and assistive technologies, are interoperable, and require minimal effort.

- Have confidence that appropriate **guidance and support** will be available before/during/after digital engagement and know how to access this guidance and support.

Digital Inclusion Framework

Guidance & Support

Access & Affordability

Skills & Digital Support

Awareness

Digital Inclusion

Trust

Motivation

Accessibility & Useability

Guidance & Support

| Awareness | Consideration | Use | Post/ongoing use |
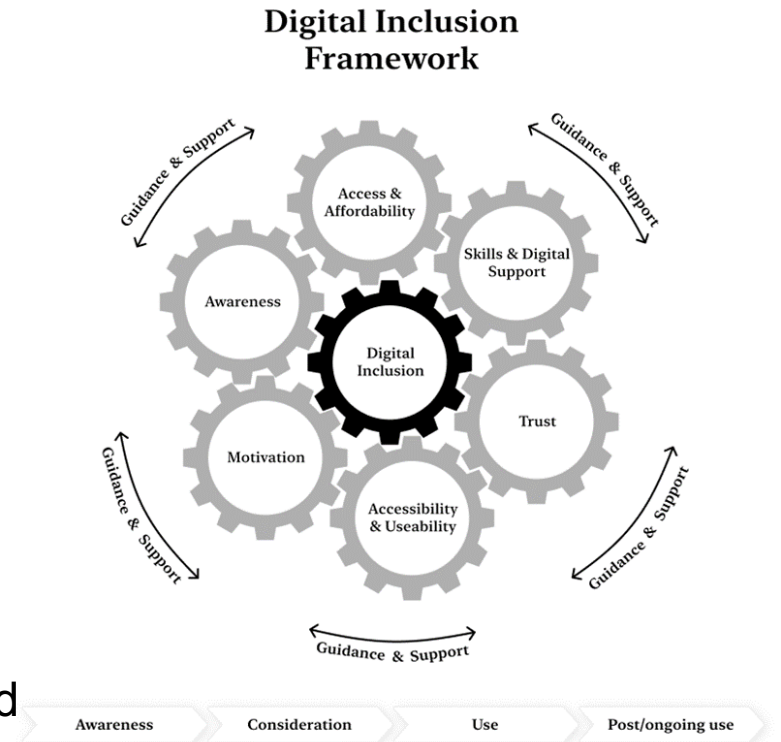
The next slides give example pages from the framework.
To access the full Sussex digital inclusion framework, and video on how to use this and the assessment tool, please go to:

