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Experience of remote customer service accessibility for adults with acquired speech disorders in the UK

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Abstract: Businesses and institutions have been increasing their reliance on telephone services over face-to-face interactions, and on automatic speech recognition over human operators. These trends risk disadvantaging people with speech conditions, whose speech is not easily understood. This qualitative study used semi-structured interviews to explore the experiences with customer services of people with acquired speech conditions. Thirteen people from the United Kingdom shared both positive and negative experiences of customer service accessibility, in relation to the use of technology, institutional practices, and interpersonal communication. Some of the main areas of challenge related to the lack of variety in communication channels, and barriers created within the existing ones due to time pressure and high communication demands on the customer, automatic speech recognition not meeting the needs of this population, and a lack of awareness of speech conditions among call centre staff, leading to negative assumptions. Participants shared key recommendations and positive experiences to have their needs met, including opportunity for multichannel communication, reducing time pressure on the customer, checking understanding, and companies keeping record of their communication needs.

Keywords: acquired speech disorders, Parkinson's disease, Ataxia, Multiple System Atrophy, customer service, telephony, automatic speech recognition, accessibility

1. Introduction

At any one time up to 20% of the UK population are likely to have increased speech, language and communication needs (SLCN) during their lifetime, while 1-2% of the UK population are likely to have a severe speech, language and communication disability (Law, et al., 2007). The majority of studies investigating the experiences and quality of life of people with SLCN focus on groups of people with a specific diagnosis (Baylor, Burns, Eadie, Britton, & Yorkson, 2011), making it harder to generalise findings and mount large-scale campaigns for increased accessibility. In their unique cross-diagnosis study on the experiences of communicative participation of adults, Baylor et al. (2011) identified that adults with SLCN face functional and emotional interferences with communication, as well as variability in the sources of interference. The authors argue that there

is a need for interventions that focus on the ability of people to participate effectively in daily activities and that these interventions need to be informed by the experiences of people across diagnoses.

Telephone conversations were identified as one of the most challenging forms of communication for a wide variety of people with SLCN, including hearing impairment, aphasia, voice disorders, dysarthria, spasmodic dysphonia and stuttering (Baylor, Yorkston, & Eadie, 2005; Baylor, Burns, Eadie, Britton, & Yorkson, 2011; James, Brumfitt, & Cudd, 1999; Smith, Gray, Verdolini, & Lemke, 1995; Verdolini & Titze, 1994). Reported barriers include the sole reliance on speech for communication (no non-verbal communication available), increased time pressure, inability to assess the reactions of the interlocutor (which for some is a positive), and fear of being misunderstood and creating a bad first impression (James, Brumfitt, & Cudd, 1999). A key finding of Baylor et al. (2011) is that the phone was seen as a barrier to communication for most participants, not only due to challenges with intelligibility but also due to loss of nuance – with interlocutors making incorrect assumptions about the message based on the voice quality of the speaker with a speech disorder.

Whilst it is difficult to reduce some of these barriers due to the nature of the communication mode, it is important to consider that communication is not the sole responsibility of the speaker with SLCN. Successful communication is an interactive process where listeners have agency too and can enhance the success of the interaction by supporting the speaker with SLCN to get their message across. To maximise the effectiveness of such support, training opportunities have been developed such as Communication Access UK, which is a free short course that aims to provide training and accreditation to individuals, institutions and businesses for supporting individuals with SLCN (Royal College of Speech and Language Therapists [RCSLT], n.d.). It is led by the Royal College of Speech and Language Therapists (RCSLT), in collaboration with charities representing people with lived experience of SLCN and carers. A cornerstone of the programme is the TALK prompt: Time, Ask what helps, Listen, Keep trying (Communication Access UK Inclusive Communication for All A Prospectus for Early Adopters, n.d.), applied in different settings, such as telephone or written communication. The Listen component includes focused attention, checking understanding on both sides (Let's TALK about communication on the phone, n.d.).

The component of giving focused attention to the speech is consistent with research which has shown that familiarisation with speech is a natural skill which occurs rapidly and automatically in listeners (Kleinschmidt & Jaeger, 2015). Some types of speech, such as disordered speech (e.g., voice disorders, dysarthria etc.), are harder to understand for inexperienced listeners than typical speech, but a recent review by Borrie and Lansford (2021) has shown that systematic familiarisation with disordered speech through exposure and focused attention can improve understanding. A more recent study has shown that enhancing listener understanding of the speech condition and setting up an expectation of success, further enhances results of listener training (Borrie, Tetzloff, Barrett, & Lansford, 2024). These studies focus on listener adaptation to speech (the way the words and sentences sound), rather than to language (the choice of words and their order). One limitation of the evidence base is that listener adaptation abilities have not been tested in telephone conditions.

