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Telehealth practice in aphasia: A survey of UK speech and language therapists, with a focus on assessment

Katerina Hilari | **Abi Roper** | **Sarah Northcott** | **Nicholas Behn**

Centre for Language and Communication Science Research, School of Health and Psychological Sciences, City, University of London, London, UK

Correspondence
Katerina Hilari, Department of Language and Communication Science, City, University of London, Northampton Square, London, EC1V 0HB, UK.
Email: k.hilari@city.ac.uk

Abstract

Background and Objectives: Evidence suggests telehealth in speech and language therapy can enhance access to care, cost-effectiveness and satisfaction. However, little is known about use of telehealth in the United Kingdom. Moreover, many assessments/outcome measures for aphasia have been tested for face-to-face administration only, posing challenges to reliable use within the telehealth context. We explored the experiences and views of speech and language therapists (SLTs) working with people with aphasia on using telehealth to conduct assessments/outcome measures, perceived barriers and facilitators in telehealth, and their priorities for research in telehealth aphasia assessment.

Method: We explored views of UK SLTs through an online cross-sectional survey (2021) delivered through the Qualtrics platform. The survey covered three main areas: (i) participant demographics; (ii) experience of using telehealth and doing telehealth assessments with people with aphasia post-stroke during the COVID-19 pandemic; and (iii) plans for telehealth post-pandemic. Response formats included yes/no, multiple choice, 5-point Likert scales and open-ended text responses. The survey was expected to take no more than 10 min to complete. Survey data were analysed through descriptive statistics and content analysis of open-ended questions.

Results: One hundred twenty-four SLTs responded to the survey. The majority (>80%) used telehealth during the COVID-19 pandemic and >90% planned to continue to use telehealth in the future. The most used platforms were Zoom, Microsoft Teams and Attend Anywhere. Access to internet and telehealth platforms, and practical problems (e.g., difficulties sharing resources online, limited functionality of telehealth platforms for assessment) were common barriers. Therapists highlighted that training, resources and materials that assist the administration of assessments were important. Most participants responded that there was a need for existing measures to be tested for administration via

telehealth ($n = 68$, 70.8%). Participants overall felt there was a need for online interactive assessments, more online resources that have been trialled for use via telehealth, accessible formats for resources for people with aphasia and clear instructions for how people with aphasia can access resources.

Conclusions: This study provides new insights into the current use of telehealth assessment with people with aphasia in the United Kingdom and directions for future research. Barriers and facilitators identified can support the implementation of telehealth assessment in SLT services.

KEYWORDS
aphasia, assessment, outcome, speech and language therapy

WHAT THIS PAPER ADDS

What is already known on the subject

- The use of telehealth in speech and language therapy has advantages in terms of access to care, cost-effectiveness and satisfaction with care. However, little is known about the use of telehealth in aphasia rehabilitation in the United Kingdom, especially in the area of assessment and outcome measurement.

What this paper adds to existing knowledge

- This study identified that the majority (>80%) of aphasia therapists used telehealth during the COVID-19 pandemic and >90% planned to continue to use telehealth in the future. A need was identified for existing measures to be tested for administration via telehealth and for training, resources (e.g., online interactive assessments) and materials (e.g., accessible formats for people with aphasia).

What are the potential or actual clinical implications of this work?

- To facilitate the successful implementation of telehealth assessment, there is a need for measures validated for use via telehealth and more online resources that have been trialled for use via telehealth.

INTRODUCTION

Stroke is a leading cause of permanent disability in adults (Feigin et al., 2017). Around 25% of stroke survivors have aphasia, a communication disability that affects speaking, understanding, reading and writing (Flowers et al., 2016). Compared to stroke survivors without aphasia, people with aphasia have lower functional independence (Lazar & Boehme, 2017) and are at higher risk of depression (Kauhanen et al., 2000) and diminishing social networks (Northcott et al., 2016). The COVID-19 pandemic has exacerbated problems for people with stroke and aphasia, who did not receive the therapy they needed. A Stroke Association survey of 2000 UK stroke survivors on the impact of

the pandemic identified significant problems with access to rehabilitation and ongoing support, with stroke survivors also reporting high anxiety. Almost 40% reported they had not received enough therapy (The Stroke Association, 2020). The Royal College of Speech and Language Therapists (RCSLT) also ran a survey of patients' needs and experiences during the pandemic and found that the majority (81%) received less speech and language therapy and 62% did not receive any speech and language therapy during lockdown (Clegg et al., 2021).