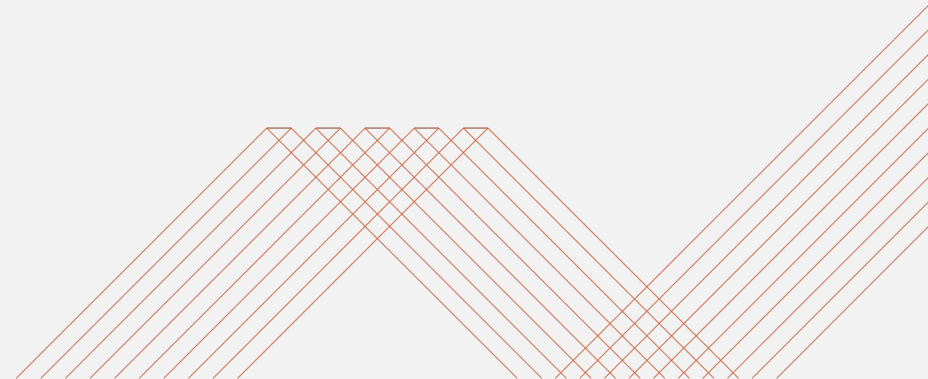www.digitalinclusionframework.co.uk

The Digital Inclusion Framework (DIF) for Health and Care

A **thinking tool** and **implementation tool** designed to ensure that everyone can benefit from digital health and care, whenever they need to, thereby reducing digital exclusion and the associated health inequalities.
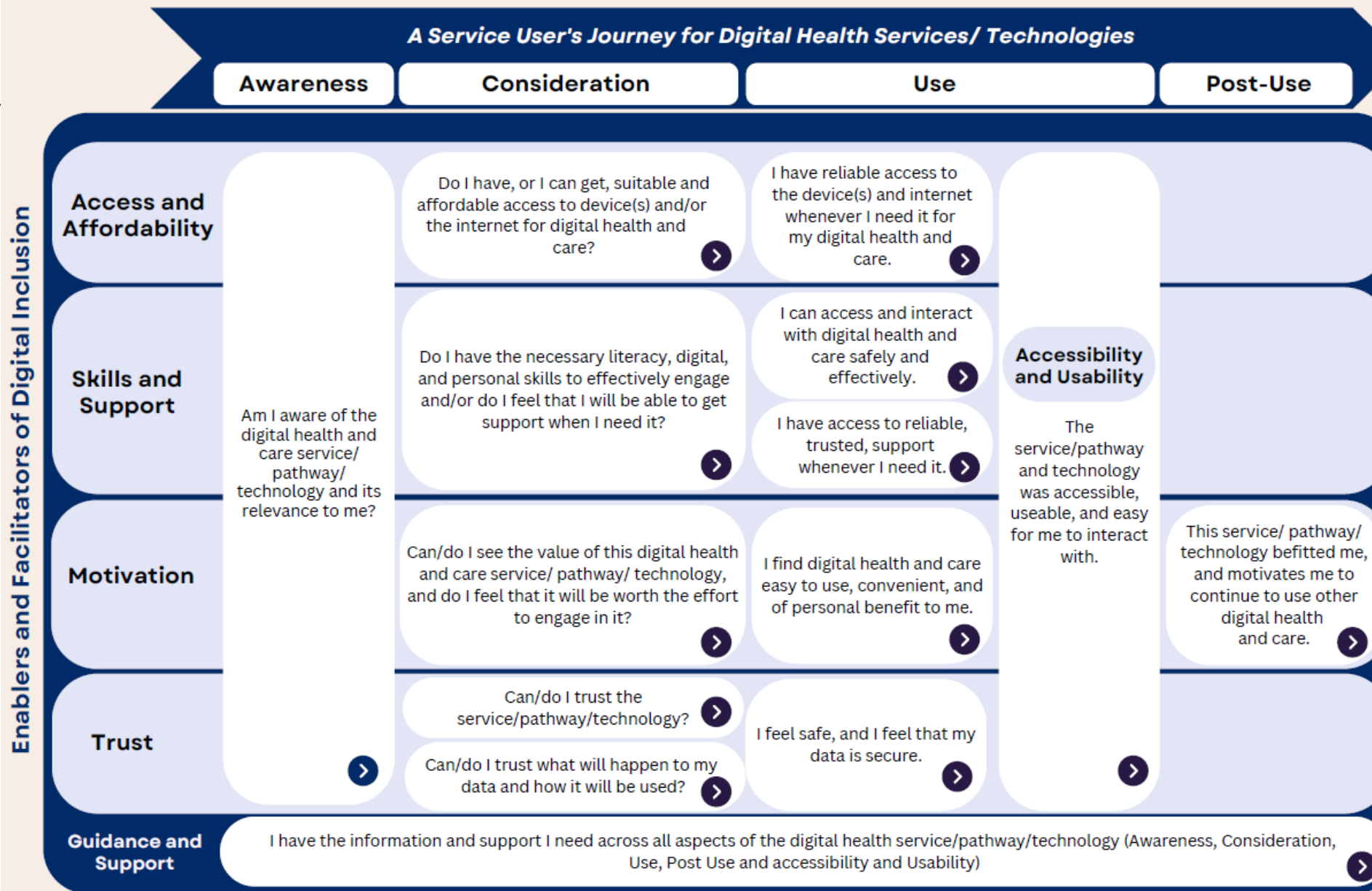
Download the Framework