Since the publication of Baylor et al. (2011), the impact of accessibility challenges in telephony are likely to have increased. The last decades have seen an increased reliance on telephone-based customer services over face-to-face interactions, and an increased volume and complexity of calls (Berg, Buesing, Hurst, Lai, & Mukhopadhyay, 2022). During the COVID-19 pandemic many in-person clinical appointments were permanently replaced with telephone and online triage and

consultations (National Health Service [NHS] England, 2019; NHS England, 2020; Sivarajasingam, 2021). The trends for the customer care sector are to move towards self-service and digital-first, and this has already been reported for the high street, banking and healthcare sector in the UK (Dickie & Farr, 2024; NHS England, 2024; Panjwani & Booth, 2024; Simpson & Codd, 2024). While this transition is happening, many organisations still rely on over-stretched, under-valued and undertrained contact centre agents who are also harder to recruit and retain. As a response, the market of Automatic Speech Recognition technologies has been increasing exponentially and is projected to continue its growth (Fortune Business Insights, 2023), while still being unequipped to meet the needs of people with speech disorders (Lin, Dang, Wang, Li, & Ding, 2023) (but see ongoing work on Project Euphonia (Google Research, n.d.)). These realities create a risk of losing contact with groups of customers and require a renewed investigation into the experiences of people who are likely to encounter challenges in this rapidly changing environment of customer service.

Past research has identified that telephone communication causes a significant challenge for people with speech and language conditions (Baylor, Yorkston, & Eadie, 2005; Baylor, Burns, Eadie, Britton, & Yorkson, 2011; Smith, Gray, Verdolini, & Lemke, 1995) but there is a paucity of recent academic studies investigating the consumer experiences of people with disabilities. The majority of research has focused on people with visual impairments (Taylor, Balandin, & Murfitt, 2019). The present study aims to revisit the question of participation and accessibility for adults with speech conditions when accessing services in a modern context to evaluate whether improvements or new challenges have been created. The study focuses on acquired speech conditions to narrow the research focus, based on the assumption that speakers with developmental speech conditions (e.g., stammering) are more likely to have a different relationship with their condition informed by life-long experiences (Carter, Yaruss, & Beilby, 2017) than a speaker who has experienced a change in functioning in adulthood and who therefore may be at greater risk of not participating (Dickson, Barbour, Brady, Clark, & Paton, 2008). This study explores the experiences, priorities, and communication strategies of adults with acquired speech conditions contacting services in a post-pandemic context.

2. Methods

2.1. Participants

The study proposal and all participant materials received ethical approval by the University of Strathclyde ethics committee. All participants had been provided with a Participant Information Sheet and signed a Consent form before entering the study. Both documents were available in electronic or paper format and followed guidance from the UK National Research Ethics Services. Particular care was taken to inform participants about the secure handling of their voice recordings to maintain confidentiality.

Participant inclusion criteria were: over 18 years of age, with acquired speech difficulties (affecting their voice and/or pronunciation), who can carry out a verbal conversation, who have called a company, customer service, or a hotline on the phone at least once in the past year. Participants were recruited in the United Kingdom. Researchers did not assess speech disorders, participation was based on self-reports. As the study was advertised to be conducted in English, the exclusion criteria were: not being able to speak English, and not having sufficient hearing to interact with the researchers. Difficulties with cognition and language were not specifically listed as exclusion criteria, as some level of cognitive and language decline may accompany some

conditions associated with speech difficulties (Baylor, Burns, Eadie, Britton, & Yorkson, 2011). It was deemed unsuitable to use cognition and language exclusion criteria while depending on participant insight and self-report.

A purposive sample of participants was recruited via social media (Twitter, now X), professional networks, and third-sector organisations established for people who commonly experience acquired speech difficulties, i.e. Ataxia UK, Parkinson's UK, and the MSA Trust. Whilst stroke and traumatic brain injury survivors also frequently experience speech impairment, this population was not approached due to the high likelihood of concomitant language and cognitive problems.

Thirteen participants participated, four female and nine male, aged between 29-78 (see Table 1). Two participants did not disclose their age. The mean age was 61 (SD = 17). In an online questionnaire they reported having Parkinson's disease (PD), progressive ataxia, Multiple System Atrophy (MSA), dystonia, and one participant did not disclose their condition. Participant 1 was the only speaker of English as a second language. The data of a fourteenth participant, Participant 2, was not analysed due to an incomplete consent form.

Table 1 summarised the participants' code within the study, their age, gender, and condition.

Table 1. Participant demographics. A "–" indicates that a participant did not disclose this information.

Participant code	Age	Gender	Self-reported condition
Participant 1	77	F	Cerebellar ataxia
Participant 3	55	M	-
Participant 4	53	M	Spino-cerebellar ataxia type 6
Participant 5	58	M	Spino-cerebellar ataxia
Participant 6	78	M	Ataxia
Participant 7	76	M	Dystonia
Participant 8	73	M	SCA6
Participant 9	37	M	Ataxia
Participant 10	-	M	Spastic paraplegia type 7
Participant 11	29	F	Ataxia
Participant 12	76	F	PD
Participant 13	60	F	MSA
Participant 14	-	M	PD and stammering

2.2. Data collection

Data collection occurred between March and June 2023. Participants initially completed a brief questionnaire about their age, gender, and native language. They then participated in online semi-structured interviews that were recorded through Microsoft Teams and lasted no longer than 60 minutes. The interviews followed a topic guide which covered information related to the participants' mode of contacting client services on the phone and their experiences using these services, including talking to human and automated agents.

