Identifying & Spreading Innovative Practice

Rapid review: Video consultations and digitally excluded people

South West Academic Health Science Network

Introducing the South West Academic Health Science Network

Transforming lives through healthcare innovation

The South West Academic Health Science Network (South West AHSN) is one of 15 AHSNs set up by NHS England across the country in 2013.

Our purpose is to transform lives through healthcare innovation and generate economic growth as part of the national AHSN Network.

We are the only bodies connecting NHS and academic organisations, local authorities, the third sector and industry. AHSNs are uniquely placed to identify and spread innovation at pace and scale – driving the adoption and spread of innovative ideas and technologies across large populations.

Collectively, the AHSN Network plays a critical role in supporting the health and care sector.

In the last year, our work as a network of AHSNs has:

- **Benefited over 480,000 people.**
- **Leveraged over £455m of investment** into the health and life science sector.
- **Supported 2,438 companies** and created or safeguarded over 1,800 jobs.

Our work at the South West Academic Health Science Network is grounded in context of our region – supporting our partners to identify and spread innovation that tackles the shared challenges we face in improving health across a complex mix of rural, coastal and urban communities.

Our approach is built on our three core capabilities that we have developed since we were founded:

- **Identifying and spreading innovative practice** – our practical experience and techniques that support health and care systems to identify, adopt and spread innovative practice to improve health and care services.
- **Building capability** – using our knowledge and experience of the conditions required to innovate and improve to build the capability of partners to spread innovative practice and improve quality.
- **Evaluation and application of learning** – using our experience evaluating improvements and testing innovation to support partners to evaluate the impact of changes and capture learning.

Executive summary

Introduction

Increasing the use of remote consultations was a key pillar of the 2019 NHS Long Term Plan. The outbreak of the COVID-19 pandemic in March 2020 saw digital consultation platforms introduced at unprecedented speed to minimise face-to-face contact in the health system.

The purpose of this review was to examine how the rapid roll out of video consultations in secondary care has impacted the health outcomes of digitally excluded people in the UK.

Objective

The review – carried out by South West Academic Health Science Network (South West AHSN), and NHS England and Improvement South West's Outpatient Transformation Team – set out to:

- Understand how increased use of remote consultations in secondary care impacted digitally excluded people.
- Identify how to prevent health disparities widening by pursuing a more digital approach to care – and recognise barriers to this.
- Suggest options for engaging more effectively with digitally excluded groups.

Rapid review approach

This rapid review identified literature on digital exclusion in secondary, community and primary care published between January 2020 and August 2021. Boolean searches across sources such as PubMed, Google Scholar, Google, NHS Evidence, National Voices, the Kings Fund, and Nuffield Trust identified literature for inclusion.

Results

Impact on those digitally excluded

Although relevant sources were limited, searches identified 22 publications for examination. These included systematic reviews, literature reviews, case studies, reports, briefings and evaluations.

Key sources included Doctors of the World's 2020 publication – *'A Rapid Needs Assessment of Excluded People in England During the 2020 COVID-19 Pandemic.'* This report found that people living in vulnerable circumstances are experiencing new barriers to healthcare during the pandemic, making them less able, or willing, to seek medical services. Resulting delayed presentations or non-presentations to healthcare are likely to lead to poorer short and long-term health outcomes.

Research carried out by ICE (2020) on behalf of Devon CCG showed that patients who do not possess the necessary skills and confidence to use e-Consult (an online consultation platform) are at risk of digital exclusion.

Similarly, Maslan et al (2020) – in their study, *'Virtual solutions for Managing Cancer Care in a pandemic era: Lessons from COVID-19'* – found pre-pandemic evidence that patients with cancer living in more remote, rural locations do not have equal access to virtual solutions.

A report from charity National Voices – *'Unlocking the Digital Front Door - Keys to inclusive healthcare'* – stated that if people are excluded digitally, the inequalities gap widens and people with higher burdens of ill health are less well served by the existing models of care. It also discussed that, while people understand that there are benefits to digital engagement, they need time, support, and resources to change and adapt.

The Centre for Ageing Better's 2021 publication, *'COVID-19 and the digital divide,'* highlighted a significant digital divide among 50- to 70-year-olds – one that has been exacerbated by the pandemic. It also found that low income is a key risk factor in digital exclusion.

However, Honeyman et al (2021), in their report for NHS Wales on digital technology and health inequalities, found no conclusive evidence to suggest that digital exclusion is leading to worsening health inequalities.

Patient barriers

The literature included in this review identified a number of barriers that prevented patients engaging with digitally delivered healthcare. However, it also made a series of recommendations to help digitally excluded groups access remote consultations.

Barriers to accessing online services included:

- **Awareness** – not everyone is aware of digital services and products available to them.
- **Access** – not everyone has the equipment (smartphone, laptop, tablet) or connectivity (data or broadband) to go online.
- **Confidence and security** – some people fear online crime, lack trust in virtual forms of information and communication or don't know where to start online.
- **Skills** – not everyone has the ability to use the internet and online services.
- **Communication** – some people lack the ability to communicate via video platforms.
- **Motivation** – not everyone believes the internet is relevant and helpful.