Even before the pandemic, people with aphasia faced challenges accessing services. The physical, communication and emotional difficulties can make it challenging to attend and benefit from face-to-face rehabilitation

(Guo et al., 2014). Additional barriers around transport and needing carer assistance have also been identified (Guo et al., 2014).

Telehealth may mitigate some of these challenges. It has been defined as the 'delivery of health care services, where patients and providers are separated by distance… (it) can contribute to achieving universal health coverage by improving access for patients to quality, cost-effective, health services wherever they may be' (World Health Organisation [WHO], 2022). Thus, telehealth can widen available support for patients, reduce burden (e.g., travel) and improve compliance.

A systematic review on the use of telehealth in speech and language therapy concluded it offered advantages over non-telehealth (85.5% of studies) in the areas of access to care, cost-effectiveness and satisfaction with care (Molini-Avejonas et al., 2015). A more recent review (2014–2019) found evidence of feasibility and preliminary efficacy of telehealth delivery of adult speech and language therapy services; most studies included in the review focused on services for people with aphasia (Weidner & Lowman, 2020). A further review specifically focusing on aphasia confirmed these findings with positive evidence for the effectiveness and feasibility of telehealth services for people with aphasia (Teti et al., 2023).

To transform healthcare to a hybrid model that includes telehealth, speech and language therapists (SLTs) need to assess their clients and measure the outcomes of their interventions through telehealth. Standard assessment and outcome measurement instruments (hereafter referred to as measures) have been primarily developed and tested for face-to-face administration. There is evidence from a systematic review on the equivalence of face-to-face and telehealth aphasia measures that focus on specific language difficulties (e.g., naming pictures, following simple instructions) (Hall et al., 2013), and more studies since have supported the equivalence of aphasia measures (Simmons-Mackie et al., 2014; Teti et al., 2023).

There are, however, problems with the existing evidence base. There is limited understanding on how best to facilitate telehealth administration of measures. Many people with aphasia may struggle with technology (Menger et al., 2016) and issues of access can be further compounded by factors such as socioeconomic disadvantage (Ragnedda et al., 2022). People with aphasia may also face difficulties completing measures via telehealth due to their aphasia/language and physical or sensory problems. SLTs also face challenges on how to adapt the administration of measures for telehealth, for example, how to manipulate materials and how to manage technical difficulties and support people with aphasia remotely. Lastly, the interpretation of measures is problematic as telehealth administration may affect how people's responses are

scored. Recent systematic reviews have identified exploring strategies and developing best practice guidelines as priority areas for research in this area (Brearly et al., 2017; Weidner & Lowman, 2020).

Moreover, measures tested for telehealth so far do not capture some outcomes considered most important by people with aphasia and their families. Recently, a Core Outcome Set (COS), a set of outcomes that should be used in all studies, was developed for aphasia (Wallace et al., 2019) following extensive consultation with people with aphasia and their families (19 nominal groups internationally, including the United Kingdom) (Wallace et al., 2017b) and aphasia clinicians and managers ($n =$ 318 from 25 countries) on which outcomes were important to them (Wallace et al., 2017a). These included quality of life, emotional well-being and communication (Wallace et al., 2017b). Only one of the four COS measures, the Western Aphasia Battery (WAB), a language measure, has been tested for use in telehealth.

To address these issues, we need to understand better current speech and language therapy practice of telehealth assessment for people with aphasia post-stroke and how SLTs perceive barriers, facilitators and priorities in this area. This will help us understand what tools, training and resources may help telehealth assessment and what measures need to be prioritised for testing via telehealth. Through this UK survey we aimed to identify: (i) whether SLTs are using telehealth with people with aphasia post-stroke and if so, how?; (ii) what do SLTs consider as barriers and facilitators to telehealth assessment?; (iii) do SLTs consider the testing of measures for telehealth assessment an unmet need?; and finally, (iv) what measures would SLTs prioritise for use with people with aphasia post-stroke via telehealth?