Eleven participants were interviewed with one or two of the authors present. One participant was interviewed over the phone due to technical difficulties. One participant disclosed that verbal speech causes them severe physical and emotional exhaustion and preferred to respond to the questions in writing. The interviews lasted approximately 20 minutes.

Participants were compensated with a £10 voucher for their time.

The topic guide, consent forms, and other supplemental materials are available via an Open Science Framework (OSF) webpage dedicated to the project (Cairney, Fuzesi, Rai, & Lowit, 2025).

2.3. Data analysis

The interviews were audio recorded, and the first author deleted any identifying information from the audio. The audio was then transcribed by Transcription Centre into intelligent verbatim and checked for accuracy by the authors.

Data was analysed using the constant comparative method (Strauss & Corbin, 1994) by the first three authors. The first author coded all interviews, and the second and third authors coded half of the interviews each. After completing individual coding, the researchers met at regular intervals to discuss their codes and the grouping of codes into higher order categories and subcategories. A codebook was compiled and differences between codes were discussed and refined.

A limitation is that we were not able to contact the participants to review the interview transcripts and this manuscript as we had omitted to request permission for further contact with them at the point when they volunteered. A brochure, summarising the results (Dokovova, Rai, & Fuzesi, 2024), was shared with the participants who consented to this communication as well as Ataxia UK and Parkinson's UK who had initially shared the study advertisement and who circulated it with their newsletters. No participant reached out to comment following that.

2.4. Reflexivity statement

The three authors who carried out the interviews do not have speech, language or communication conditions, placing them as outsiders to the participant group. All authors acquired English outside of their family environment, within formal education environments, which gave them lived experience of having an accent that is not easily understood by everyone on the phone, creating a shared, albeit not insider, experience with the participants. Maria Cairney and Anja Lowit are also linguists and registered Speech and Language Therapists, with professional familiarity of the experiences, described by the participants, and allies and advocates for people with speech, language and communication needs. Harleen Rai and Peter Fuzesi have a background in Psychology and Sociology and have experience conducting research related to the lived experiences of people with disabilities, placing them as outsiders to the participant group but allies and advocates for people with disabilities.

3. Results

This section presents relevant themes which emerged from the interviews that are most relevant to the main research aim. They are summarised in the list below as overarching categories (level 1), sub-categories (level 2) and detailed codes (level 3). Due to the heterogeneity of the participant pool, supporting quotes are presented with the context of the participants' reported gender, condition and age.

1. Health
    i. Description of condition(s)
    ii. Progressive deterioration
    iii. Compensatory abilities
2. Self-image

   a. Life experiences as sources of identity
      i. Faced with disability when calling
      ii. Emotions linked to condition and misunderstanding (upset, frustration, fed up, tears, denial)
      iii. Traits
      iv. “Good times” before
      v. Comparison with other people
      vi. Work relationships
   b. Life experiences as sources of empathy and skills
      i. Empathy with agents
      ii. Working on the other side of the phone
      iii. Understanding the tactics
      iv. Skills & life experience
3. Strategies
   a. Organisational strategies
      i. Persistence
      ii. Choosing the best available mode of communication
      iii. Bypassing ASR to talk to a human
      iv. Supportive of research
   b. Interpersonal strategies
      i. Disclosure or not
      ii. Self-advocacy (asking for adjustments/ double checking/ taking the lead)
      iii. Involving support (vicarious assistance/safety net model)
      iv. Changing own speech (Enunciating/ NATO phonetic alphabet/volume control/ slowing down/accent change)
      v. Changing own language (shorter words, extra courtesy)
      vi. Changing environment (memory aids, background noise control)
      vii. No strategies (building up courage to call, going along with being misunderstood)
      viii. Cost of strategies (colleagues chuckle)
   c. Considerations
      i. Fatigue impacts speech (time of day/call duration)
      ii. Emotions impact speech
      iii. Daily variation (in speech/ability)
      iv. Type of information (complex/urgent/technical/complaints)
   d. Recommendations
      i. For institutions (provide and monitor multiple communication channels, client accounts with needs, trained & empowered agents, less scripts & more conversation)
      ii. For agents (give time, patience, no assumptions, ask for clarifications)
      iii. For others with speech conditions (praise positive experiences)
4. People
   a. Strangers on the phone
      i. Various experiences and skill levels
      ii. Person determines the experience of the company
      iii. Others’ good practice (patient, asking for clarification, repeating what they heard, giving time)

iv. Others' poor practice (hang up, rushing, rude, not asking for clarification, "passive aggressive pause")
v. Assumptions from others: (drunk, old, "or a bit simple")
vi. Assumptions about others: (age, regional accents, immigration/outsourcing accents)

b. In-group support
i. Support from family, friends, professionals
ii. Lack of support
iii. Conflicted/rejected reliance on family support ("second class citizen", disability rights)

