Bridging the Digital Divide: Challenges and Opportunities for Disabled Adults in Volunteering

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Alternative formats: If you require this report in alternative formats, please contact the corresponding author.

September 2024

Contents

Acknowledgements

How to cite this report: Kamerāde, D., Clark, A., Goodall, C., Parker, C., Vasilica, C., Yuen, J. (2024). *Bridging the Digital Divide: Challenges and Opportunities for Disabled Adults in Volunteering*. ESRC Digital Future of Work Centre /University of Salford/University of Greenwich/HEAR Equality and Human Rights Network

Executive Summary

Purpose and Scope

This report combines insights from social science, vocational rehabilitation, disability research and digital engagement to explore how the widespread use of the Internet and other digital tools in various areas of life, including volunteer organisations, affects disabled people's ability to participate in volunteer work.

In the UK 16.3 million people engage in voluntary work through 163,150 voluntary sector organisations, addressing service gaps unmet by public and private sectors, contributing £20bn to the UK's economy and supporting a thriving democratic society (NCVO, 2022).

Increased demands, fewer resources, and a desire to be inclusive have driven voluntary sector organisations to adopt digital technologies for recruitment, training, management, communication with volunteers, and matching them with online or offline tasks. This shift to digitalisation could be both beneficial and limiting for disabled volunteers. On one hand, it may make volunteering and engagement with voluntary sector organisations more accessible. On the other hand, digitalisation can introduce new barriers, as disabled people and their needs are often overlooked in discussions about digital divide (Lin et al., 2019)

The project aimed to:

(1) advance understanding of how digital inclusion of disabled individuals fosters social inclusion in online and offline voluntary work; and

(2) identify effective principles to boost participation, inclusivity, and leverage the potential of digital technologies in the third sector organisations.

Findings are drawn from secondary analysis of existing survey data and analysis of new interview data.

Key findings

- **Link Between Digital Inclusion and Volunteering:** For disabled adults, being included in online and offline volunteering depends on how well they can access and use digital technology in general. The same devices, technologies, social support, and skills used in employment and other areas of life are often applied to volunteering. Because disabled adults often have less access to devices and the internet and use them less than non-disabled adults, they are more likely to miss out on volunteering opportunities that require it.
- **Digital Access and Divide**: Most disabled adults in the UK are connected digitally, but the digital divide persists. Disabled adults face greater digital challenges and exclusion compared to non-disabled adults, with the disability digital gap remaining largely unchanged since 2018.

- **Digital exclusion**: Nearly one million disabled adults don't have Internet at home, 1.4 million don't use the Internet, and about two million don't own a smartphone or computer.
- **Frequency of Use and Online Exclusion**: Disabled adults use the Internet less often than non-disabled adults and they are more likely to be left out of common online activities like browsing, emailing, social media, online banking, and streaming videos.
- **Double Disadvantage and Additional Challenges**: Disabled people often come from groups that with already more limited access to the Internet and devices, such as older adults, those with low incomes, benefit recipients, renters from local authorities, people with less education and those living alone. On top of these existing barriers, being disabled means facing even more difficulties in accessing and using digital technology.
- **Individual Nature of Disability Experience with Digital Tools**: Disabled adults' experiences with digital tools are highly individual, shaped by factors such as impairment type, severity, presence of multiple impairments, and their social context.
- **Double-Edged Sword of Digital Technology and Online Volunteering**: Digital technology is crucial for inclusion but can also be source of exclusion for those struggling with technology. Disabled adults are more inclined to engage in online volunteering, because of its accessibility. However, online volunteering also presents challenges that may deter some disabled volunteers. Despite some digital barriers, disabled adults show higher interest in online volunteering compared to non-disabled adults.
- **Importance of Internet Access for Engaging in Volunteering:** Internet access and usage are crucial for enabling disabled individuals to engage in volunteering, including both online and in-person opportunities. Those who use the Internet more frequently are more likely to volunteer, even after considering their socioeconomic background.
- **Internet Access, Use, Devices and Volunteering Hours and Frequency**: For disabled individuals, owning devices does not affect the number of volunteer hours. More frequent Internet use is linked to volunteering more hours, with exception of frequent Internet users (daily or weekly) who volunteer fewer hours. Device ownership and Internet use do not impact the frequency of volunteering.
- **Digital Barriers and Enablers of Volunteering**:
  - **Technology over-reliance**: Over-reliance on technology can complicate volunteer journeys, especially when IT systems or support is unavailable or inadequate.
  - **Technological assumptions**: Organisations often assume people understand how to use technology and devices and may not recognise the need for support or training.
  - **Variation in suitability of assistive devices**: The effectiveness of assistive devices can facilitate or hinder participation, depending on their suitability and the level of support provided. Malfunctioning or unsuitable assistive devices

can exacerbate challenges for disabled individuals. Disabled adults can experience a mismatched between requirements and devices available or provided that can lead to exclusion form volunteering opportunities.

- o **Reliance of support networks**: To be effective, use of assistive devices draws on the skills and experience of informal support networks. Organisations should remain attuned to prioritising supporting people rather than supporting technology.
- o **Organisational culture**: Organisations should encourage a culture of listening and providing empathetic support to address the specific needs of disabled volunteers and reduce digital barriers to volunteering. Support structures should be inclusive and allow volunteers to discuss their needs, ensuring parity with paid staff support.

- **Volunteering and Employment**: Our findings suggest that, rather than serving as a direct path to paid work, employment helps disabled individuals overcome digital barriers to volunteering. The confidence, skills and resources acquired through paid employment, as well as the social capital that often comes from being part of being a part of more diverse networks that includes work colleagues as well as more personal relationships, means that those in employment might be better able to navigate some of the barriers to securing volunteering roles. Such resources are less easily initiated in volunteer roles - we heard frustrations that the Access to Work scheme, which supports paid employment, does not cover voluntary work.

- **Discrimination and Volunteering**. Disabled people continue to experience indirect and direct discrimination. For some, the lack of appropriate devices, limited training, and organisational cultures that make people reluctant to seek support all imply a level of discrimination that makes it difficult for those in volunteering roles to always excel. Such discrimination was not always so indirect. There is evidence to indicate that those who have been in successful volunteering positions for some time suggested they are being denied employment opportunities because they are disabled.

Introduction

This report presents an overview of an innovative project delivered by an innovative interprofessional team of social scientists, voluntary sector organisations, vocational rehabilitation practitioners, disability researchers, disabled people, and digital engagement specialists to examine digital inclusion of disabled adults in voluntary work. Existing evidence indicates that while access to digital technologies is increasingly considered critical for accessing work and volunteering this is not without challenges. Disabled people are at risk of digital exclusion and could be excluded from volunteering roles and opportunities.

This report summarises a research project that examined the impact of digitalisation on UK voluntary sector organisations on disabled adults' participation in online and offline voluntary work. It presents the findings of work undertaken between November 2023 and August 2024, bringing together new empirical insights from large-scale surveys and individual experiences gathered through detailed interviews, as well as practice and policy guidelines developed to mitigate the risk of exclusion.

We hope the report provides practical implications, promoting the inclusivity, employability, and ultimately the well-being of disabled individuals, with potential applicability to paid work.

Why now?

In the UK 16.3 million people engage in voluntary work through 163,150 third sector organisations, addressing service gaps unmet by public and private sectors, contributing £20bn to the UK's economy (NCVO, 2022), and supporting a thriving democratic society. Still only 18% of disabled adults in the UK volunteer, which is comparable to the same levels of volunteering among non-disabled people (Donahue et al., 2022).

Increased demands, fewer resources, and a desire to be inclusive have driven third sector organisations to adopt digital technologies for recruitment, training, management, communication with volunteers, and matching them with online or offline tasks (Cannon & Dart, 2023; McMullin, 2021). As the result, in 2019, 57% of volunteering involved a mix of online and offline activities (McGarvey et al., 2019).

The move towards digitalisation can be both advantageous and challenging for disabled volunteers. On one hand, it might improve access to volunteering and involvement with voluntary sector organisations. Conversely, it can also create new digital barriers, as the needs of disabled individuals are frequently neglected in conversations about the digital divide (Lin et al., 2019).