METHODS

Design

An online cross-sectional survey was carried out. The survey has been reported according to the Checklist for Reporting Results of Internet E-Surveys (CHERRIES) (Eysenbach, 2004), see Supplementary Material A for completed checklist.

Survey development

The research team, which comprised highly specialist aphasia SLTs with methodological expertise in surveys, qualitative research, outcome measurement and technological applications/telehealth, created a 22-item survey

in the web-based platform Qualtrics using an iterative process between the authors. The team ($N = 4$) checked the survey for accessibility to ensure clarity of wording, and user experience and presentation (e.g., checked survey presentation on computer, tablet and phone, both Android and Apple). The final version of the survey (Supplementary Material B) covered three main areas: (i) participant demographics; (ii) experience of doing telehealth assessments with people with aphasia post-stroke during the COVID-19 pandemic; and (iii) plans for telehealth post-pandemic. Response formats included yes/no, multiple choice, 5-point Likert scales and open-ended text responses. Questions were presented across six pages, with no more than five questions per page. The survey was expected to take no more than 10 min to complete, reducing participant burden.

Participants and procedure

Participants were practicing and registered SLTs within the United Kingdom who were currently working full- or part-time with adults with aphasia post-stroke. The survey was active from 14 May until 12 July 2021 (8 weeks in total), at a time during COVID when in the United Kingdom all essential and most non-essential services were open, with some restrictions for social gatherings. All remaining legal restrictions were initially lifted in mid-July 2021. An email invitation to participate containing a link to the survey was sent to the administrators of mailing lists containing SLTs who may work in aphasia (e.g., relevant clinical excellence networks, British Aphasiology Society). The administrator of each list was then asked to forward this email to their mailing lists. A snowballing method of distribution was used whereby each person who received the email invitation to the survey was free to forward it to their own contacts. The survey was also distributed through the social media platform Twitter. Participation was voluntary and anonymous. Those who received the invitation email clicked on the link to the survey if they wished to participate. Researchers retained no contact details of potential participants including IP addresses. The study received ethical approval from the City, University of London, Language and Communication Science Proportionate Review Committee (ETH2021-1508).

Data analysis

Data were exported from Qualtrics into a Microsoft Excel spreadsheet. This spreadsheet was first screened to identify duplicate participants and incomplete demographics. The remaining responses were then analysed. Descriptive statistics were used to provide a summary of the responses to each question including a table of frequencies, proportions and graphs to allow for visual inspection of the data. Responses to short answer open-ended questions were analysed with quantitative content analysis in line with methods described in Palmer et al. (2017). Text responses were reviewed to identify units of content. These were then prepared for coding by cleaning up extraneous punctuation and expanding or contracting acronyms to allow effective grouping and counting of related tokens. The listed responses and totals were reviewed by a second researcher and errors and queries were discussed and agreed to determine a final list and count. Longer, open text responses to three questions regarding barriers and facilitators were coded into initial topics using NVivo 12 software. Coding topics were reviewed and refined through discussion between researchers to create an agreed list. The agreed list was then used to re-code data for topic references to be counted, inspected, descriptively summarised and reported.

RESULTS

Of the 131 people who attempted the survey, seven were excluded as they did not complete nor go beyond the demographic questions. The responses of the remaining 124 participants are included in the analysis, which includes six who answered only the demographic questions and the question on what online platforms they were currently using (Q10) but did not proceed further. As the survey was anonymous and owing to the recruitment methods, we were unable to calculate a response rate.

Table 1 provides the demographic details of the 124 participants included in the final analysis. Most participants were female ($n = 113$, 91.1%) working in the public sector ($n = 87$, 70.2%) in community and outpatient settings ($n = 72$, 58.1%). They worked across the United Kingdom, with a large proportion working in London and the South East of England ($n = 54$, 43.5%). The majority of participants had more than 5 years' experience with people with aphasia ($n = 85$, 68.5%), and people with aphasia comprised more than 20% of their caseload ($n = 103$, 83.1%). Most participants used telehealth to varying degrees with people with aphasia ($n = 99$, 79.8%).

Telehealth experience

Table 2 provides results of the participants' experience of using telehealth at the time of the survey. Participants reported use of 23 different telehealth platforms with the most used including Zoom ($n = 58$, 46.8%), Microsoft

TABLE 1   Participant characteristics.