5. Institutions
a. Agencies
i. Banks/financial institutions
ii. Medical institutions
iii. Government agencies
iv. Charities
v. Education
vi. Service providers
vii. Utility companies

b. Procedures
i. Authentication
ii. Inadequate triage

c. General experiences
i. Differences in quality of experiences
ii. Disability-friendly set-up (multichannel, low communication demand, UK agents, client account with needs, direct to correct agent)
iii. Delay or lack of response
iv. Inaccessibility: limited channels of communication
v. Lack of person-centred support (scripts, geared towards majority)
vi. Barriers reaching a person

6. Technologies
a. Tools
i. Email
ii. Chatbot
iii. Chat/texts
iv. Automatic speech recognition (ASR)
v. Phone (landline)
vi. Social media
vii. Video calls/face to face
viii. Speech to text
ix. Website/FAQs

b. Preferences and familiarity
i. Variability in preferences
ii. Opting out of technology (automation, verbal)

3.1. Experiences of contacting services

3.1.1. Self-image

While all participants shared that their speech condition gets in the way of phone communication, for some this was particularly linked to their perception of themselves. A key finding is that using the telephone to call customer services is a reminder of their disability. One participant reflected on being forced to face the fact that his speech had changed noticeably only when speaking to a stranger on the phone and describes the experience as a "wake-up call": *"It was a bit of a wake-up for me, I suppose. Because I was […] in denial that my speech had changed or was changing." (Participant 5, M, ataxia, 58)*

Participants 11 and 13 communicated with service providers on the phone as part of their job. Participant 11's experience was also affected by the COVID-pandemic of not having been in the office around people and referred to **traits** such as her confidence to describe the impact of isolation: "*And I just feel like with lockdown in Covid, my confidence has been down a little bit. […] I really didn't want anyone else to hear me or notice." (Participant 11, F, ataxia, 29)*

While participant 11 eventually regained her confidence ("*I'm really talkative now on the phone.*"), participant 13 describes the challenge of having to face her disability from the phone interlocuter and her colleagues as a daily experience. She also refers to the **cost of using strategies** (Strategies/Interpersonal strategies) to make herself understood on the phone: *"People always say to me, "Sorry, what? Can you repeat that?" And then in the end I say* [redacted] *which always makes my colleagues chuckle. That's the way I have to get round it. That happens on a daily basis." (Participant 13, F, MSA, 60)*

3.1.2. Institutions

When asked broadly about their ***General experiences*** of calling companies on the phone, the participants consistently reported **Differences in quality of their experiences** across providers: *"But yeah, different services that I have called, like from my own back, it's definitely a different situation with all of them."* (Participant 11, F, ataxia, 29).

3.1.2.1. Converging experiences

When discussing contacting institutions, there emerged two sectors where participants' experiences tended to converge. Participants frequently reported negative experiences when contacting **medical institutions**. Although some participants recognised their negative experiences may have been because of pressures on healthcare staff, they expressed distress at the memories of contacting surgeries, summarised by one participant as: *"GP surgeries are a nightmare... They're under a lot of pressure because there's so much volume coming in, they're trying to do it quickly and get you off the phone. If you can't express yourself, you hear them getting frustrated and angry with you and you think, "I can't help it, I'm a patient, I need help and you're not helping me, you're winding me up." (Participant 14, M, Parkinson's and stammering*)

Conversely, participants contacting **banks and financial institutions** rarely reported communication challenges. There are multiple possible explanations that could be hypothesised, including resource availability, company incentives, and the characteristics of the agents. One person attributed the good experience to the education of the phone agents *"when you speak to investment companies, or, perhaps, companies where the knowledge base is, perhaps, a bit more academic, it's a marked difference, the knowledge of the whole company, the understanding, their ability to hear what you're saying."* (Participant 3, M, unspecified, 55). Another explanation is the ability to avoid phone conversations. When we asked participants about their experiences with

banking specifically, they often dismissed the topic, saying: *"I usually do that online; I don't often call them."* (Participant 12, F, Parkinson's, 76).

3.1.2.2. Disability-friendly communication

The code of **disability-friendly set-up** encompasses the positive practices that participants reported encountering when communicating with different institutions. As illustrated in the case of banks, this includes *multichannel and multimodal communication*, where different options for communication were available, sometimes within one conversation ("*and it asks you to say your date of birth, or you can type it in." Participant 11, F, ataxia, 29*), thus allowing the participants to rely on their communication strengths: *"There's a government website, gov.uk, or something. […] And that was very straightforward in terms of the questions being fairly short, the answers could be entered using a keyboard. I had the option of talking to someone if I wanted to, but I chose not to."* (Participant 5, M, ataxia, 53). The short questions and answers reduce both the cognitive and expressive demands on the user.