The work detailed in this report investigates the landscape of volunteering for disabled adults. It presents insights into national patterns and trends from survey data alongside rich detail from the lived experiences of disabled adults who currently are engaged in, or feel excluded from, volunteering opportunities. It identifies barriers and enablers around

digital technologies to support disabled adults to volunteer and considers how the activities and cultures of volunteer organisations might become more inclusive of the diverse needs and aspirations of current and future disabled adult volunteers.

The work has been guided by insight from many supporters, including practitioners and disability activists and, most importantly, individuals with lived experience of being disabled.

Project aims and objectives

The project aimed to:

1) advance understanding of how digital inclusion of disabled individuals fosters social inclusion in online and offline voluntary work; and

2) identify effective principles to boost participation, inclusivity, and leverage the potential of digital technologies in the third sector organisations.

It did this by:

1. Examining the digital inclusion of disabled adults, analysing their Internet and mobile device access, utilisation trends and patterns using large nationally representative surveys
2. Investigating the links between digital inclusion and disabled adults' participation in online/offline voluntary work, and its impacts on their employability and wellbeing.
3. Identifying the digital barriers hindering disabled individuals from participating in on/offline voluntary work
4. Partnering with practitioners and disabled adults to create innovative evidence-based guidelines for promoting digital inclusion among third sector organisations.

Activity was guided by four linked research questions:

1. How do disabled adults access and use the digital assistive devices? How has this changed since 2018?
2. How could the digital inclusion of disabled individuals facilitate their involvement in offline and online voluntary work, and affect their employability and wellbeing?
3. What are the digital barriers and challenges that hinder disabled individuals' engagement in online and offline voluntary work?
4. What strategies might enhance disabled adults' participation and inclusivity, leveraging the potential of digital technologies in the third sector?

A note on scope and definitions

Volunteering. This project focuses on formal volunteering which, according to the UK Household Longitudinal Survey (UKHLS) used in this project is defined as giving unpaid help or working as a volunteer for any type of local, national or international organisation or charity. The same definition was used for interviews.

Disability. Language regarding disability is continually evolving and debated. There is no universal agreement on terms and definitions, so we were based our decisions about the language and definitions on the input from the people with lived experience of disability, current best practices and the definition of disability used in Equality Acti 2010. This research is based on the social model of disability, which asserts that while people have impairments, the exclusion and discrimination that they experience are not due to their impairments themselves but because society is not organised to accommodate impairments and their needs. According to this model, impairments are disabling primarily due to societal barriers that exclude and discriminate against disabled people. Therefore, according to the social model of disability, we refer to people who have impairments, as disabled adults or disabled volunteers.

In UKHLS survey respondents are asked whether they have a life-limiting long-term mental or physical impairment, illness, or disability that causes difficulties with everyday activities. By 'long-standing' they mean anything that has troubled someone over a period of at least 12 months or that is likely to trouble them over a period of at least 12 months. This definition is consistent with the Equality Act 2010.

Disability and intersectionality. There is considerable diversity among disabled adults in terms of their impairments, needs, and personal identities. Each person's experiences and characteristics interact in complex ways, leading to different kinds of both digital and non-digital discrimination and exclusion. This diversity affects how disabled people should be supported when it comes to digital inclusion in volunteering. Although our survey analysis often compares disabled and non-disabled adults, it is important to remember that a one-size-fits-all approach is inadequate, particularly in digital inclusion. Our interviews highlight that achieving equity in digital inclusion means recognising and addressing each disabled person's unique situation.

Disability digital divide. In this report we refer to disability digital divide as the gap between disabled and non-disabled people in terms of access to and use of digital tools and devices and those who do not. It includes disparities in internet access, device availability, and the frequency of Internet usage for various purposes.

1.Current State of the Disability Digital Divide

Investigating the current state of digital inclusion of disabled people is essential, as many aspects of life have increasingly relied on internet access since the COVID-19 pandemic. While it is often assumed that everyone is online, this is not true for all social groups (Hernandez & Faith, 2023). It is important to assess how this issue affects disabled people. In addition, our interviews also highlight that digital inclusion in volunteering is closely linked to digital inclusion in other areas of life. The same devices, technologies, social support, and digital skills used in employment and other daily activities often are also used in volunteering.

1.1.   High Connectivity but Persistent Digital Divide

In the UK, most disabled adults are connected to the digital world. However, a closer look into the data reveals a more nuanced reality. The promise of a connected world isn't equally realised for disabled and non-disabled people. The digital divide persists with disabled adults still facing greater digital challenges and exclusion compared to non-disabled adults.

Device and Internet ownership and use

According to the UK Household Longitudinal Survey (UKHLS) data from 2021 to May 2023, most disabled adults in the UK (93%) have an Internet connection at home. Fewer have a device needed to go online - only 86% have at least one computing device, such as a laptop, tablet, desktop, or notebook, and 84% own a smartphone. This means that nearly one million disabled adults have no Internet connection at home and approximately two million lack a smartphone or at least one computing device.

There is also a notable four to seven percentage point digital disability gap: non-disabled adults are more likely to have Internet access (97%), a computing device (92%), or a smartphone (91%) at home.

Among disabled Internet users, the smartphone is the most used device for personal Internet access, with 84% relying on it. This is followed by the laptops (56%) and tablets (53%). Other devices are less commonly used, including desktop computers (33%), smartwatches (13%), eBook readers (16%), feature phones (7%), and other devices (7%). Among those who access the Internet via 'other devices,' the most mentioned were TVs, game consoles, and Alexa.

> This matters because these device and ownership patterns reveal important insights for volunteer-engaging organisations. The fact that not all disabled (and non-disabled) people have Internet connection or devices implies that these organisations might need to employ diverse outreach strategies and consider alternative methods of communication and engagement to ensure inclusivity.

Internet use for different purposes

Disabled adults are less likely to use the Internet overall and are also more likely to be digitally excluded from common online activities, many of which are important digital skills relevant to offline and online volunteering (see Figure 1). They are less likely to use the Internet for browsing websites, checking emails, using social media, online banking, and streaming videos or music.

Figure 1. Internet use for different purposes: disabled vs. non-disabled adults.
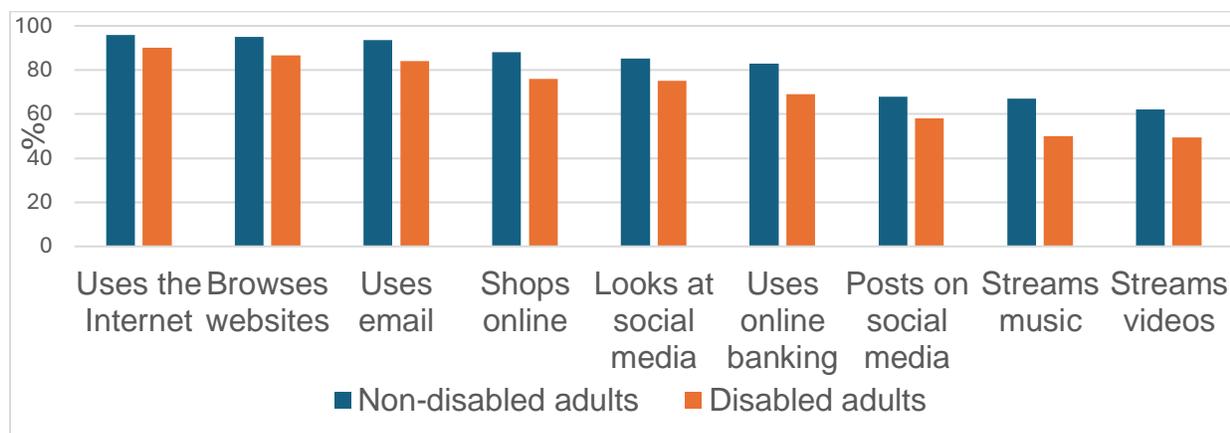
Data: UKHLS (2021-May 2023), N=27,998

Disabled adults who use the Internet often do so less frequently than non-disabled adults. For example, while 73% of non-disabled adults check their email daily, only 65% of disabled adults do the same. Similarly, 66% of non-disabled adults browse social media daily, compared to just 56% of disabled people. These differences might indicate the digital skills gaps, as the more often people use digital platforms, the more skilled they become at navigating them. Additionally, they may reflect that disabled adults often have less time available, as living with an impairment can make everyday activities take longer and involved additional, time-consuming tasks such as frequent medical appointments.