Download the Assessment Tool

Digital Inclusion Framework

www.digitalinclusionframework.co.uk

A Digital Inclusion Framework for Health and Care

A Service User's Journey for Digital Health Services/ Technologies

Enablers and Facilitators of Digital Inclusion	Awareness	Consideration	Use	Post-Use
Access and Affordability		Do I have, or I can get, suitable and affordable access to device(s) and/or the internet for digital health and care?	I have reliable access to the device(s) and internet whenever I need it for my digital health and care.	
Skills and Support	Am I aware of the digital health and care service/ pathway/ technology and its relevance to me?	Do I have the necessary literacy, digital, and personal skills to effectively engage and/or do I feel that I will be able to get support when I need it?	I can access and interact with digital health and care safely and effectively. / I have access to reliable, trusted, support whenever I need it.	**Accessibility and Usability** — The service/pathway and technology was accessible, useable, and easy for me to interact with.
Motivation		Can/do I see the value of this digital health and care service/ pathway/ technology, and do I feel that it will be worth the effort to engage in it?	I find digital health and care easy to use, convenient, and of personal benefit to me.	This service/ pathway/ technology befitted me, and motivates me to continue to use other digital health and care.
Trust		Can/do I trust the service/pathway/technology? / Can/do I trust what will happen to my data and how it will be used?	I feel safe, and I feel that my data is secure.	
Guidance and Support	I have the information and support I need across all aspects of the digital health service/pathway/technology (Awareness, Consideration, Use, Post Use and accessibility and Usability)			

Access and Affordability: consideration

DO I HAVE, OR I CAN GET, SUITABLE (AND AFFORDABLE) ACCESS TO DEVICE(S) AND/OR THE INTERNET FOR DIGITAL HEALTH AND CARE?

Health and Care Digital Inclusion objective

Our population has suitable access or can get suitable access to devices and/or the internet so they have equitable access, and can interact with, and benefit from digital health and care.

Recommendations

- Understand specification requirements for each digital health and care technology- is this technology fully useable on all devices our population has access to, and if not how will gaps be filled?
- Ensure service users are not excluded, or disadvantaged, from accessing equitable health and care because they cannot afford the appropriate technology, wifi, data, and electricity they need.
- Ensure service users understand that they will not be excluded from the benefits of health and care if they do not have access to appropriate devices or cannot afford to run them Through provision of devices etc. or equitable health and care alternative.
- Provide technology and connection for the highest health and care need populations to enable them to access and interact with digital health and care. Mechanisms to do this could include:
  - Direct provision or loan of relevant equipment, or 'prescribing' appropriate technology etc.
  - Removing data charges for an individual's essential health-related services (e.g., NHS app)
- Collaborate with other agencies working in this area to provide access to technology and data including:
  - Community/voluntary sector groups, libraries, local authorities
  - Partnership with internet service providers

Health and care service users' considerations

- Do I have suitable access to device(s) so that I can access and interact with digital health and care whenever I need to? Will my current device work with this health and care technology?
- If I don't have reliable access, do I know where I can get access to the device(s) needed?
- Do I have the wifi/data/electricity services that I need to access and interact with digital health and care whenever I need to?
- Can I afford to buy and maintain a suitable device, and the wifi, data, electricity services needed to access and interact with digital health and care whenever I need to?
- If I can't afford the device, the wifi, data, or electricity services, are there alternative (reliable) ways to access this which would enable digital health and care to be accessible to me?

Everyone is at risk of digital exclusion in their life time

Pay special attention to:
People on low/no income
People in insecure/social housing/homeless
Older adults
'Limited' users: Ethnic Minorities, women, younger adults

Skills and Support: consideration

Health and Care Digital Inclusion objective

All of our service users find digital health and care services/pathways/technologies accessible and useable

Health and care service users' perspective

- I understand how to use this digital health and care service/pathway/technology
- I can easily access and use this digital health and care service/pathway/technology
- I can safely and effectively interact with it
- If I need assistive technology, or other health and care pathways/digital products it interoperates easily with this digital health care pathway/technology.