Participants also highlighted the benefit of having a customer record to include information about their communication needs, such as being connected to a person directly: *"My utility company are good because they've got me registered as someone having a disability so they tend to recognise my number and then put me through to a person straight away, which is really good. I massively value that, that's really good, positive support."* (Participant 14, M, Parkinson's and stammering)

3.1.3. People

One of the main challenges for the participants was that while they mainly communicated with familiar people, when calling customer services, they had to encounter **strangers** (e.g., nurses, overseas agents, local agents, school administrators, theatre receptionists) **on the phone**, who would be unfamiliar with their speech. One of the most prominent themes that came up was the high variability of experiences that people had and that the quality of their **experience** was mostly **determined by** the attitude of the call **agent**: *"I find there's no particular company, but it just depends on the person you get hold of, really."* (Participant 13, F, Parkinson's, 76)

Participants discussed some accent-related **assumptions about others**. They reported mutual communication challenges when they assumed they were talking to a person whose first language was not English: *"They might have trouble understanding me but equally I have trouble understanding them, so I think, you know, that sort of conversation is going to go nowhere."* (Participant 8, M, ataxia, 73). However, this experience was not universal: *"I find that minorities in the UK, which aren't your usual Caucasian, white, are actually better at understanding you on the phone. You'll have Caucasian white who will have no idea what you're saying, very rarely do I get minority who may have a strong accent themselves, questioning what I've just said."* (Participant 3, M, unspecified, 55). Both positive and negative personality stereotyping was shared also when discussing regional UK accents: *"The people with the Scottish accents, they do take greater care to listen."* (Participant 6, M, ataxia, 78) and *"just thinking about saying to them, my speech is maybe hard to understand me, but I wouldn't want cheeky Scottish people to say anything rude."* (Participant 11, F, ataxia, 29).

While reflecting on accents one participant pointed out that as a listener, he can tune into the other person's speech and expressed **empathy with agents** who experience time pressure demands in their job, making it challenging to tune into the caller's speech: *"I mean, when we talk to a new person we have to tune in a bit to their voice. [...] And I think that so often people in*

call centres, like you said [redacted], are under pressure to get the call finished quickly." (Participant 8, M, 55)

3.1.4. Good practice, Poor practice, and Emotions linked to condition and misunderstanding

Some of the best experiences of participants were linked to being given enough time to express themselves and being asked for clarifications when they were misunderstood: *"The main things that make a difference are 1) their patience / taking time to understand and 2) their ability/wish to help to a meaningful conclusion"* (Participant 10, M, ataxia, 37). This was echoed by another participant: "*I spoke to a lady there who was, first of all, very patient, repeated what I'd said, was not at all patronising, and made me feel valued. And at the end I told her that."* (Participant 8, M, ataxia, 73).

Unfortunately, this good practice was not always encountered and participants often reported resulting negative treatment and **poor practice** from the agent such as: *"they think that you're drunk, you can tell by that passive-aggressive pause."* (Participant 3, M, unspecified, 55) or being hung up on, which prolonged their unsuccessful communication experience: *"you've been holding for an hour and then you talk for three minutes, and they just hang up."* (Participant 3, M, unspecified, 55). The participants also reported not being listened to, not being asked for clarification, and instead hearing the agent misunderstand them and proceed with the misunderstood information, not giving an opportunity for correction: *"just blindly go forward, rather checking back with you and saying, "I didn't understand that, can you help me understand what you're talking about?" They just keep going and not listen. They've got a mouth, no ears."* (Participant 14, F, MSA, 60). Part of this experience often included the agent talking quickly and creating a sense of urgency: *"Right, they tend to talk quickly and demand a quick response."* (Participant 5, M, ataxia, 58).

One of the key sub-categories that emerged was the significant **emotional impact of the condition and misunderstandings**. Some of the negative emotions that participants experienced were linked to fear and upset. They reported fear that the agent would make wrong **assumptions about them** based on their speech and upset when that happens. One of the recurring stereotypes that participants were concerned about was that they might be perceived as drunk, which many people with ataxia experience (Ataxia UK, 2020): *"I'm sure people think I'm drunk half the time."* (Participant 13, F, MSA, 60). Some participants have experienced direct accusations: "*they have been very rude on the phone because they can't understand what I'm saying, like, "Are you drunk?""* (Participant 11, F, ataxia, 29), which leads to negative **emotional impact:** "*And obviously that makes you feel rotten, it makes you feel really bad and stuff like that.*" (Participant 11, F, ataxia, 29).