This matters, especially for volunteer-engaging organisations that aim to reach, engage and communicate with disabled people online. Understanding these usage patterns can help organisations tailor their communication strategies effectively to accommodate varying levels of digital engagement and skill. This might involve using multiple outreach methods, offering extended deadlines for responses to emails, and ensuring that the online content is accessible to those with different levels of digital capabilities.

Persistent digital gaps

Despite the widespread digitalisation of many areas of everyday life since the Covid-19 pandemic, using the UKHLS data we found that these digital gaps between disabled and non-disabled adults remain largely unchanged from 2018. This underscores the need for ongoing efforts to bridge these gaps to ensure that all people, regardless their disability, have equal opportunities to engage in volunteering-related online activities

1.2.　　Double Digital Disadvantage and Intersectionality

Disabled people often face additional digital challenges due to their disability combined with belonging to already disadvantaged groups. According to the UKHLS (2021-May 2023) data, older people, those with low incomes, benefit recipients, renters from local authorities, people with less education, and those living alone are already less likely to have internet access or devices and to use internet and use it regularly for different purposes, even if they are not disabled. When individuals from these groups are also disabled, they have even lower rates of digital inclusion.

For example (see Figure 2) older people, whether disabled or not, are less likely to use the internet. However, across all age groups, except for those under 35, disabled people are also less likely to use the internet compared to non-disabled people of the same age.

Figure 2. Disability, age and Internet use.
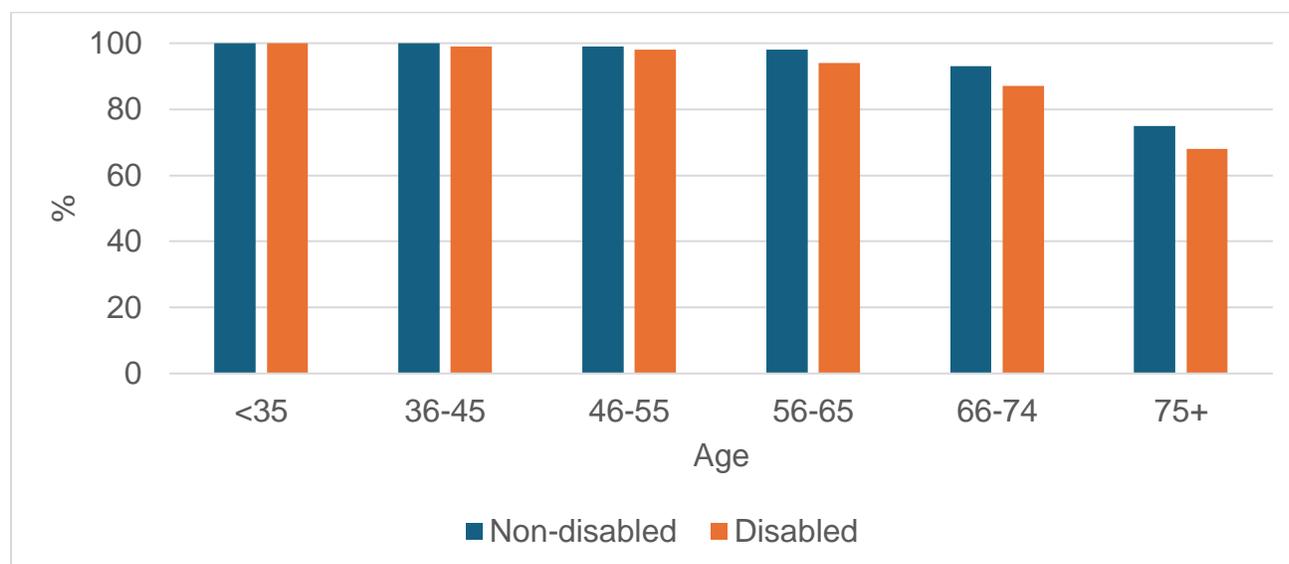
Data: UKHLS (2021-May 2023), N=27,998

Figure 3 illustrates that those adults, disabled and non-disabled, with higher education levels are more likely to use the Internet. However, within every educational group, disabled individuals are significantly less likely to use the Internet. This disparity is particularly pronounced among those with less than GCSE level education or its equivalent.
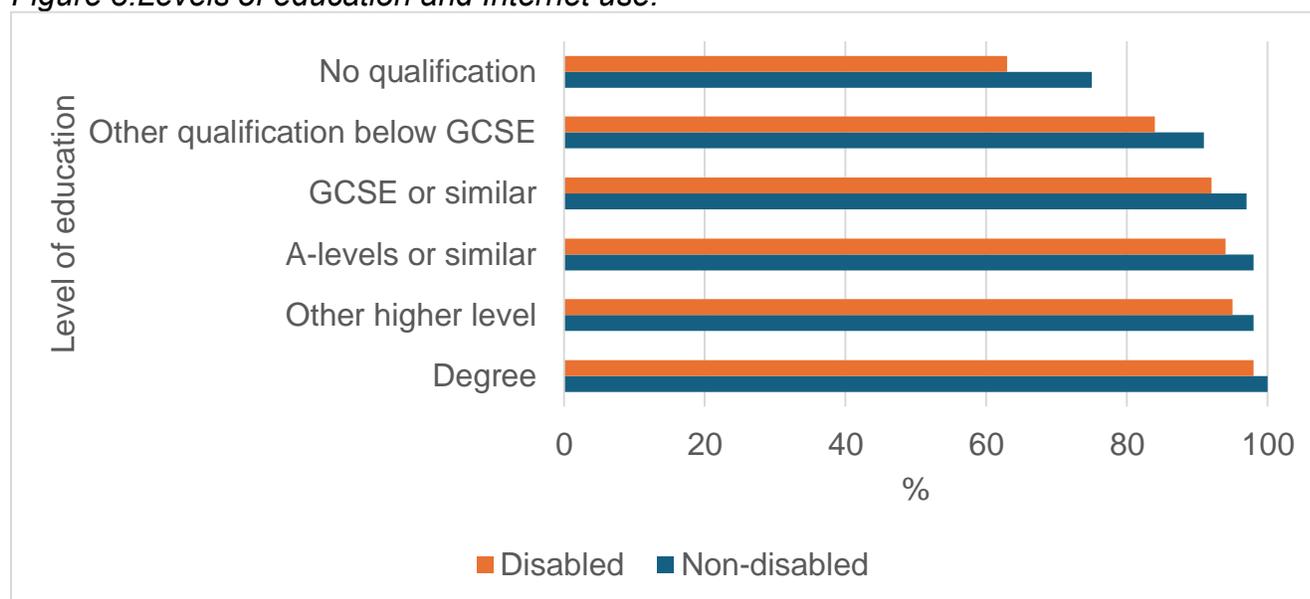
Figure 3.Levels of education and Internet use.

Data: UKHLS (2021-May 2023), N=27,998

According to the UKHLS Wave 12 (2021-May 2023) data, there are some variations in device ownership, internet access, and usage based on gender, ethnicity, region, and whether lives in urban or rural areas. However, these variations are minor and not substantive.

> This intersectionality matters and highlights the need to continue to advocate for policies that promote digital inclusion of disadvantaged groups, coupled with outreach initiatives targeted at disabled adults who are older, with low income, receive benefits, rent from local authorities, have lower levels or education and live alone. These initiatives could involve simplified digital interfaces, providing digital skills and capabilities training sessions, providing digital devices and internet access subsidies (or opportunities), as well as developing hybrid models of communication that blend digital and offline methods to ensure inclusivity.

1.3.   Individualised Experiences of Disability and Digital Inclusion

The interviews with disabled volunteers repeatedly highlighted that person's disability experience is highly individual, shaped by factors such as impairment type, severity and whether they have multiple impairments, their socio-economic and other characteristics. Many disabilities are also not immediately apparent to others. This diversity in disability experiences requires a nuanced and person-centred approach to supporting digital inclusion, moving beyond a one-size-fits-all solution. Interview data emphasise the

necessity of asking disabled individuals about their specific support needs, rather than making well-intentioned but potentially incorrect assumptions.

Table 1 illustrates how internet usage levels, both in general and for specific purposes, vary significantly by impairment type, even when the age is considered. A smaller standard deviation indicates less variation in Internet and device usage rates among adults under 66 with different impairments. Age partially explains these differences, as some impairments and internet use patterns are more age-related than others. Overall, people with the hearing and sight impairments remain the least likely to use the Internet. They are also less likely to use email and use it daily, look at social media and stream videos. UKHLS data from 2021 to May20023 also suggest that individuals with more severe impairments are less likely to use the Internet for various purposes.