Recommendations to improve online access:

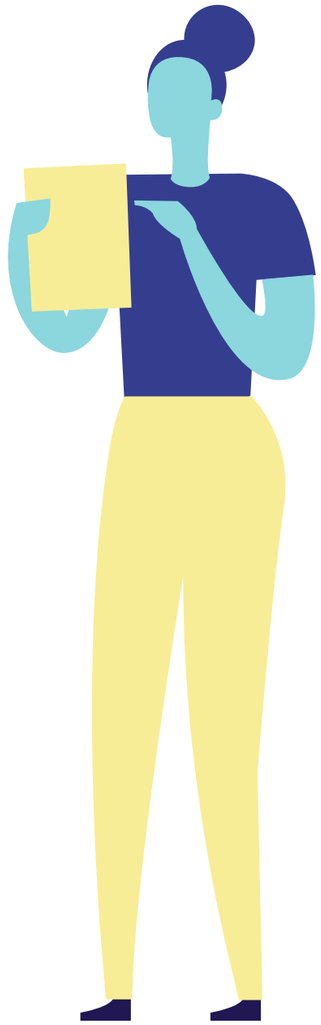
- Secondary care providers should continue to offer a blended approach of video, telephone and face-to-face consultations.
- More research is needed to understand how the health outcomes of digitally excluded groups will be impacted by increasing the provision of remote consultations.
- Providers need to understand how to adapt pathways within secondary and community care to provide greater choice.

Conclusions

The pandemic has made it difficult to gather views from people who are digitally excluded. Therefore, further research is needed to understand the impact of increasing the provision of remote consultations as a standard part of healthcare provision in secondary care.

However, numerous papers included in this review suggest that remote consultations will have a negative impact on the health outcomes of digitally excluded groups unless health providers provide a range of engagement options.

But they also recognise that it is often a challenge for health providers to design services inclusively for the 5% of people that are not online. The South West region also presents challenges relating to poor internet connectivity due to geography and rurality – in addition to factors such as age and income which impact on digital access.



Introduction

The start of the COVID-19 pandemic in March 2020 led to significant changes in how health services were delivered across the country, at an unprecedented pace. In order to reduce the number of people attending an outpatient appointment in a hospital setting, clinicians reviewed all referrals to assess whether appointments could be converted from face-to-face to either a telephone appointment or a video consultation, or delayed until a later date.

In order to facilitate the use of video consultations, the Attend Anywhere video consultation platform was deployed rapidly in secondary and community care Trusts across the country. In the South West peninsula this was facilitated by NHS England & Improvement's South West Outpatient Transformation Team.

Although delivered at a much quicker pace due to the COVID-19 pandemic, the move to increase remote outpatient consultations has been a long-term goal for the NHS. The NHS Long Term Plan in 2019 set out ambitious targets for digital consultations, with the aim of delivering a third of outpatient appointments digitally through redesigned pathways by 2024. It anticipates that the model of care will look markedly different by 2029 and expects the NHS to offer a 'digital first' option for most.

The NHS Planning guidance for 2021/22 continues this commitment to redesign clinical pathways to reduce unwanted variation, increase productivity, and accelerate progress on digitally enabled care. The guidance states that where outpatient attendances are clinically necessary, at least 25% should be delivered remotely by telephone or video consultation (equivalent to approximately 40% of outpatient appointments that don't involve a procedure).

The Lloyds Bank UK Consumer Digital Index 2021 shows that positive change has occurred during the pandemic as increasing numbers of people (an additional 1.5 million) went online, which equated to five years of progress being made in one year. This means that across the UK, 95% of people are now online, with 60% of people having high digital capabilities

However, we know that digital exclusion is a significant issue, with 2.6m people across the UK offline and 9m people lacking basic digital skills, according to Lloyds Bank (2021). The report, which is based on feedback from a survey of a million consumers across the United Kingdom, shows that for people in the South West:

- 8% are offline.
- 30% have low digital engagement.
- 86% are confident using the internet.
- 47% wouldn't have coped through the pandemic without technology.
- 52% had a net increase in internet usage through the pandemic.
- 24% improved their digital skills during the pandemic.

The move to offering remote consultations as a standard part of the outpatient pathway is therefore likely to have a significant impact on digitally excluded groups, namely those offline and with low digital engagement.

What is digital inclusion?

NHS Digital (2019) breaks down digital inclusion into:

- **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.

However, the Cambridge Centre for Housing and Planning Research (CCHPR) recommends in The House of Lords paper *'Beyond Digital Planning for a hybrid world'* that is better to not see digital exclusion/inclusion as a binary issue but more as digital inequality, and as a spectrum of digital engagement, with different aspects of digital exclusion being important to different households.

As well as the lack of opportunity, it is also important to consider the different levels of motivation and capability for being both offline and online.

Barriers to digital inclusion

Research for the UK Digital Strategy (2017) suggests that there are a number of important barriers, and more than one may affect individuals at any one time, including:

- **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.

A significant proportion of the digitally excluded people do not want to go online. This is clearly illustrated in the Government's Digital Inclusion Scale referenced in the UK Digital Inclusion Strategy 2014. Figure 1 – Digital Inclusion Scale plots people on a nine-point scale for online capability and offers a view of the type of challenges people face as well as plotting capability against the scale.