It was frequently reported that the **emotional impact** of these negative experiences led to worsening of their speech symptoms, leading to a vicious cycle of being misunderstood even more: *"With Parkinson's, your body stiffens up and then [** 0:12:24], and then you get the crazy vicious cycle of getting more frustrated, more symptoms, more frustration, more symptoms. And then on occasion, I just turn the call off and say, "I can't do it anymore.""* (Participant 14, M, Parkinson's and stammering).

3.1.5. Technologies

When asked about their preferred mode of communication, participants ranked some of the commonly used ones, demonstrating **variability of preference** between people and circumstances: *"By email, but I use a phone if I can't find an email address."* (Participant 6, M,

ataxia, 78) or "*If I can't get to a person quickly, I hang up and try the email route. Or sometimes, I use text chat and those sorts of things. But text chats are a challenge because quite often, you get bots rather than people.*" (Participant 14, M, Parkinson's and stammering)

Despite the variabilities, **automatic speech recognition (ASR)** was consistently the hardest to manage for the participants: *"Especially that automated service when you need to say stuff, that's terrible."* (Participant 11, F, ataxia, 29), or *"the bot doesn't recognise my voice."* (Participant 8, M, ataxia, 73), or "*I find that where it's voice recognition, I struggle."* (Participant 14, M, Parkinson's and stammering), or *"Oh, it's a nightmare"* (Participant 3, M, unspecified, 55).

3.2. Strategies

3.2.1. Organisational and Technology

A consistently reported strategy for contacting service providers is that participants **seek out the best available method of communication,** which is often not available or not implemented in a manner that supports their communication needs: *"I no longer ask for video calls as I have been told on every occasion that the provider is not set up for this (this includes telephone calls with health care providers). Complex stuff is difficult to communicate easily by typing for all parties."* (Participant 10, M, ataxia). However, a participant cautioned that in the past he would not have been able to choose the best communication method to match his strengths: *"Just a note of caution that whereas I can probably select the most appropriate option at the minute, now, I think previously I was in denial and therefore wouldn't have sought help, thinking I didn't need it."* (Participant 5, M, ataxia, 78). This suggests that organisations need to be prepared to support customers with limited insight about their condition effectively and discretely.

Participants consistently reported requiring **persistence** to complete the task, which was required due to failure to be understood either by ASR or a person: *"I'm a very stubborn person, so I would persist."* (Participant 11, F, ataxia, 76) or *"I call back several times till I find somebody that will listen."* (Participant 6, M, ataxia, 78).

In addition, participants frequently reported **opting out of using technologies**, which were primarily the ones involving automation, such as ASR: *"I just give up and start again, to be honest, put the phone down and pray that I'll get somebody."* (Participant 13, F, MSA, 60) or trying different methods to get the ASR menu (**bypassing ASR**) to connect them with a person: "*But I've discovered that if I just make several pauses, the automated response will say, "We are not able to understand, and we'll put you through.""*" (Participant 7, M, dystonia, 76).

3.2.2. Considerations

Participants often reported having to take into consideration multiple factors, relating to their state, before placing a phone call. **Fatigue** was frequently reported to affect the participants' speech symptoms, which, in addition to the **type of information** that needs to be communicated, were some of the factors that influenced participants' choice of methods: *"When I'm not tired and can be clear, then I can generally get through the phone conversation, yeah? But issues arise when I'm tired. Plus the sort of phone calls I make tend to use a lot of technical information and pronunciation can be a bit of an issue for me."* (Participant 5, M, ataxia, 58)

3.2.3. Interpersonal and People

Some of the interpersonal strategies that the participants discussed were related to **self-advocacy** and choosing to **disclose their speech condition** to the phone agent: "*When I call on the phone, I will ask if there's an email option and point out that I have a voice condition, which makes speaking*

to a call centre difficult." (Participant 7, M, dystonia, 76); *"I'd say I've taken the lead to say how I want the conversation to go. It's pretty much around allowing me to slow down and speak and get the whole element of my message out there before they reply and say anything."* (Participant 4, M, ataxia, 53). However, this strategy was not preferred by all participants, due to fear of judgement: *"just thinking about saying to them, my speech is maybe hard to understand me, but I wouldn't want cheeky Scottish people to say anything rude."* (Participant 11, F, ataxia, 29).

Some participants also encouraged the agent to ask for clarifications if they are struggling to understand: "*I always start by saying that I've got Parkinson's and that my speech is affected. And I say that, "If you can't understand me, please tell me and I won't be offended." But people don't always tell me."* (Participant 12, F, Parkinson's, 76). Participants also proactively checked the agent's understanding: *"So, sometimes, I will say, if it's important, I'll say, because I know they've not heard me, I'll say, "Can you just read back what I've said to make sure that we're both on the same page here, what exactly I'm asking?"* (Participant 3, M, unspecified, 55).