Table 1.Impairment type and Internet use

Impairments	Uses the internet (%)		Uses Email (%)		Uses email daily (%)		Looks on social media (%)		Streams videos (%)	
	All ages	Under 66	All ages	Under 66	All ages	Under 66	All ages	Under 66	All ages	Under 66
Other	90	98	86	91	58	64	79	87	56	68
Communication or speech	89	91	78	80	45	48	73	80	55	64
Memory, learning	87	95	80	88	50	58	76	87	55	57
Lifting/carrying/ moving	85	94	76	88	50	61	68	84	40	53
Continence	85	94	79	88	53	63	70	84	42	60
Personal care	84	93	76	85	44	52	71	84	45	58
Mobility	83	94	74	88	49	62	66	83	39	56
Manual dexterity	83	93	76	87	50	61	68	85	37	53
Physical coordination	80	93	73	86	45	57	64	82	37	54
Sight	79	93	67	85	40	58	56	78	33	56
Hearing	75	89	67	84	38	55	58	81	31	51
Standard deviation	4	2	6	3	6	5	7	3	9	5

Data: UKHLS (2021-May 2023), N=8,863

This matters because these variations again emphasise the need for diverse digital and non-digital communication channels, for example emails, instant messaging, visual alerts, social media, printed media, combined with audio recording and phone calls, to ensure information reaches (potential) volunteers, regardless of their impairment type.

2. Digital Inclusion and Volunteering

2.1.   Disability Status and Volunteering

Before examining how digital inclusion affects volunteering among disabled adults, it is important to first understand the broader landscape of volunteering.

According to the most recent volunteering data - UKHLS Wave 10, collected between 2018 and May 2020 - 18% of both disabled and non-disabled adults reported that they helped or volunteered for local, national, or international organisations or charities. However, when adjusting for factors such as age, gender, race, education level, household income, household size, and employment status, disabled adults have a slightly higher probability (18%) of volunteering compared to non-disabled people (17%).

The rates of volunteering in the past four weeks were similar for both groups, with 14% of both disabled and non-disabled adults having volunteered recently. Disabled adults tend to volunteer more regularly than non-disabled adults. Specifically, 52% of disabled volunteers participated weekly, compared to 48% of non-disabled volunteers. Additionally, 22% of disabled adults volunteered monthly (compared to 20% of non-disabled), 9% volunteered often but not regularly (compared to 8% of non-disabled), and 17% volunteered occasionally, compared to 23% of non-disabled volunteers.

Moreover, disabled adults who volunteer tend to commit more time, spending an average of 12 hours per week volunteering, compared to 10 hours for non-disabled volunteers.

2.2.   Online Volunteering: A Double-Edged Sword

Disabled adults tend to engage more in online volunteering, largely due to the accessibility advantages of digital platforms. Although online volunteering can be a barrier for some, disabled adult's express greater interest in such online volunteering opportunities than non-disabled adults.

According to Time Well Spent (TWS) surveys, disabled adults are more likely to engage in online volunteering. In 2019, they were significantly more likely than non-disabled volunteers to volunteer exclusively or frequently online (see Figure 4). In 2023, 34% of disabled adults and 27% of non-disabled adults participated in remote volunteering, either online or over the phone. Among these remote volunteers, 54% of disabled and 49% of non-disabled volunteers engaged in online volunteering frequently (often or very often), with 20% of disabled and 13% of non-disabled volunteers conducting all their volunteering activities online.

Figure 4. Disability status and frequency of volunteering online
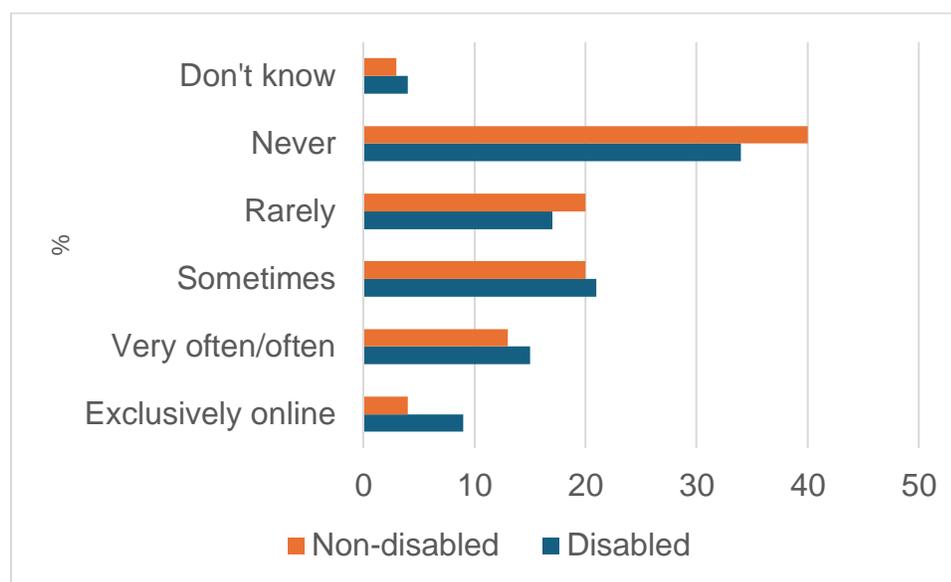
Data: Time Spent Well (TSW) survey, 2019, N=5,035

This pattern reflects the accessibility advantages of digital platforms, particularly for those people with physical impairments. For example, one participant noted:

> "So for me now one of the major issues I have at the moment is fatigue … if the requirement was to by the time I got made myself presentable, hauled myself out of the house, travelled to somewhere you know, actually that probably rules out a lot of opportunities for me, whereas sitting in a, you know, sitting in a chair in front of a computer where I've only got a commute as far as the, you know, the next room makes things much more accessible" (Astra, aged 50-69, with a mobility impairment)

However, there are concerns about the shift to online volunteering, which may not suit some disabled people. Time Well Spent Survey data (2023) show that 3% of disabled adults who have not recently volunteered feel that the shift online has prevented them from starting volunteering, compared to 1% of non-disabled adults. Some of our interviewees even felt that the transition to online formats, such as virtual meetings, has made it harder for them to engage because the lack of human connection in online meetings:

> "The problem was that I couldn't communicate. I wanted to say things, but I couldn't say them. And then people couldn't hear me if I had said them and then they couldn't see me. So it was all of that, it puts a lot of stress [on me] ... I felt very isolated and very vulnerable which isn't great for disability either ... What you want to feel is that there are people around all the time ... IT and disability, it can cause a huge amount of stress if you're not careful." (Blaze, aged 70-89, with a mobility impairment)

For other, volunteering online from home means that there might be no support at hand when things go wrong. One interviewee explained: … "because I work from home [the difficulty is] that you don't learn from your peers or your work colleagues because you're not sitting next to somebody and the older you get the less you can keep up to date" (Echo, aged 50-69, with a mobility impairment).

Despite these challenges, disabled adults (14%) are more likely than nondisabled adults (12%) to say that they are interested in volunteering activities that are mostly or entirely online (TWS, 2019 data).

> This matters because these findings suggest that volunteer-engaging organisations can expand their online volunteering provision to attract and enable disabled volunteers. However, they must also address potential digital barriers such as online communication issues and lack of in-person support.

2.3.   How digital inclusion influences volunteering

Digital inclusion and whether some volunteer

Since many volunteering opportunities are now advertised and managed online, we need to look at whether having digital devices and using the Internet helps disabled people get involved in volunteering, not just online but in general. This section highlights key findings that show that Internet access and usage are crucial factors in enabling disabled people to participate in volunteering. While owning computer devices and a smartphone might initially seem important for volunteering, the impact of these devices alone weakens when we account for certain socioeconomic factors and whether someone uses the Internet.

Disabled people with computing devices and smartphones are more likely to have volunteered in the past year compared to those without these devices. Those with Internet access or who use it frequently are also more likely to volunteer than those without Internet access (see Table 2, column a, on the next page)

When accounting for socioeconomic factors like age, education, income, gender, ethnicity, and living alone—factors that influence both digital access and volunteering—the difference in volunteering rates between those with and without digital access decreases but remains significant (see Table 2, column b, on the next page). This means that while these broader factors explain much of the gap in volunteering, digital access and use are still important.