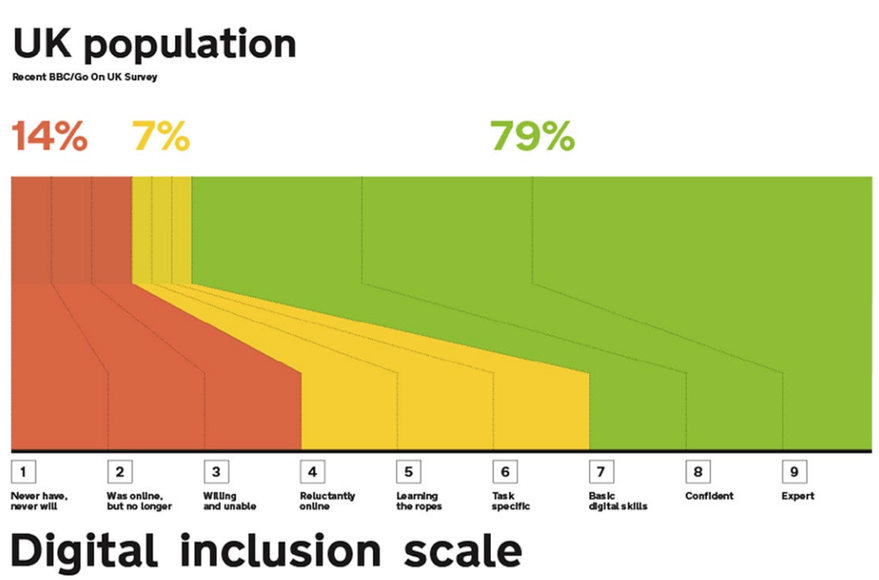
This is further supported by statistics from the Office for National Statistics (2019) which reported that the most common reason given for not being online was not feeling the need for it (64%), and a lack of skills (20%). 2% also identified a physical or sensorial disability which prevented them going online. NHS Digital (2019) notes that as access, skills and confidence improve, it is increasingly important to tackle other barriers, including:

- **design** – not all digital services and products are accessible and easy to use.
- **awareness** – not everyone is aware of digital services and products available to them.
- **staff capability and capacity** – not all health and care staff have the skills and knowledge to recommend digital services and products to patients and service users.

It is also important to consider that although some people may have access online via a phone, data poverty is an issue for a number of people on low incomes and this will impact their ability to engage with a remote consultation.

Figure 1

UK population Digital Inclusion Scale



Objective

This rapid review set out to:

- Understand how the increased delivery of remote consultations during the COVID-19 pandemic in secondary healthcare settings had impacted on access to health care for people who are digitally excluded.
- Identify the barriers and enablers which need to be in place to ensure that health inequalities are not widened by pursing a more digitally enabled care approach.
- Identify recommendations for engaging more effectively with digitally excluded groups.

Rapid review approach

Boolean searches were performed using the operators AND, OR on PubMed and Google Scholar and were completed by August 2021 with the following search terms "Video", "consult*", "remote", "virtual", "digital". Searches were also performed on NHS Evidence and on websites including Google, National Voices, the King's Fund, Nuffield Trust, AHSN publications and reviews, and patient feedback surveys conducted by secondary care trusts. Literature was selected that had been published between January 2020 and August 2021 as this narrowed the timeframe to focus on publications that were potentially reporting on the change in healthcare as a result of COVID-19 and would potentially provide more targeted information on the use of video consultations and how that has impacted digital exclusion and inclusion. Table 1 details the specific inclusion and exclusion criteria.

	Inclusion	Exclusion
Population	Residents of the United Kingdom	Residents of countries outside of the United Kingdom
Setting	Secondary, community or primary care	Social care / care homes and care at home
Published date	2020 and 2021	Material before 2020
Publication type	Systematic reviews, literature reviews, case studies, reports, briefings, evaluations	Editorials, opinion pieces, news articles, commentary

Left: Table 1

Inclusion/exclusion criteria

Results

Impact on those digitally excluded

There was limited literature on how digitally excluded groups had been impacted by the rapid roll out of video consultations during the COVID-19 pandemic. A rapid needs assessment by Doctors of the World (2020), and research by ICE (2020) for Devon CCG, about the roll out of e-Consult in primary care, showed that the move to remote consultations is likely to have resulted in delays in presentations or non-presentations from people in digitally excluded groups, as they have struggled to access services. However, Honeyman et al (2021) in their report for NHS Wales on digital technology and health inequalities found no conclusive evidence to suggest that digital exclusion is leading to worsening health inequalities.

Table 2 identifies literature included in the review and sets out key findings on how the increased delivery of remote consultations during the COVID-19 pandemic in secondary healthcare settings had impacted on people who are digitally excluded, as well as identifying key themes and recommendations for engaging more effectively with digitally excluded groups.