Variables	N = 124	%
Age		
20–30 years	28	22.6%
31–40 years	38	30.6%
41–50 years	39	31.5%
51–60 years	17	13.7%
61–64+ years	1	0.8%
65+	1	0.8%
Sex		
Female	113	91.1%
Male	10	8.1%
Prefer not to say	1	0.8%
Ethnic origin		
Asian	5	4%
Black	3	2.4%
White	109	88%
Mixed	3	2.4%
Other (specify)	4	3.2%
Years of experience working as an SLT with people with aphasia		
Less than 5	39	31.5%
6–10 years	18	14.5%
11–15 years	20	16.1%
16–20 years	24	19.4%
More than 20 years	23	18.5%
Proportion of time working on communication with people with aphasia		
<20%	21	16.9%
20%–40%	28	22.6%
40%–60%	29	23.4%
60%–80%	24	19.4%
80%–100%	22	17.7%
Proportion of caseload with aphasia currently seen via telehealth		
0%	25	20.2%
1%–20%	36	29%
20%–40%	25	20.2%
40%–60%	6	4.8%
60%–80%	9	7.3%
80%–100%	23	18.5%
Sector (able to choose more than one)		
Public sector (NHS)	87	70.2%
Private sector (e.g., independent SLT/private hospital)	17	13.7%
Voluntary sector (e.g., charity)	1	0.8%
Mixed	10	8.1%
Other (e.g., university, research)	9	7.3%
Primary Setting		
Acute stroke hospital	12	9.7%
Inpatient rehabilitation	10	8.1%
Early supported discharge	16	12.9%

(Continues)

TABLE 1   (Continued)

Variables	N = 124	%
Community/out-patient	72	58.1%
Charity group	5	4%
Other (e.g., research, mixed)	9	7.3%
Work location		
Northern Ireland	3	2.4%
Scotland	8	6.5%
Wales	6	4.8%
England—North East and Cumbria	6	4.8%
England—North West	9	7.3%
England—East of England	5	4%
England—East Midlands	5	4%
England—West Midlands	6	4.8%
England—London	34	27.4%
England—South East	20	16.1%
England—South Central	2	1.6%
England—South West	14	11.3%
England—Yorkshire and Humber	6	4.8%

Abbreviations: NHS, National Health Service; SLT, speech and language therapist.

Teams ($n = 56$, 45.2%) and Attend Anywhere ($n = 44$, 35.5%). Most participants reported that Zoom worked best for telehealth ($n = 51$, 48.1%) followed by Attend Anywhere ($n = 20$, 18.9%), Microsoft Teams ($n = 17$, 16%), and the National Health Service (NHS) platforms Accurx ($n = 7$, 6.6%) and Nearme ($n = 6$, 5.7%). A minority of participants additionally reported only having experience of ($n = 13$) or access to ($n = 10$) a single platform.

Half of all participants reported that they would like to see more people with aphasia via telehealth ($n = 59$, 50%). However, 28 participants did not answer this yes/no question directly and provided an open-text response reporting that telehealth did not work for all people due to aphasia severity or technology problems and that some people with aphasia benefit more from face-to-face contact. One participant reported 'depends on so many factors: family support, signal strength, severity, any cognitive issues'.

A large proportion of therapists reported using assessment measures via telehealth with people with aphasia ($n = 81$, 68.6%). Over 50 different measures were reported, but only five measures were mentioned by 10 or more participants: the Comprehensive Aphasia Test (CAT, $n = 36$), the Aphasia Impact Questionnaire (AIQ, $n = 13$), The Mount Wilga High Level Language Test ($n = 12$), the WAB ($n = 11$) and the Psycholinguistic Assessment of Language Processing in Aphasia (PALPA, $n = 10$). Informal screens, rating scales and questionnaires were also mentioned by $n = 15$.