However, once we account for Internet access and usage frequency, owning devices like a smartphone or computer has little effect on volunteering rates (Table 2, columns c, d). The main factor influencing volunteering is how often disabled people use the Internet, rather than just owning digital devices. More frequent Internet users are more likely to volunteer, even after taking into account their socioeconomic characteristics and computing devices they have at home.

Table 2. Digital inclusion of disabled people and volunteering in last year

Digital inclusion indicators	Volunteered in last 12 months (%)				
	Unadjusted	Adjusted for socioeconomic characteristics (SC)[1]	Adjusted (SC+ computing devices)	Adjusted (SC + smartphone)	Adjusted (SC+ Internet use)
	a	b	c	d	e
Any computing devices at home					
No	9	13		13	17
Yes	19	18		18	18
Has a smartphone					
No	16	15	16		17
Yes	19	18	18		19
Internet use					
No access	8	11	11	11	
Never use	8	10	10	11	
Once a month or less	13	16	16	16	
Several times a month	17	17	17	17	
Several times a week or daily	20	19	19	19	

Data: UK Household Longitudinal Panel Study (UKHLS) (Wave 10, 2018-May2020), N=8,863

Note for the table: [1]predicted probability. To calculate the predicted probabilities, important information about each participant that could affect both their disability and device ownership/internet use, was considered, such as b) their age, gender, their race, how much education they have had, their household income, how any people they live, and if they are employed; c) b + having computing devices c) b + owning a smartphone d) b+internet use frequency.

The pattern is consistent for volunteering over the past four weeks, suggesting that digital barriers are an important factor influencing volunteering, beyond just socioeconomic conditions. The double disadvantage plays a critical role in disabled people's volunteering. Disabled adults from disadvantaged backgrounds are more likely to face digital exclusion and are also less likely to volunteer. Therefore, addressing both socioeconomic barriers and digital obstacles to active Internet use is essential for increasing volunteering among disabled adults.

To address this double disadvantage, volunteer-engaging organisations can advocate for policies that address the socioeconomic disparities affecting Internet use and volunteering. They can collaborate with government and private stakeholders to develop inclusive policies and programmes. Additionally, efforts should focus on alleviating socioeconomic barriers by providing financial assistance for device acquisition, offering educational and digital literacy support, and creating inclusive digital platforms.

Digital inclusion and hours spent volunteering

Once disabled people start volunteering, having computing devices or smartphones does not significantly impact the number of hours they volunteer (Table 3), even when accounting for their socioeconomic background and Internet usage However, Internet access and how frequently it is used do affect volunteering hours. Generally, those who use the Internet more frequently tend to volunteer more hours.

An exception is frequent Internet users (daily or weekly) who volunteer fewer hours. This could be due to their heavy online engagement, which reduces time available for volunteering, or they might participate in online volunteering activities that require less time compared to offline volunteering.

Table 3. Digital inclusion and hours spent volunteering

Digital inclusion indicators		Unadjusted	Volunteering hours (average in last four weeks)	
			Adjusted for socioeconomic characteristics (SC)	Adjusted (SC+ Internet use)
Any computing devices at home				
	No	11	11	12
	Yes	12	12	12
Has a smartphone				
	No	13	13	13
	Yes	12	12	12
Internet access/use				
No access		13	13	
Never use		9	9	
Once a month or less		17	17	
Several times a month		22	21	
Several times a week or daily		12	12	

Data: UK Household Longitudinal Panel Study (UKHLS) (Wave 10, 2018-May2020), N=8,863

Note: [1]There were only 26 disabled people that had no access to the internet and volunteered in last four weeks.

Digital inclusion and frequency of volunteering

The UKHLS Wave 10 (2018-May 2020) data show that once disabled adults start volunteering, their Internet usage and device ownership have no effect on how often they volunteer, after accounting for socioeconomic differences. For example, 76% of disabled volunteers without home Internet volunteered monthly or more frequently, compared to 74% of those who used the Internet weekly or more often. This suggests that once disabled adults are engaged in volunteering, their level of digital inclusion does not significantly affect the frequency of their volunteering

The findings suggest that organisations should prioritise maintaining and enhancing the engagement of disabled adults who are already involved in volunteering, rather than focusing solely on increasing their digital inclusion. It is also important to balance volunteering opportunities by offering both online and offline options. Frequent internet users might prefer or have more time for online volunteering, so providing a range of opportunities that cater to different preferences can help maximise engagement.

2.4.   Digital Inclusion, Volunteering, Employability and Wellbeing

Disabled adults volunteer for reasons that echo existing research (McGarvey et al., 2019), including the desire to 'give something back' or make a difference to the lives of others through direct support or advocacy. Some also do so proactively by passing on some of their own lived experience as a disabled person to benefit others.

> "And probably a lot of it has mirrored my work-related skills, I would say … And I think you do get a satisfaction out of looking at things that you've kind of got a sense of achievement for and that's, you know like a point to things in my work life and my life of things that I've volunteered for that have given me equal levels of satisfaction. I think at the end of the day, feeling like what you're doing has made a difference to other people in some tangible way ... if you're gonna give your time for something, you've got to feel good about what comes out at the end of it" (Astra, aged 50-69, with a mobility impairment)

While the altruism of being able to give something back or make a difference has the potential to positively influence wellbeing (Stuart et al., 2020), some identified more explicit benefits, particularly to their social relationships. These included reducing social isolation and meeting new people, but also of spending time doing meaningful activities, and of having a structure or routine to one's day or week.

> "At least I don't feel alone and 100% isolated … And especially the communication. Because as someone who is social isolated, I can spend many days without talking to anybody ... But we cannot stay [inside] for many days without talking to anybody. We must have [places] where we can go, especially if we are we are not working" (Nex, aged 50-60, with a hearing impairment)

While several discussed how volunteering had influenced their mental health and social connections, those we interviewed were less forthright about how it could lead to paid employment. Indeed, only two people of those we interviewed specifically reported instances of that volunteering work providing a route into paid work, both of whom found employment within the same organisation they volunteered for.

> "The organization I worked for that was for profit rather not-for-profit. And I got [work] through volunteer work ... Everything's been through volunteering…. It kind of made sense because you already agreed with the kind of mission statement… You get to meet everybody in all the departments, so when a job [comes up] you've got your foot in the door and one or two rungs on the ladder up. You've already built that network. They are already going to know you as a person" (Sage, aged 50-69, with neurodiversity)

The rest were more sceptical that they would find paid work due to their volunteering experience. None believed that the organisations they volunteered with would be able to identify a paid role for them despite their commitments to inclusivity. Some went so far as to suggest organisations only recruited disabled volunteers to improve their public image.

> "If you're only volunteering it's scary and it's confusing. You don't maybe have the confidence that you're gonna get a job at the end of it. That's gonna make it so much trickier. So, I think that's a lot of these organisations seem to get Brownie points rather than, I think, to facilitate true umm employment and disabled people coming out of poverty gap" (Nova, aged 50-69, with a visual impairment)

> "It adds to the number of people with disabilities that [an organisation] can say volunteer with you. We often are part of that tick box idea in that they want to be able to say they're inclusive and yet training might include inclusivity, but the follow through often seems to be sort of disjointed" (Lapins, aged 70-89, with neurodiversity and a mobility impairment)

There is a link between social capital and the extent to which an individual can navigate digital exclusion. Social capital is the resources, knowledge, favours and information that a person can access through their connections with other people to achieve a goal. Those with access to such resources outside of the organisation in which they volunteer were able to overcome digital challenges more easily. This included being degree-educated, being connected with people in positions of authority or who have ability to directly facilitate change, or having previously worked professionally in more senior roles. Such individuals could use their existing digital or work experience, and social connections, to progress:

> "If you've never worked in an office ... You don't know what the range of answers are when it comes to technology, because it's those of us that sit in a workplace

in front of a computer as part of our job that probably have the best idea what we can do with the computer ... that will make technology more accessible for us" (Astra, aged 50-69, with a mobility impairment)

In contrast, those with more limited access to social capital looked to within an organisation and its internal structures to provide adequate support and also admitted it can be difficult to ask for help.