No	Study	Design	Setting	Main findings in relation the rapid review objective	Key themes and recommendations in relation to the rapid review objective
1	A Rapid Needs Assessment of Excluded People in England During the 2020 COVID-19 Pandemic Doctors of the World May 2020	Rapid Needs Assessment	Across health	People living in vulnerable circumstances are experiencing new barriers to healthcare during COVID-19, making them less able or willing to seek medical services. Delayed presentations or non-presentations to healthcare are likely to lead to poorer short and long-term health outcomes, making it likely that the health inequalities already experienced by the identified groups will increase. The suspension of secondary care services will result in even longer waiting lists and many service providers expressed concern about this. People belonging to the socially excluded groups considered in DTOW study are more likely to experience ill health and present later to a health professional. Therefore, delayed access to specialist care will have a disproportionate effect on them compared to the general population. Lower use of healthcare services.	Adjustments need to be made for those who cannot access remote services.
2	An unsafe distance. The impact of the COVID-19 pandemic on excluded people in England Doctors of the World 2020	Report based on Rapid Needs Assessment	Primary, community and secondary care	Participants from all groups reported digital exclusion prevented them from accessing online information about COVID-19. People faced barriers when accessing health services for non-COVID-19 related health issues. Delayed presentations or non-presentations to healthcare are likely to lead to poorer short and long-term health outcomes, making it likely that the health inequalities already experienced by the identified groups will increase. The shift to remote healthcare services failed to account for the digital exclusion experienced by people in vulnerable groups. The shift to online or over the phone assessments and appointments has been challenging for accessing mental health services, where trust and effective communication are particularly important in enabling access to effective care.	The rapid needs assessment shows the disempowering impact of digital exclusion and its potential to be a key driver of inequality, including health inequality. The report recommends actively identifying evolving health and social needs of people in vulnerable circumstances and proactively develop supportive interventions

Right: Table 2

Key findings from selected literature summarises the key findings of papers included in this rapid review in relation to its key objective

No	Study	Design	Setting	Main findings in relation the rapid review objective	Key themes and recommendations in relation to the rapid review objective
3	Use of virtual consultations in an orthopaedic rehabilitation setting: how do changes in the work of being a patient influence patient preferences? Gilbert et al Sept 2020	Systematic Review	Secondary care	The use of communication technology changes the work of being a patient. The change in work required of patients can be both burdensome (it makes it harder for patients to access their care) and beneficial (it makes it easier for patients to access their care). The use of virtual consultations in these situations may increase patient work, and therefore contribute towards their burden of treatment. Patients may, therefore, opt to choose a face-to-face consultation.	The work required of a patient will influence their expectations of whether or not the use of virtual consultations is acceptable. Patients who did not have access to equipment for virtual consultation needed to be provided with the required hardware. In some cases, significant support was required for patients to understand how to use the equipment and to troubleshoot connection problems when they arose. Overcoming these barriers was an important factor in maintaining the quality of the virtual consultation and is likely to require technical support provided by the clinical team.
4	Unlocking the Digital Front Door National Voices 2021	Literature review	Primary, community and secondary care	Provides detail on different groups who are excluded, illustrated by patient experience. Examples of patients illustrating difficulties accessing services in primary care through e-Consult and challenges to accessing services in ophthalmology for people who require information in alternative formats. Examples of older people who are too afraid or do not want to have a doctor's appointment by phone so do not access services. This leads to a perceived lack of input by the patient from healthcare providers and a reduction in patient satisfaction. Carers have to work hard to keep their patient with dementia engaged with a video consultation. Literature review showed that there was a clear technology optimism bias in the existing literature, with confident predictions about the improvements that will happen on the back of technological transformation, and scant attention given to the actual experiences of patients or even staff.	Provides recommendations from other studies for overcoming barriers to exclusion, for example: Inform the public that phone, video, and online appointments are being used to triage patients and make sure people receive a face-to-face appointment if it is necessary and that it will be with the most appropriate professional, e.g., doctor, nurse, social worker.
5	Unlocking the Digital Front Door - Keys to inclusive healthcare National Voices May 2021	Insights report based on listening exercise	Community settings	Report explored the how the challenges of moving to a digital access could be addressed and how wellbeing could be supported. National Voices interviews with innovators have highlighted that inclusive organisations co-design with people who use services, build long-standing relationships with their beneficiaries, focus on both informal and formal support, involving peers and advocates, and give people time to build skills and confidence.	People need informed and supported choice first, digital second. The move to remote and digital care models in practice is challenging for many people and communities. National Voices are advocating for people to proactively think about inclusive innovation and design principles that enable more people to get the care they need. Inclusive design principles • Make inclusion a core principle • Co-design with people • Offer supported choice and personalisation Recognise that health is wider than healthcare.