When all these strategies or considerations fail, the participants often involved support (usually family) to help with phone calls. This was coded as the *vicarious assistance*, meaning that participants asked the family member to initiate phone calls *("I ask my mum to phone here or there, but I am quite independent*." Participant 11, F, ataxia, 29; *"certainly there was a time I asked my wife if she would make a call for me."* Participant 8, M, ataxia, 73); or the *safety net model*, when a supportive person was present in the room, ready to take over if needed (*"I ask her to take over."* Participant 6, M, ataxia, 76). In both models participants remained in the room to relay their answers to the person helping with the call.

While a highly prevalent strategy, some participants rejected relying on family: *"No, because that is making me a second-class citizen. I should, I believe, under the disability legislation have the right to be able to, you know, for firms to make provision for me to contact them and accommodate my disability."* Participant 7, M, dystonia, 76). Other participants had a lack of in-group support: *"unfortunately both my parents have since passed away a long time ago. I have no brothers or sisters. So I don't really need to depend on family for anything."* (Participant 9, M, ataxia, 37) or faced the prospect of losing it: *"We are both very old, so if one of us dies, if he dies, I'm stuck."* (Participant 1, F, ataxia, 77).

3.3. Priorities (Recommendations)

3.3.1. For institutions

Participants mostly made suggestions for how companies can support callers by keeping records of client needs, to meet them as they are calling: "*One thing I'd pass onto them would be wherever possible, try and flag it in the system. So the person you speak to is routed through to a person appropriate to deal with this type of query*." (Participant 4, M, ataxia, 53). This has already been described as a positive experience by another participant in 3.1.4.

Second, institutions can implement more effective triage, resulting in connecting the caller with an appropriate agent: *"On the WhatsApp bot it asked me a series of questions which is like a triage, and having completed those questions I would expect to be put through to an appropriate department. Well actually, all it does is to gather information then puts me through to the next available operative. So I think they're not using the triage possibility very well."* (Participant 08, M, ataxia, 73). This option reduces the need for the caller to explain their issue to multiple agents. For people with acquired speech difficulties this means reducing the risk of fatigue and frustration, both of which they experience as negatively affecting their speech.

Third, companies can allow the caller alternative means of communication without having to go through ASR triage (i.e., opting out of ASR): *"When it says press a number between 1 to 6, I press star quite often to try to get through that way. So, that works, sometimes. But there's no failsafe that always works because all the different companies are set up differently."* (Participant 14, M, Parkinson's and stammering). This is imperative until ASR has been convincingly demonstrated to be accessible to all customers. It also shows an opportunity for standardisation of accessibility designs across institutions.

Fourth, organisations should provide institutional power and training to agents to solve various client demands, instead of relying on scripts: "*I would just say that if somebody invested in having more people onshore who listen to you and are well trained, less scripts, more conversation, then that would get my business. Anything that gives me more help. It's the scripted, untrained, automated, chat bot type operation that I can't operate with*." (Participant 14, M, Parkinson's and stammering).

The final area of advice relates to the use of technology. As reported in 3.1.5 there was no universally preferred modality of contacting service providers, even video calls, which can combine visual, auditory, and written modalities: *"I don't want video phones, put it that way. Because my face gets really tight, especially at work."* (Participant 13, F, MSA, 60). The variability in participant preferences (see below) suggests that offering several options for communication is necessary to accommodate people with different communication needs and allowing clients to opt out of technologies that present barriers (e.g., ASR).

Many participants preferred written modalities and wanted email to be more widely available and responded to promptly: *"Just email address and then to answer the emails."* (Participant 6, M, ataxia, 78). However, alternatives like chats were not suitable, due to the imposed time pressure: *"there's been a decline in my speech, my dexterity has declined as well. […] And email, at least it allows me more time to compose and reflect and to make corrections. Often when I've done that over the web chat, I've been asked whether I'm still here."* (Participant 5, M, ataxia, 58). However, another participant suggested that a WhatsApp chat service *"would be handy, I think, yes. Perhaps all customer services departments could get those put in just in case."* (Participant 13, F, MSA, 60).

Some participants recommended multimodal communication, allowing typed responses during a conversation: *"It would have to be something you could pick up in a middle of a conversation, you wouldn't have to… that would be quite good. Otherwise, you've got to put the phone down, phone up again and everything else. But if you could say, "Right, would you like to spell that out and do that," sort of thing, it would be ideal, perfect, in fact, I think."* (Participant 13, F, MSA, 60).

3.3.2. For agents

While participants were generally empathetic to the work constraints of agents, they suggested that agents should be trained to be proactive when they do not understand ("*If they just tell me."* Participant 12, F, Parkinson's, 76) and double-check understanding, which was frequently explicitly encouraged by participants and highlighted as good practice they have observed (see 3.1.3 and 3.2.3). However, one participant suggested that while he prefers double-checking, other people with speech conditions might not: "*It's difficult that, because if they said to me, "I'm sorry, you're a bit difficult to understand," that would upset a lot of people*." (Participant 8, M, ataxia, 73).