"When you've lost a lot of confidence… maybe offer to help. And maybe take somebody with you or just get a little bit of support to start with to get you into the swing of doing things. Just having some kind of like a person to shadow or something like that…I think confidence is huge and you look you know, particularly if you've done nothing for a while, you lose a lot of confidence. And transport can be a big barrier. And that onboarding type of uh process is also that's quite daunting for somebody that's never [volunteered]. And they and a good voluntary organisation or any organisation will have a good onboarding, but many don't for paid workers, let alone for volunteers" (Echo, aged 50-69, with a mobility impairment)

"You don't feel comfortable asking [for help in] a big organisation. It's quite scary. Asking that person who you always talk to within a small organisation ... can be much easier" (Nova, aged 50-69, with a visual impairment)

An understanding of people's motivations is key to recruiting and retaining volunteers. However, our data confirms that access to social capital through the knowledge, skills, trust, and reciprocity accessible through their social networks is essential to enable disabled adults to identify, secure, and then remain in volunteering positions. Those with limited access to such recourses are more likely to be excluded from volunteering roles. Such insight corroborates, and goes someway to explaining, the divisions and risk of marginalisation described earlies in this report.

3. Barriers and Enablers to Digital Engagement in volunteering

In this section we focus on key findings from the interviews. We have previously presented interview evidence that supports some of the survey findings. Here, we explore how assistive devices might serve as enablers or barriers to supporting disabled people to volunteer.

1. **Assistive devices for volunteering cannot be separated from those used/accessed in other areas of life.** Disabled people do not differentiate their use of digital devices to specific activities like for employment, volunteering, socialising and leisure. While some were only able to use devices in certain contexts, such as telephony support devices while fulfilling their volunteering duties, they transferred their skills and knowledge across roles. Crucially, they also frequently used devices they purchased themselves in those roles. This is arguably not surprising; as one told us, it is about adapting mainstream equipment to meet their needs. However, it does indicate that attempts to identify or develop devices exclusively to help disabled people to volunteer may be ineffective. Instead, supporting disabled people through the adaptation of mainstream technology may be a more practical approach.

   "I use a Phone or iPad or this kind of stuff, but I have to purchase it and use it for even this voluntary work, and there are some apps those are helpful…. But if it's the free version you're using, that's not gonna help you much. They're all paid version, but you have to pay for it and if you don't have a full time job it's a lot of money" (Kai, aged 30-49, with a visual impairment)

   "All the technology I use is pretty standard... It's just adapting it to what I'm doing. If I was at home and I was on my phone, I'd be using a clamp on my wheelchair to hold the phone up, so it's just adapting and you know, some of it, the occupational therapists or someone like that giving me extra tools. So many of the things are standard. ...I don't think there's anything that isn't mainstream that I particularly use" (Echo, aged 50-69, with a mobility impairment)

   "And you know, you wouldn't think of it as assistive technology, but it makes all the difference to it is I have an amazing chair … It's a proper full on ergonomic chair that was set up for me by an ergonomist I am working now because they gave me this chair … This chair is one of the single most comfortable places I can sit at any point in time" (Astra, aged 50-69, with a mobility impairment)

   At times, barriers to volunteering emerge from either existing equipment not being effective when transferring across contexts, or, that the failure of more generic

devices, such as access to the internet or a motorised wheelchair, is most detrimental.

> "Things like Excel files can be really difficult to read with screen readers. Because I use a screen reader that talks out to me because I can't see anything at all... audio description again, I think it was just word documents but also some PDF's that I couldn't read" (Nova, aged 50-69, with a visual impairment)

> "What's preventing me from volunteering is if my wheelchair breaks, which is pretty high tech. Or if my car breaks then I can't get out the house… It's mainly the mobility side of things" (Blaze, aged 50-69, with a mobility impairment)

Malfunctioning devices, or one that do not work as expected can be compounded by symptoms of some disabilities. For example, those who experience difficulties remembering things could have difficulty recalling passwords, and others could struggle with anxiety and stress. The results, at times, is that devices or digital platforms aimed to make life easier could create more difficulties themselves:

> "One of the problems I have is phones and remembering passwords. And I've had jobs that I had to change the password every month or every six weeks. I cannot do it, I need help. I've got 2 phones now that I'm locked out of with precious things on… I know it sounds ridiculous". (Atlas, aged 50-69, with neurodiversity)

> "Things that seem to be intuitive to some techie people, but not to me… and because of my MS I can be cognitively affected and I panic and think, "Oh my God. I've got MS brain". I can't think straight…I get in a panic…. I haven't got the confidence and I just think when something's not working, I automatically think it's my fault I've done something wrong ... When I made the mistake of buying a laptop from [national store], they drove me absolutely demented because they were just so rubbish. I was literally screaming down the phone ... You feel very vulnerable because it meant that I couldn't get the laptop working and I was cut off from everything… I'd contacted the MS nurse to say I've had an attack. I'm really ill will you help me and she may well have replied to me, but I didn't know ... I couldn't get to the message" (Indigo, aged 50-69, with a mobility impairment)

2. **Unsuitable equipment.** Sometimes, the assistive devices provided were not suitable for the jobs at hand. Many participants talked of simply giving up on having access to appropriate devices, of the challenges trying to use mismatched equipment, or simply accepted that there would be somethings they are unable to do, with resultant disappointment, frustration and at times, stress.

> "I'm used to not having the right equipment. I can't afford it. I've got old equipment that   doesn't work very well… I'd prefer to have more software

and voice activation. This and that,   but at the moment I don't have any money or any employers that are any way in time to give   me anything like that. And I probably will have to jump through hoops to get it. (Sterling, 50-69, with neurodiversity)

"Let's say you're completing an application form or something to do with the survey or you apply for something. And then you come to the submit bit, it [might] not be accessible with your device or reader. So you've done, let's say, an hour on it. You can't submit that because sometimes there is something called ... authentication, 'I am not a robot'. You have to be able to see it to submit it. So, if I can't see then obviously I'm gonna be stuck. So, this is one of the examples. But there are so many, if a website is not accessible or if something isn't working with your screen reader, so I feel lots of time left behind because certain things are online" (Kai, 30-49, with a visual impairment)

3. **Assumptions about digital capabilities.** Those we spoke to believed that many organisations, including those that engage volunteers and offer paid jobs, assumed or perhaps expected a predetermined level of technological ability and know-how. There is an expectation that people will not only know what equipment or devices they might need, but also know how to use them. This assumed 'digital capability' can cause concern among disabled volunteers, who may worry about falling behind in technological advancements and struggling to meet volunteering and other role requirements. Volunteer organisations sometimes presume that disabled people already possess the necessary digital equipment or skills, resulting in misaligned expectations. Organisations might also fail to inquire about specific device needs or mistakenly expect disabled individuals to anticipate their own requirements.

    "I think people quite often, if you go into a voluntary role, expect you to come with the kind of skills and knowledge that's needed for it." (Astra, 50-69, with a mobility impairment)

    "I think a lot of them they ask 'do you have a disability?' and then they would say 'what kind of support do you need?' I don't know! If you don't start doing the job, you never know what you really need. (Eden, 50-69, with a hearing impairment,)

4. **Over-relying on technology can create further barriers.** When disabled persons attempt to apply for volunteer roles, the process can be made more complex by digital technology, or when the IT systems are not working as expected, or technical support is poorly matched with requirements. There is also an over reliance on digital platforms for advertising volunteering opportunities. While this approach offers volunteer recruiting organisations efficiency and cost savings, it inherently assumes that potential volunteers possess the necessary digital skills, knowledge, and access to technology. For disabled individuals—particularly those who are already marginalised due to financial constraints, lower education levels, or advanced age—

these digital barriers can be even more pronounced. This digital divide exacerbates existing inequalities, making it more challenging for disabled individuals to access and participate in volunteering opportunities.

> "A lot of digital knowledge is assumed, which is particularly not a good idea, for you know, anybody over 70 or 75. But even younger people, I mean, I've got a friend with learning difficulties who is autistic as well, and their digital skills are very minimal, so I don't think anything should be assumed." (Sage, 50-69, with neurodiversity)

> "Or, yeah, let's say even a volunteer role. There are so many I found really interesting when I apply for it, but these are not accessible with my screen. There's so many I found really, really something appealing. And I feel like this is the sector. I'm gonna enhance my knowledge and maybe one day I can apply for the job but I can't do it just seems like so many hurdles to jump over" (Kai, 30-49, with a visual Impairment)

5. **An enabling social network.** Beyond ensuring assistive technologies are fit for the purposes and contexts within which they will be used, such devices are situated in a wider network of support that, crucially, is people rather than technology centred. These include relationships with those who can provide guidance on how to use devices, advise on what sorts of devices are available, or receiving and offering, support to others. Having access to assistive devices alone is simply not enough.