No	Study	Design	Setting	Main findings in relation the rapid review objective	Key themes and recommendations in relation to the rapid review objective
6	Improving Digital Health Inclusion: An Evidence Scan The Strategy Unit, Midlands and Lancashire Commissioning Support Unit 14 April 2020	Literature review	Primary, community and secondary care	The 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. References learning and recommendations for engaging more effectively with digitally excluded groups from The Topol Review (Health Education England), NHS Widening Digital Participation Programme.	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. Digital inclusion lessons learned: • Be aware of different access issues which different population groups might experience • People in most need are often hardest to reach • Use a person-centre approach to support, including understanding users' motivations • Understand that digital inclusion support can be resource intensive • Recognise that there may be underlying issues that need to be addressed • Use inclusive language – using language that includes digital words can make services exclusive • Ensure services are future-proofed

No	Study	Design	Setting	Main findings in relation the rapid review objective	Key themes and recommendations in relation to the rapid review objective
7	The Doctor will zoom you now: getting the most out of the virtual health and care experience. HealthWatch, National Voices, Traverse June/July 2020	Rapid qualitative research study	Primary and secondary care	Most people were engaged through an on-line platform (making it more difficult to target digitally excluded groups). Most respondents indicated that they were confident with using technology for a range of different tasks. Exclusion isn't equally distributed – it can affect older people, people with long term conditions such as diabetes, specific communities, and those on low incomes. People with learning disabilities, autism and some mental health conditions have raised particular concerns about the suitability of remote treatment for their needs. One of the unintended consequences of remote consultations may be in the opportunity for the format to prompt us to think differently about how we communicate.	Be inclusive - meet the needs of people for whom remote is not possible or appropriate. Further work is required to engage people who may not be confident with technology, don't have access to it or who don't want to receive remote care. No one size fits all. Key to success will be understanding which approach is the right one based on individual need and circumstance. A blended offer including text, phone, video, email and face-to-face would provide the best solution Build on existing good practice

No	Study	Design	Setting	Main findings in relation the rapid review objective	Key themes and recommendations in relation to the rapid review objective
8	Digital inclusion in Health and Care – Lessons learned from the NHS Widening Digital Participation Programme Stone et al Good Things Foundation 2020	Evaluation report	Community settings	1. Recognise digital access and skills as a social determinant of health 2. Co-design digital health services 3. Patients should be able to use what works for them - whether digital, physical, or a blend. 4. Co-design with patients should be at the heart of a digitally enabled NHS; it should always include co-design with those who have low digital skills and face barriers to health care. 5. Improve digital health literacy in the population 6. Develop digital hubs to improve inclusion 7. Build trust and relationships with poorly served groups 8. Harness the benefits of digital for health and wellbeing 9. Improve digital skills of the workforce 10. Embed digital inclusion in health and wellbeing strategies	Currently, there are no national datasets which track the direct relationship between digital exclusion, access to digital healthcare, health outcomes and health inequalities. However, there is evidence of correlations between digital exclusion and poverty, disability, unemployment, and low educational attainment (Ofcom 2020). Establish effective referral routes to local providers of digital inclusion, as a way to embed digital inclusion into local health, social care and housing partnerships. When decision-makers and technology experts are themselves digitally enabled, there is a risk that digital health services, products and tools are designed without recognising the needs of people with low digital health literacy. The following recommendations build on learning from the Thanet and Sunderland pathfinders. • Embed digital inclusion into care pathways by including questions about digital (access, use, confidence) during initial assessment of social care and support needs. • Design digital services to be accessible by everyone.
9	Shaping the future of digital technology in health and social care Maguire et al King's Fund April 2021	Report	Across health sector	For the health and social care sector to make the most of emerging technologies, there needs to be fundamental changes in how new tools are evaluated and supported during implementation.	There is significant potential for the NHS to reach many more people in a more flexible way through these technologies, but there is little data on managing digital inequalities while making these changes, and on which interventions have the greatest impact. There is little evidence on the cost-effectiveness of adapting for specific digital inequalities compared to a generic offer across a whole population in public health, for example (Honeyman et al 2020).
10	Digital Technology and Health Inequalities: a scoping review Honeyman et al Public Health Wales NHS Trust 2020	Scoping review	Across health sector	There is good evidence to believe that many groups who are already subject to disadvantage and worse health outcomes are also subject to digital exclusion, but the relationship is complex. They found little evidence in the literature that conclusively links digital inclusion approaches to social outcomes, like health outcomes. More research is needed to understand the efficacy of these approaches for improving individual health outcomes, and ultimately outcomes between groups. There is an absence of evidence about differences in the way different social groups engage with digital technologies – for health and other purposes. A combination of digital inclusion approaches is needed, providing people with the skills and access to digital technology, and also to co-design digital services.	No evidence was found that conclusively establishes that digital exclusion is leading to worsening health inequalities. The authors suggest that health services seeking to make best use of digital technologies must take into account both: • the remaining barriers to using digital technologies that some groups face, • new opportunities to improve health for some groups because of the way they use digital technologies. An overarching gap was the lack of research that addresses the relationship between digital technology and the use and outcomes amongst different population groups, and underlying factors. The authors suggest that to start addressing this gap, they hope to see comparisons between groups in terms of the levels of digital exclusion and health outcomes that they experience.