Recommendations

> Design the digital service/pathway/technology to be accessible and easy to use for all service users and workforce.
- Design the digital health and care service/pathway/technology with literacy and cognitive accessibility requirements as core standard.
- Ensure the digital health and care pathway/technology is interoperable with assistive technologies and other health and care pathways/digital products.
- Move towards single sign-on (SSO) where users are asked to enter their login credentials one time to access all health and care related applications.
- Design the digital health and care service/pathway/technology in a way that users can accomplish goals easily and in a familiar way (e.g., the interfaces need to be designed in a way that is familiar to what users are asked to do when using other digital services).

*Accessibility = are ALL users able to access an equivalent user experience, however they encounter product or service
*Useability = how well a specific user in a specific context can use a product/design to achieve a defined goal effectively, efficiently, and satisfactorily.

Everyone is at risk of digital exclusion in their life time

Pay special attention to:

People living with disabilities
People with low literacy/low confidence in their literacy
People who are unwell/ stressed/ neurodiverse (cognitive requirement)
People whose first language is not English
Older adults

Accessibility and Useability: Use

Health and Care Digital Inclusion objective

Our population will be enabled to access and interact with digital health and care safely and effectively regardless of their literacy, digital or personal skills

Health and care service users' considerations

- Is this service/pathway/technology information accessible to me, written in a language and format that I can understand? Can the information be translated?
- Do I feel the internet and/or this digital health and care service/pathway/technology will be easy for me to access and interact with?
- Do I have the (literacy, digital, and personal) skills needed to interact with this service/pathway/technology safely and effectively?
- Do I have the ability/confidence/motivation/energy to upskill if needed? What support is available to help me with this?
- Could I benefit from this pathway/service/technology if the right support was available?
- Can I easily and confidently access the support that I may need (friends, family, community, or formal support)? Am I willing to ask and share data to do this?
- Will any support that can be provided be enough for me to then feel I can safely and effectively access and interact in digital health and care service/pathway/technology?
- Will this technology interoperate with other (health/care/assistive) technology I need to use?

Recommendations

- Ensure the service/pathway/technology is designed to be as easy to access and interact with as possible for all health and care service users.
  - Reduce the literacy, digital, and personal skills that will be necessary to access and interact in this digital health and care service/ pathway/ technology.
  - Ensure all the service/pathway/technology information that is public facing is accessible, written in plain language, and is translatable.
  - Ensure the digital health and care pathway/technology is interoperable with assistive technologies and other health and care pathways/digital products.
  - Move towards single sign-on (SSO) where users are asked to enter their login credentials one time to access all health and care related applications.
- Provide additional skills training where there are known skills requirements.
- Provide service/pathway/technology support whenever that is needed to ensure safe and equitable access.
- Collaborate with other agencies working in this area to develop digital skills and confidence in using technology including:
  - Community/voluntary sector groups, libraries, local authorities
  - Private sector/NGOs

Everyone is at risk of digital exclusion in their life time

Pay special attention to:
People with low literacy/low confidence in their literacy
People who left school at/before 16
People in NRS social grades D&E
People whose first language is not English
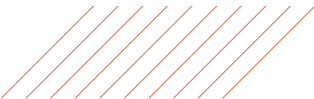People living with disabilities
Older adults

Digital Inclusion Assessment Tool

Digital Inclusion: health and care service/pathway/technology design/assessment tool

Digital service/pathway/technology design objectives			
AWARENESS	**CONSIDERATION**	**USE**	**POST USE**
Our population is aware of digital health and care services/ pathways and technologies, and their relevance to them as individuals.	Our population: 1. has suitable access or can get suitable access to devices and/or the internet so they have equitable access, and can interact with and benefit from digital health and care. 2. will be enabled to access and interact with digital health and care safely and effectively regardless of their literacy, digital or personal skills. 3. can see the value of accessing and interacting with relevant digital health and care services/pathways/technologies. 4. can, and does, trust in this service/pathway/technology. 5. can, and does, trust what is happening to their data and how it is being used.	Our service users: 1. have reliable access to devices and the internet when they need it to enable them to access and interact with digital health and care. 2. can access and interact with digital health and care safely and effectively. 3. have access to reliable, trusted, support whenever they need it. 4. value digital health and care and will continue to use it. 5. feel safe and know that their data is safe when using digital health and care.	Our population experience that they benefit from digital health and care, and are motivated to continue using it.