> "I've got a neighbour and friend around the corner ... He's pretty clued up on computers and ... I had a problem with the e-reader. It wouldn't connect and wouldn't allow me to do it, and it was asking for the password ... It wanted a different password. Anyway, he sorted it and that's fine." (Orion, 50-69, with a mobility impairment)

> "[Help] was arranged by the practice manager who… I have a good working relationship with and so she said I'll arrange for you to see this [person] and I did and she, you know, she talked me through it and explained the problem" (Orion, 50-69, with a mobility impairment)

6. **An organisational culture based around listening.** It is important that organisations are staffed by people who are ready to listen and understand the specific needs of the disabled volunteer, especially when the needs may include multiple intersectional barriers. A support network is essential for digital inclusion of disabled persons in the voluntary sector. This network is most supportive when it comprises of friends, family and to a lesser extent, colleagues who have a closer understanding of the life experiences of disabled individuals; other disabled people are often best placed to provide this role.

"The technology is there, but the people do not understand the needs of the whole range of disabled people ... Not only do they not understand, but they haven't given themselves the space to understand them... which is to [allow me to] say this is how I use the technology in relation to my contacts, my problems, my issues. So, we're not talking about technology. We're talking about people". (Rubin, 70-89, with multiple impairments)

"It happened to a lot of the [hearing] loop system … sometimes they're too loud. Sometimes, you know, they didn't turn on so ... the technology is designed for hard of hearing person, but it's operated by people who do not have that problem, that's the problem". (Eden, 50-69, with a hearing impairment)

7. **Empathic support.** Volunteers require organisations to provide empathic support structure that actively asks volunteers to speak about their needs and a commitment to inclusivity for volunteers that is equal to the support of paid staff. This requires an understanding that the disabled person may not know what solutions are available to them and a willingness to work constructively with the volunteer to find different options to best facilitate their participation.

"I found some obstacles because when I mention that I have hearing problem… the biggest requirement for this job is to be a customer facing and a team player, which are the big challenges for me because on the team and especially in the meetings, I cannot understand the conversation between two people. It's so difficult. So now I'm looking for a job at the moment, but to get the employer to understand my need is very, very hard." (Vega, 30-49, with a visual impairment)

"We shouldn't be wrapped up on whether somebody's role is paid or not paid if it's good practice ... I'd like to see much more done about improving access full stop for everybody, whether they're doing it for themselves, whether they're employed, whether they're volunteering, you know, why don't we just improve access to everything for everybody? (Astra, 50-69, with a mobility impairment)

8. **The importance of social capital and support gained through paid work or Access to Work.** Rather than volunteering being a route into work, it is rather the case that work is a route into volunteering and the points above provide some indication why. Those who are able to successfully navigate the employment landscape will, by and large: i) have access to relevant assistive devices either through an employer who is aware of the importance of making such devices available, or (more likely) acquiring devices directly for personal use; ii) be more likely to understand which devices they might require to assist them, or know how to find out about devices that might be useful; iii) have more experience using (predominantly online and/or technological driven) devices in different contexts and

have the confidence to learn how to use unfamiliar devices, software and equipment; iv) be in contact with individuals who can provide support - be that practical or technological knowledge – when challenges arise or things do not go to plan. As a result, the confidence, skills and resources acquired through paid employment, as well as the social capital that often comes from being part of more diverse networks that includes work colleagues as well as more personal relationships, means that those in employment might be better able to navigate some of the barriers to securing volunteering roles that we describe here.

> "When I had one of my attacks and my MS [multiple sclerosis] attacks which made my hands not work, I did have Dragon software and Access to Work paid for that ... I think because I'm in the reverse in that I use my employment to help my volunteering (Indigo, 50-69, with a mobility impairment)

> "That was through Access to Work. They've set up a much better computer system for me with that meets my physical needs. And some of that was through ability net through their volunteers and some of it was through access to work, through my paid work" (Echo, 50-69, with mobility impairment)

9. **Ongoing discrimination.** None of the above is to imply that disabled people are somehow themselves 'to blame' for not being able to navigate these digital challenges. Several external factors contribute to these difficulties. First, acquiring personal digital equipment for volunteering may not be feasible for disabled people with lower incomes; Second, disabled adults with lower levels of education or who left education before many technologies emerged may lack knowledge about available devices and their use; Third, those who are socially isolated, have mobility issues, or are not actively volunteering or employed might miss out on crucial support networks. More importantly, the lack of appropriate devices and the expectation to take initiative to request alternatives can lead to a form of discrimination, making it challenging for disabled people to excel in or secure volunteer roles. Moreover, there is evidence that those who have been successful in volunteering roles have sometimes been denied employment opportunities due to discrimination.

> "I feel sometimes they use me as a volunteer because even though I've got the experience and knowledge about something, I'm not gonna get the job if I apply there. I did try in the past a few times, but they will use me as volunteer but when it comes to job, I don't get the job. My disability is holding me back… The thing is, once they're appointed, you know, once they're there, you will see they are struggling more than me and I'm just a volunteer. But they got that job and he or she is less experienced than me. They are getting paid but I'm doing more than that person and I'm still a volunteer. So that's not fair…. Even after five to seven years of volunteering, when a job actually came, I still found it very difficult

to actually get it. I applied, but I didn't get the job…. So, some organizations, they seem to be fine with you volunteering and doing it for free. But when it comes to paid job, they're kind of, yeah, we'll look at other people and clearly less experience than you… You don't come out of volunteering, you're stuck in the volunteers." (Kai, 30-49, with a visual impairment)

The findings have significant implications for volunteer managers and volunteer-engaging organisations. Firstly, a proactive approach is advised, ensuring that support is tailored to the individual needs of each volunteer, regardless of whether a disability has been disclosed. This requires routine inquiries into volunteers' specific needs, independently of whether someone has disclosed their disability or not, avoiding assumptions and recognising that effective support often extends beyond digital solutions. Additionally, organisations should consider a diverse range of communication channels to accommodate varying impairments, ensuring that all volunteers can access information and participate fully. Importantly, assistive technologies should be viewed as part of a broader, people-centred support network, where regular check-ins and social support are key to ensuring the effectiveness of the support provided. This approach fosters an inclusive environment that respects the autonomy and unique experiences of each volunteer.

4. Conclusions

This report examined how digital inclusion impacts disabled adults' participation in volunteer work. By integrating perspectives from social science, vocational rehabilitation, and digital engagement, we have highlighted the opportunities and challenges posed by digital technologies in the context of volunteering. We asked four research questions and summarise our findings here.

Research question 1: How do disabled adults access and use the Internet? How has that changed since 2018?

Most disabled adults in the UK have access to the internet, but a significant digital gap still exists between them and non-disabled adults. Since 2018, the gap in internet access and usage has not improved much. Nearly one million disabled adults don't have Internet access at home, and about two million don't own a smartphone or computer. Disabled adults use the Internet less often than non-disabled people, which puts them at risk of missing out on common regular online activities. Disabled people's digital challenges are often made worse by being part of other disadvantaged groups, with additional difficulties depending on the nature of their impairment and intersectional factors.

Research question 2: How does the digital inclusion of disabled individuals facilitate their involvement in offline and online voluntary work and affect their employability and wellbeing?

Disabled adults are more likely to engage in online volunteering, because it can make volunteering more accessible for those with physical impairments. While online volunteering can still pose challenges, disabled adults show greater interest in these opportunities compared to non-disabled people. Digital inclusion is crucial for enabling disabled individuals to participate in volunteering and realise its benefits for wellbeing. Frequent Internet use is linked to higher chances of volunteering, highlighting the importance of digital connectivity. Additionally, employment helps disabled adults overcome digital barriers by providing digital skills, confidence, and resources often lacking in volunteer roles. However, disabled adults question the assumption that volunteering leads to paid work, especially since support for overcoming digital barriers through the Access to Work scheme is only available for paid employment.

Research question 3: What are the digital barriers and challenges that hinder disabled individuals' engagement in online and offline voluntary work?