No	Study	Design	Setting	Main findings in relation the rapid review objective	Key themes and recommendations in relation to the rapid review objective
11	Virtual solutions for Managing Cancer Care in a pandemic era: Lessons from COVID-19 Maslan et al Peninsula Cancer Alliance NHS England and NHS Improvement September 2020	Rapid evidence review	Secondary care	There is pre-pandemic evidence that patients with cancer living in more remote, rural locations do not have equal access to virtual solutions. There is also limited evidence emerging of the impact of the digital divide on cancer patients during the pandemic. Face-to-face consultation rates appear to be slightly higher in least deprived areas, and telephone consultations slightly higher in the most deprived areas, but there are no strong relationships with deprivation for these consultation types.	It has been suggested that the effects of exclusion can be mitigated by making small changes to how services operate.
12	Exploring patients' and clinicians' experiences of video consultations in primary care: a systematic scoping review Thiyagarajan et al 2020	Systematic review	Primary care	Patients and clinicians report both positive and negative experiences when using video consultations, and these experiences are, to a certain extent, context dependent.	Future research should use patients' and clinicians' experiences as a way to best design a video consultation service, allowing for variation according to contextual factors such as population mix and patient condition.
13	UHP Plymouth patient feedback on video consultations - What patients think August 2020	Patient feedback	Secondary care	Remote consultations are not suitable for everyone. Patients should be able to opt for an alternative, depending on their need and circumstances. This will be essential to ensure that existing health inequalities are not widened by the introduction of remote appointments as default without an alternative. Given the high incidence of technical problems encountered with video consultations, consideration should be given to providing more support for patients. This could include both working with Plymouth City Council to address digital inclusion, and providing a helpline or virtual guides, replicating the hospital guides patients would have access to when navigating a face-to-face appointment.	No one-size-fits-all solution. Key to a successful shift to remote consultations will be understanding which approach is the right one based on individual need and circumstance. A blended offer, including text, phone, video, email and in-person would provide the best solution. Digital exclusion remains a factor. In Plymouth alone, 21,000 people or 8% of the city's population, are categorised as digitally excluded, meaning either they have no knowledge and have never used digital technology, or have some knowledge but have not used it in the three months prior to the survey having taken place (Source: Plymouth City Council).
14	Lloyds Bank UK Consumer Digital Index 2021 2021	Survey	N/A	Over last 12 months, 1.5 million more people have started using the internet. 95% of people are now online and 60% of people have high digital capability. As a result of COVID-19, the UK has made five years' progress in one year. 2021 report demonstrates that digital and financial exclusion places individuals at a significant disadvantage. 2.6 million people remain completely offline. A further 20.5 million adults have Low or Very Low digital engagement. Digital poverty is exacerbated by existing vulnerabilities. People are 12 percentage points more likely to use the internet to manage their physical health compared to their mental health – ordering prescriptions, researching conditions and finding exercise programmes.	Those offline have raised significant barriers to their digital transition. With the number of people offline decreasing, those who remain digitally excluded state a variety of barriers to getting online. It is increasingly difficult for them to make the transition online without significant, sustained support, and perhaps new approaches to digital inclusion. Offline communications are also important in clarifying the benefits of digital inclusion – one-quarter still don't understand why they should be online and what they stand to gain. Service providers have a duty to ensure that assistive technology and inclusive design principles are applied throughout service development, enabling everyone to participate in a digital society.
15	COVID-19 and the digital divide Centre for Ageing Better July 2021	Briefing		1. There is a significant digital divide among 50–70-year-olds, exacerbated by the pandemic. Low income is also a key risk factor in digital exclusion (Lloyd's Bank 2020). 2. Digital inclusion is not just about being online, it's also about building skills and confidence. 3. There are many examples of good practice where groups have supported people despite the challenges. 4. There is a lack of awareness among older adults of the support available. The overwhelming majority of participants in our study were not aware of an organisation that could help them if they needed it, despite the prevalence of local support. This is an ongoing challenge in digital exclusion.	Local authorities need to collaborate more, and formally with community organisations on digital inclusion projects. This can help identify and measure who is digitally excluded in an area, and lead to more targeted and measurable work between the authority and organisations.