ACCESSIBLE AND USEABLE PATHWAYS & TECHNOLOGY
For each programme and across all pathways the service user will interact with, including any assistive technologies.

<<<<< GUIDANCE and SUPPORT >>>>>
Design in information, emotional and technological/pathway support

Motivation and Trust

Enablers to motivation	Barriers to motivation	Pay special attention to:	Service/pathway/technology design to mitigate digital exclusion
Individuals see the value of the digital product/service to them. Individuals believe that they have a 'real' voice and choice. Easy to use, accessible and require minimal support. Convenient - easier and faster access to healthcare services. Cost effective, reducing individual cost including travel time. Representative and personal.	Technology or pathways too complex; too difficult to access, use or understand; too many steps (digital and other), multiple systems; doesn't meet individual need; added cost; not representative or sensitive; effort too much for the potential benefit.	All the population incl. carers and workforce but especially: • Older adults • People with lower literacy/confidence in their literacy • People on lower incomes • People in NRS social grades D&E	Ensure that pathways/technology is easy to use, convenient, and adds value to the individual. Reduce the amount of effort to engage in this service /pathway/technology for the individual. Ensure the value added to individual populations is explicit- (i.e. use comms and relevant examples). Collect user experience feedback (patients, carers, workforce). Ensure excluded populations, or those choosing not to engage in digital health and care are offered an equitable alternative.
Enablers to trust	**Barriers to trust**	**Pay special attention to:**	**Service/pathway/technology design to mitigate digital exclusion**
Trust in the system, service, pathway and technology. Individuals understand why and how data and technology is being used. Trust in human touch/clinical oversight maintained. NHS 'brand'	Lack of trust, which could be due to past experience, lack of human touch, lack of transparency over data, lack of perceived clinical oversight, lack of feedback. Not recognised or trusted technology/brand.	All the population incl. carers and workforce but especially: • Older adults • People with lower literacy/confidence in their literacy • People on lower incomes	Build and maintain trust in the system, the service, the pathway, the technology and how data Is used. Ensure the service, pathway, technology is safe and maintains confidentially and privacy. Ensure transparency over clinical oversight, and build in feedback to digital interactions. Ensure service users have a mechanism to feedback if/when there are issues, and access

Recommendations

- **Policy and strategic commitment needed to:**

- Improve access: **Provide devises and data/wifi**

- Improve skills, but importantly **reduce skills and support needs to make digital health and care more sustainable,** by making pathways and technologies easy to access and use, interoperable

- **Reduce complexity,** across all health and care pathways a person may need to interact with.

- **Ensure accessibility and useability**, and enable feedback to **improve outcomes and experience**

- **Collect data** to understand who is included/excluded, who is accessing online services and who isn't, and impact on health outcomes.

- Reduce variation, and **only commission technology that meets the needs of the population** it serves. High spec tech is unlikely to be inclusive.
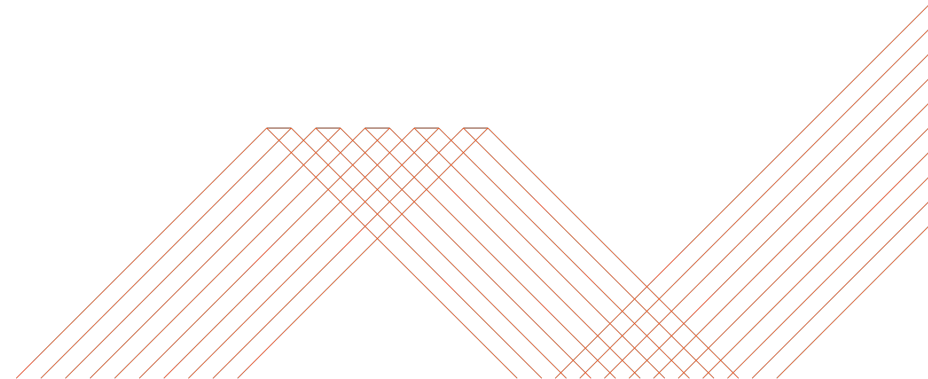
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