Digital barriers for disabled individuals include inadequate access to, or malfunctioning, assistive devices, an over-reliance on digital technology by organisations, and the assumption that everyone is familiar with digital tools. The effectiveness of assistive devices can vary, and insufficient social support often exacerbates these challenges. Additionally, organisational cultures that do not prioritise the specific needs of disabled volunteers or place excessive emphasis on technology can further impede participation in volunteering. These issues contribute to both direct and indirect discrimination, restricting opportunities for disabled individuals to engage in voluntary roles.

Research question 4: What strategies can enhance disabled adults' participation and inclusivity, leveraging the potential of digital technologies in the voluntary sector?

To enhance disabled adults' participation and inclusivity in the voluntary sector, several strategies can be employed that are outlined in the guidance developed from this project. These strategies, tailored to different stages of the volunteering journey, emphasise fostering a culture of empathy and inclusivity, with a focus on prioritising the support of people over technology. By implementing these approaches, organisations can leverage digital technologies to create more inclusive and accessible volunteer opportunities for disabled adults.

While voluntary work has been the focus of this project and the guidelines, we hope that the insights gained will also contribute to an understanding of disabled adults' inclusion in paid employment since many of the challenges related to digital inclusion of disabled adults in voluntary work are likely to be the same as those encountered in paid work.

5. Guidelines for Reducing and Removing Digital Barriers for Disabled Volunteers

The guidelines for reducing and removing digital barriers for disabled volunteers have been developed from this research project. We hope they provides practical strategies and recommendations to enhance digital inclusivity within volunteer organisations. The purpose of these guidelines is to support and promote digital inclusion for disabled adults volunteering within voluntary sector organisations, recognising a wide range of impairments.

We recognise the challenge of presenting these guidelines from a research team to voluntary groups and organisations that have practical experience with digital inclusion of disabled volunteers. We hope these guidelines—developed from research evidence, our expertise in digital engagement, vocational rehabilitation, and occupational therapy, and in consultation with disabled experts by experience—will complement existing practices to make volunteering more digitally accessible to disabled adults and to support a more inclusive environment.

These guidelines are grounded in the principles of social capital and the social model of disability. Below, we summarise the key points from the guidelines, **while the full guideline document is available separately.**

The Guidelines: Key Stages of the Volunteering Journey and Digital Inclusion Strategies

1. **Prepare For Recruitment**
   a. Use varied communication channels.
   b. Promote inclusivity in digital communications.
   c. Ensure recruitment platforms and resources are accessible.
   d. Clearly define role responsibilities and accommodations.
   e. Publish an accessibility statement.
2. **Onboarding**
   a. Adopt a person-centered approach.
   b. Integrate assistive technologies into the digital infrastructure.
   c. Consider intersectionality factors.
   d. Combine assistive technologies with other support forms.
3. **Development and Training**
   a. Establish regular feedback mechanisms.
   b. Offer tailored digital skills training.
   c. Provide training on assistive technologies to all volunteers.
   d. Facilitate ongoing development with periodic reviews.
4. **Retention and Exit**
   a. Implement diverse communication strategies.
   b. Offer networking and community-building opportunities online.
   c. Conduct exit interviews focusing on digital inclusion.

6. Call for action

We finish this report with a call for action. We encourage everyone who works with volunteers to act now and make sure digital technology is used in a way that includes and supports disabled adults. Start by picking one action from our guidelines that you can do today to make change today. Together, we can create a more inclusive and accessible environment for all.

7. Methodology

We adopted a mixed methods approach for a more comprehensive understanding of the research problem and combined survey data analysis with interviews with disabled people.

Surveys

We analysed data from several surveys to explore digital exclusion patterns among disabled adults and its impacts on voluntary work:

1) **UK Household Longitudinal Study (UKHLS)**: Main Survey for 2018 - May 2022 (Wave 10) and 2021 – May 2023 (Wave 13) (University of Essex, 2023). Analytical sample were nationally representative included adults aged 16 and over. In Wave 10, 36% (n=12,115) and in Wave 133, 32% (n=8,863) of the sample self-identified as disabled, based on the question about long-term illness or disability affecting their daily lives. Wave 13 provided detailed digital inclusion indicators and Wave 10 offered some key indicators of digital inclusion (device ownership and the use of the internet) and volunteering data. Cross-sectional adult main interview weights were applied to adjust for the complex survey design, unequal sampling probabilities, and attrition in all analyses.
2) **Time Well Spent Surveys (TWS)**: to address the lack of direct indicators of online volunteering in the UKHLS. Samples: 10,103 adults in 2019 and 7,006 in 2023, with approximately 34% participants in each survey said their daily activities are limited because of health problem or disability. Data were drawn from the YouGov panel and weighted for the sample to reflect the UK adult population. TWS data were generously supplied by the National Council for Voluntary Sector Organisations.

Interviews

Eighteen semi-structured interviews were completed with disabled adults living primarily in northwest or southeast England, remotely via Microsoft Teams. We provided support to participant to join the interviews. Participants were recruited through the networks of project advisory board members, the networks of the experts by experience, and through a brief social media campaign. Participation was open to any disabled adult with the capacity to consent to participate. Participants were recompensed for their time. All interviews were conducted in English, including for four participants who spoke English as a second language. The interviews covered six topics: An overview of volunteering experiences; experiences of using and accessing digital tools related to volunteering; examples of positive and challenging experiences; advice for others; training needs; and the links between volunteering, employment and wellbeing. Interviews lasted around 45 minutes. The shortest was 20 minutes, the longest 72 minutes. A two-stage iterative analysis process was followed. Two of the project team members completed an initial thematic appraisal that was used to develop a framework for further analysis across 8 overarching themes.

The project was supported by a team of four **Experts by Experience** who attended advisory group meetings, supported participant recruitment, and commented separately on project design, interview guides, emergent findings from the analysis of interview and survey data, and the guidelines.

The project received ethical approval from the University of Salford and University of Greenwich. A Participant Information Sheet was distributed prior to meeting, and informed consent was obtained at the start and end of each interview. We have anonymised quotations to protect the identities of those we spoke to. We have included an age-range and phrasing to indicate an individual's disability; we have tried to use phrasing provided to us by each person we interviewed.

Limitations

Now that we have completed the project, we realise it would have been helpful to have resources to include voluntary groups to test and challenge the guidelines. Their feedback, along with input from disabled volunteers, could have helped refine the guidelines and make them more useful.

8. References

Cannon, S. M., & Dart, R. (2023). The Emergence and Evolution of Digital Social Ventures in Dublin, Ireland. *Nonprofit and Voluntary Sector Quarterly, 52*(6), 1703-1721. https://doi.org/10.1177/08997640221139430

Donahue, K., Goodall, C., Jochum, V., & Kamerāde, D. (2022). Volunteering together: inclusive volunteering and disabled people. *Spirit of 2012: Insights Research and Learning*.

Hernandez, K., & Faith, B. (2023). Online but still falling behind: measuring barriers to internet use 'after access'. *Internet Policy Review, 12*(2).

Lin, Z., Zhang, Z. a., & Yang, L. (2019). Self as enterprise: Digital disability practices of entrepreneurship and employment in the wave of 'Internet+ disability'in China. *Information, Communication & Society, 22*(4), 554-569.

McGarvey, A., Jochum, V., Davie, J., Dobbs, J., & Hornung, L. (2019). *Time Well Spent: A National Survey on the Volunteer Experience.* . NCVO. Retrieved 08.08. from https://www.ncvo.org.uk/policy-and-research/volunteering-policy/research/time-well-spent

McMullin, C. (2021). Migrant integration services and coping with the digital divide: challenges and opportunities of the COVID-19 pandemic. *Voluntary Sector Review, 12*(1), 129-136.

NCVO. (2022). *UK Civil Society Alamanac 2022. Data Trends. Insights*. https://www.ncvo.org.uk/news-and-insights/news-index/uk-civil-society-almanac-2022/#/

Stuart, J., Kamerāde, D., Connoly, S.,, Ellis Paine, A., Nichols, G., & Grotz, J. (2020). *The Impacts of Volunteering on the Subjective Wellbeing of Volunteers: A Rapid Evidence Assessment.* . What Works Centre for Wellbeing and Spirit of 2012

University of Essex, ISER (2023). *Understanding Society: Waves 1-13, 2009-2022 and Harmonised BHPS: Waves 1-18, 1991-2009.* Version 18th Edition) UK Data Service. SN: 6614. https://doi.org/DOI: http://doi.org/10.5255/UKDA-SN-6614-19