4. Discussion

This study aimed to fill in a gap in the recent research on accessibility of services by exploring the experiences, communication strategies, and priorities for adults with acquired speech conditions contacting services in a post-pandemic context. It was motivated by the limited amount of research including experiences across different health conditions and by the increased societal reliance on remote communication since the last study with a broadly similar focus by Baylor et al. (2011). The results of the study align with the findings of past research, such as Baylor et al. (2011). Both studies reveal the significant emotional and functional impact of the participants' condition on communication. There was also overlap in how participants dealt with communicative challenges: They had to consider how their symptoms might vary during the day, in addition to the purpose of the call, their environment, and expected length of the communication. There was also a similarity in seeing one's family as support to lean on, while communication with strangers was often more challenging. Noteworthy findings in our study were the sentiments of those who did not have access to family support. In addition, some participants felt that, according to UK disability legislation (Equality Act (2010), section 20), the onus was fully on the service providers to make reasonable adjustments to not put people with disabilities at a substantial disadvantage. Based on the evidence presented in this article, many services are not meeting this legal requirement.

While the emotional impact, considerations, and support might be similar to previous reports, the present study reflects the changing technological environment and different communicative demands for people with speech conditions over the last 15 years. For example, comments reported in Baylor et al. (2011) were restricted to phone conversations, whereas participants in the present study' also provided views on email, chats and chatbots, ASR, talking to local and overseas agents on the phone, and multimodal communication. Another notable difference between the two studies relates to attitudes towards the use of technology. Participants in Baylor et al. (2011) frequently reported avoiding communication as a strategy to avoid the inconveniences, difficulties, and frustrations associated with communication in certain situations. On the other hand, participants of the present study also talked about "persistence" and proactively "choosing the best available mode of communication", which sometimes meant avoiding communication channels, specifically those involving automation and time pressure.

Our participants' experiences and recommendations reveal not only the need for but also the path towards improved accessibility in customer communications. A variety of approaches to making customer communication more accessible that were praised by our participants are already recognised as good practice by existing solutions, such as the Plain English Campaign (Plain English Campaign, n.d.) or the Communication Access training (Royal College of Speech and Language Therapists [RCSLT], n.d.). UK government websites have incorporated the Plain English principles (Government Digital Service, 2024), and the associated short questions and answers were appreciated by one of our participants. These principles reduce demands on cognition, language processing, and dexterity and are therefore accessible for more people.

The Communication Access training supports increased awareness of the variable communication needs within the UK population and the use of strategies, ensuring that the person with communication needs is listened to until the message is understood and confirmed (Let's TALK about communication on the phone, n.d.). This training that can address most of the participants' challenges reported in this study around being stereotyped as "drunk", hung up on, rushed and misunderstood. The training also encourages offering alternative means of communication, as needed, which echoes our participants' frustration at having no alternative methods of

communication that fit their needs. A major obstacle to accessibility was Automatic Speech Recognition (ASR)-based triage, that participants had to go through before reaching a representative. ASR has been shown to be inadequate for the needs of people with dysarthria (Moore, Venkateswara, & Panchanathan, 2018) and while solutions might be underway (Google Research, n.d.), it is currently a barrier to communication.

The implementation of these solutions requires organisations to recognise the accessibility needs of their customers and to invest in implementing solutions. The results of this study suggest that many UK institutions are not meeting the requirements of existing policy, such as the Equality Act (2010). Activism efforts, such as the More than Words campaign (2025), need to focus on engaging institutions in improving their accessibility for people with speech-related disabilities. Some solutions outlined in this study include: Providing and monitoring multiple channels of communication that allow bypassing methods that increase communication demands (e.g., ASR or chatbots), reducing communication demands by using Plain English and by connecting people with disabilities directly with trained agents, who have institutional power to resolve client requests without needing further transfers. This might require companies to store customer data relating to disability and required adjustments.

Another long-term avenue for widening accessibility for people with speech conditions is developing research on supporting listener understanding of dysarthric speech (for a review see Borrie & Lansford, 2021). This could involve not only providing training to some customer service agents (human and automated) on effective communication strategies (Communication Access UK – Inclusive communication for all, n.d.), but also helping them understand the speech of people with different speech disorders via targeted speech exposure training. Finally, this study represents the views of a small group of participants from the UK. Further research needs to reach broader populations whose needs may not be represented here.

6. Conclusion

This study investigated the experiences of people with acquired speech conditions in the UK when contacting service providers over the phone. A key finding was that the recent developments in technology (e.g., automatic speech recognition (ASR) or chatbots) have not only failed to improve the experiences of people with speech difficulties, but instead often exacerbated their previous difficulties.

Our study thus highlights that, in the case of people with speech-related disabilities, service providers currently fall short of the requirements of the UK Equality Act (2010) and points to an urgent need for institutions to improve the accessibility of their services for these consumer groups. On a more positive note, our participants were able to make recommendations for how providers can make reasonable adjustments to support them more effectively. Further research is necessary to investigate the feasibility, acceptability and effectiveness of such measures to develop viable and effective support mechanisms.

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