No	Study	Design	Setting	Main findings in relation the rapid review objective	Key themes and recommendations in relation to the rapid review objective
16	Planning and evaluating remote consultation services. A new conceptual framework incorporating complexity and practical ethics Greenhalgh et al 13 August 2021			Two prominent themes in the data were organisations' digital maturity in providing remote consultations, and the need for proactive measures to improve digital inclusion. Developed PERCS (Planning and Evaluating Remote Consultation Services) framework. Digital inclusion should be considered in relation to inequalities more generally. The paper references Tudor Hart's inverse care law, which states that people most in need of health care are least likely to seek it or receive it; the law reflects two mutually-reinforcing phenomena—worse health in deprived localities, and barriers to accessing healthcare in those same localities. Several examples from our dataset illustrated the subtleties of the reason for consulting and why rigid algorithms or allocation criteria may prove too brittle to guide practice.	Previous research on telephone consultations is surprisingly sparse and supports no firm conclusions, though several studies have suggested that double-handling may reduce efficiency. There was very little research on e-consultations prior to the pandemic, and findings were limited.
17	Experience of remote consultations during COVID-19 A rapid evidence synthesis for NHS E&I London Rocas Garcia et al December 2020	Rapid evidence synthesis	Secondary care	Evidence is limited regarding the views and requirements of all service users (and health inequalities) No understanding of the issues experienced by the groups of service users who do not respond to post-video consultation surveys. They are likely to be a different cohort of people in terms of characteristics than those who do respond to surveys.	No understanding of the experiences of people who have not accessed remote consultations, or health services more generally, during COVID-19. This is a critical group to identify and engage through qualitative approaches (e.g., via carer or third sector representatives) to understand barriers to engaging with health services remotely. Given the limited information on the impacts of remote consultation, and concerns regarding access and digital exclusion, a tiered approach is recommended.
18	Remote working in mental health services: a rapid umbrella review of pre-COVID-19 literature Barnet et al medRxiv BMJ November 2020	Rapid review	Across health sector	Evidence was lacking on extent of digital exclusion and how it can be overcome, or on significant context such as children and young people and inpatient settings. Digital exclusion is an important concern regarding service users without the necessary skills, equipment and monetary resources to access online treatment, with this most marked in more marginalised groups such as people from BAME and low-SES backgrounds, and loss of privacy and deterioration in therapeutic relationships are further risks.	Digital exclusion may result in the exacerbation of existing inequalities where already disadvantaged groups, such as older adults, people with sensory or cognitive impairment or members of some Black Asian and Minority Ethnic Groups, are at greater risk of exclusion. A broader evidence base is urgently required to evaluate the risk of exacerbating ethnic inequalities in mental health care access through tele-mental health adoption.
19	Homelessness, Access to services and COVID-19: Learning during the pandemic to inform our Future Key considerations and themes interpreted from stakeholder interviews in Summer 2020 and the COVID-19 Health and Social Care Learning System Health Improvement Scotland December 2020	Stakeholder interviews	Across health	Learning from this research has shown that the most effective responses to supporting people to access health and social care services have been where statutory and third sector organisations have collaborated to provide services that are designed around people's needs. These services were delivered in a way that helped to mitigate many of the traditional barriers faced, often by taking services to where people were.	The emergence of digital platforms to provide health and social care services presents opportunities to remove many of the traditional barriers to access previously experienced by people who are homeless. It also offers the chance for clinical staff across different health and social care services to come together to provide a multi-disciplinary approach to care and support. Further work is required to understand how to facilitate access to digital services for people experiencing homelessness and ensure people who are digitally excluded receive the same levels of care.
20	What needs to happen to increase uptake of e-Consult? By ICE for NHS Devon on behalf of the Devon Digital Accelerator programme 2020	Report	Primary care	Patients who do not possess the necessary skills and confidence to use e-Consult are at risk of digital exclusion, therefore efforts to equip patients with the necessary knowledge and skills will help increase their confidence and ability to complete an e-Consult. Importantly, patients who cannot access e-Consult because they cannot afford or access the internet, may also not be able to afford phone credit. As a result, call waiting times may lead some of the most vulnerable patients to drop from calls and not access their GP. This suggests that while most patients can access e-Consult, attention must be given to accommodate the most vulnerable patients who are at risk of digital exclusion.	To ensure the support needs of these patients are considered, it is recommended that e-Consult programme leads maintain links with community organisations/ advocacy groups (e.g., Healthwatch and Deep End Plymouth) and involve community leaders in further research. This will ensure the challenges and support needs of patients living in poverty and with complex needs are considered, to inform the best mix of face-to-face and remote access for these groups. It is also recommended that when vulnerable patients who are known to the practice call up to access their GP because they do not have Internet, that practice staff offer to call them back to save their phone credit and reduce the chance of the call cutting off.

No	Study	Design	Setting	Main findings in relation the rapid review objective	Key themes and recommendations in relation to the rapid review objective
21	Smartline Case Study University of Exeter / South West AHSN	Case study	Community	People in deprived communities, living in social housing, tend to be less visible in health inequalities statistics and are often not captured in surveys. People who are digitally excluded want practical, everyday access to digital tools and they want to learn about it from others like them, through peer support, or from existing trusted organisations in the community.	COVID-19 has had a significant impact on digital inclusion. Different models and approaches need to be considered. Health care organisations needs to link with community and voluntary groups to help people get online.
22	Impact of COVID-19 on migrants' access to primary care and implications for vaccine roll-out: a national qualitative study Knights et al 2021	Qualitative study	Primary care	Digitalisation and virtual consultations have amplified existing inequalities in access to health care for many migrants, due to a lack of digital literacy and access to technology, compounded by language barriers. Migrants face challenges around registering and accessing health care due to physical closure of surgeries, as well as indirect discrimination, language and communication barriers, and a lack of access to targeted and tailored COVID-19 information or interventions.	Migrant groups are at risk of digital exclusion and may need targeted additional support to access services – and this may also be relevant for other marginalised groups. Innovative opportunities were suggested, including translated digital health advice using text templates and YouTube.

Patient barriers

From the literature included in this review, a number of barriers were identified which prevented patients engaging with digitally delivered healthcare, as well as enablers that secondary care providers could consider adopting when redesigning pathways to support better access by digitally excluded groups.

National Voices has shown through their literature review and insights report that patient barriers differ across digitally excluded groups (older adults, people with mental health conditions, gypsies and travellers, people living complex lives, people in rural locations, asylum seekers, people with limited English, disabled adults) and this needs to be taken into consideration when redesigning patient pathways. Maslan et al (2021) identify in their literature review for the Peninsula Cancer Alliance that those who are least likely to be online are exactly those who make the most use of health services and experience the greatest burden of ill health.

Barriers to accessing online services included:

- Awareness – not everyone is aware of digital services and products available to them (National Voices 2021).
- Access – not everyone has the equipment (smartphone, laptop, tablet) or connectivity (data or broadband) to go online (National Voices 2021). There is pre-pandemic evidence that patients with cancer living in more remote rural locations do not have equal access to virtual solutions (Maslan et al 2021).
- Confidence and security - some people fear online crime, lack trust in virtual forms of information and communication or don't know where to start online (National Voices 2021). The Lloyds Bank Digital Consumer Index 2021 showed that for people offline, internet security related responses have all significantly increased.
- Skills – not everyone has the ability to use the internet and online services (National Voices 2021). Significant support was required for patients to understand how to use the equipment and to troubleshoot connection problems when they arose (Gilbert et al 2020). Social exclusion and disadvantage are often linked to low health literacy (Honeyman et al 2020).
- Communication ability – video communication requires specific communication skills such as listening with close attention with no interruptions (Gilbert et al 2020).
- Motivation - not everyone sees why using the internet could be relevant and helpful (National Voices 2021). Half offline say they are due to a lack of interest (Lloyds Bank Digital Consumer Index 2021).
- Preference – some patients prefer face to face consultations (UHP survey 2020). Some evidence to suggest that new exclusions might appear, for example young people who might be comfortable with technology but not to use it for interactions with the NHS (National Voices 2020).
- Design – not all digital services and products are accessible and easy to use (National Voices 2021).
- Language – For people whose first language is not English, issues related to the use of interpreters when providing virtual alternatives to face to face consultation need addressing (Maslan et al 2021).
- Socioeconomic factors can affect an individual's likelihood of using the internet (National Voices 2021).

In addition to the literature that provides information directly related to the objective, recurring themes around barriers to exclusion and how to overcome these barriers have been collated. A number of detailed reports and evaluations from various sources including the NHS Widening Participation Programme, National Voices and NHS Midlands and Lancashire Commissioning Support Group provide recommendations to help healthcare providers better engage with digitally excluded group.

Approaches identified from the literature for supporting digitally excluded groups to access remote consultations:

- Actively identify the evolving health and social needs of people in vulnerable circumstances (DTOW).
- Identify marginalised groups and proactively develop supportive interventions (DTOW) and targeted additional support to support their access to services.

- People need informed and supported choice first, digital second (National Voices). Offer patients a choice of telephone, video or face to face consultation – record these preferences and share across provider. Adapt pathways to offer personalised options rather than one-size-fits-all.
- Build on existing good practice (National Voices).
- Provide training for staff on delivering good video consultations.
- Take an inclusive design approach to changing pathways and co-design with people (adopt the NHS Widening Digital Participation recommendations).
- Take time to understand the beliefs and practices of different excluded groups.
- Link/refer excluded groups with local community and voluntary groups who will support people to get online.
- Use inclusive language and ensure a mix of communication materials so that digitally excluded groups are not further excluded by missing digital communications.
- Make small changes to how services operate to test the positive and negative impacts on excluded groups.

Recommendations

- Secondary care providers should continue to offer a blended approach of video, telephone and face-to-face consultations, and incorporate choice into their triage processes so that digitally excluded groups are not disadvantaged by a 'digital first' approach.
- More research is needed to understand how the health outcomes of digitally excluded groups will be impacted by increasing the provision of remote consultations.
- There is a lack of evidence providing detail on the link between digital exclusion and health outcomes which is highlighted by a number of papers. The NHS Widening Digital Participation report acknowledges that there are currently no national datasets which track the direct relationship between digital exclusion, access to digital healthcare, health outcomes and health inequalities.
- A greater understanding is needed about how to adapt pathways within secondary and community care to include choice to ensure equal access to health services for all people so that digitally excluded groups are not negatively impacted by the move to offer more remote consultations.

Conclusions

This review sought to understand how digitally excluded groups have been impacted by the move to provide more consultations in secondary care remotely during the COVID-19 pandemic.

A number of papers included in this review suggest that remote consultations are likely to have a negative impact on the health outcomes of digitally excluded groups unless health providers provide a range of options (face-to-face, telephone and video consultations) for engaging with health services. Further research is needed to understand the impact of increasing the provision of remote consultations as a standard part of healthcare provision in secondary care, as detailed evidence is lacking.

It is often a challenge for all health providers, to design inclusively for the 5% of people who are not online, and offer accessible, tailored options for accessing services. In the South West, there are challenges in terms of geography and rurality, with poor broadband and internet connectivity, in addition to other factors such as age and income which impact on digital access.

During the pandemic, it has been difficult to reach people who are digitally excluded to understand their views, as face-to-face options for gathering feedback, such as focus groups, have not been possible. When people are digitally excluded, they are unlikely to have the opportunity, capability or motivation to complete an online survey.

The impact on health outcomes for different digitally excluded groups may vary depending on the population. A greater understanding is needed of how the health outcomes for digitally excluded groups have been impacted during the COVID -19 pandemic and how they are likely to be impacted in the future to avoid widening health inequalities.

Limitations

This piece of work is limited by its rapid nature and the complexities of the different factors contributing to digital exclusion.

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