Barriers and facilitators to telehealth

Therapists described the barriers and facilitators to assessing and treating people with aphasia via telehealth through three open-text questions. In terms of barriers, the most common responses related to assessment or therapy logistics ($n = 40$). This included insufficient digital assessments or a lack of assessments suitable for formal delivery via telehealth. There were also practical problems with delivering assessments online as illustrated by the following comment describing 'difficulties using annotate, cumbersome share screen and they see things differently to me'. Lack of online resources, problems with sharing resources online and limited functionality of telehealth platforms to facilitate assessments were further examples of logistical barriers in conducting assessments. There were also barriers relating to clinicians or patients having limited or no internet connection ($n = 28$), lack of access to telehealth technology for either the patient and/or therapist ($n = 28$) and lack of competence using the telehealth platform on the part of the patient ($n = 24$). An associated barrier was the absence of or reliance on a carer, relative or friend to access telehealth ($n = 24$). Impairment focussed barriers reported were cognitive impairment ($n = 19$), visual and hearing difficulties ($n = 17$) and severity of aphasia ($n = 12$) ('more challenging for those with severe communication difficulties and/or cognitive difficulties').

TABLE 2   Telehealth characteristics.

Variables	N	%
Online platforms currently used (able to choose more than one) (N = 124)		
Zoom	58	46.8%
Microsoft Teams	56	45.2%
Attend Anywhere	44	35.5%
Accurx (NHS)	17	13.7%
Skype	10	8.1%
Nearme (NHS)	6	4.8%
Cisco Webex	3	2.4%
Whereby	3	2.4%
Jitsi	4	3.2%
Google Meet	5	4%
Other (e.g., WhatsApp, Blue Jeans, Google Duo, Starleaf, Visionable, Vsee, FaceTime, EVA Park, Eclinic, Telephone, QHealth, Messenger, One Consultation)	29	23.4%
Would you like to see more people with aphasia via telehealth? (N = 118)		
Yes	59	50%
No	31	26.3%
Open-text response	28	23.7%
Post-COVID-19, what proportion of your caseload with aphasia do you anticipate will be via telehealth? (N = 118)		
0%	10	8.5%
1%–20%	58	49.2%
20%–40%	23	19.5%
40%–60%	20	16.9%
60%–80%	3	2.5%
80%-100%	4	3.4%
Do you use any assessments (including questionnaires) via telehealth with people with aphasia? (N = 118)		
Yes	81	68.6%
No	37	31.4%
Is there a need for existing measures to be tested for telehealth administration? (N = 96)		
Yes	68	70.8%
No	10	10.4%
Don't know	18	18.8%
How important is it to you for assessments to be tested for telehealth administration? (N = 84)		
Extremely important	19	22.6%
Very important	22	26.2%
Moderately important	30	35.7%
Slightly important	8	9.5%
Not at all important	5	6%

In terms of what facilitated therapists to assess and treat people via telehealth, many therapists reported that support from a carer, relative or friend was a strong facilitator (*n* = 51). Therapists also reported a range of logistical factors that acted as facilitators (*n* = 32) including having good access to online resources (e.g., aphasia friendly resources for getting online) and taking into consideration the practical logistics of delivering online therapy (e.g., easy-to-use platform, taking time to explain tasks, good preparation, access to a quiet room). This is illustrated by

the following quote on what helps: 'Tech check in, initial get to know you session to find out their set up, skills, support, practice and make using video-conferencing more familiar… Anticipating and having trouble-shooting resources ready'. Therapists also identified several platforms, software or specific technological functions that facilitated sessions with people with aphasia ($n = 27$). These included the use of software such as PowerPoint, Google Jamboard and Boom cards; and functions such as, whiteboard, chatbox to assess reading and writing, screen-sharing, session recording, text subtitle, drawing space and annotate. Less commonly mentioned facilitators included good internet access ($n = 12$), training on the telehealth platform of use ($n = 10$), access to technology by either the patient or therapist ($n = 9$), patient's competence for using the telehealth platform ($n = 11$) and less severe aphasia ($n = 7$).

Respondents were also asked what would help them to conduct telehealth assessments. Most therapists ($n = 58$) again responded with logistical considerations. They identified the need for accessible online resources and technology such as standardised assessments for use via telehealth, online interactive assessments, more online resources that have been trialled for use via telehealth, resources with accessible formats for people with aphasia, and clear instructions for how people with aphasia can access resources. For example, 'More assessments with protocols and resources to allow for online administration; including procedures to develop requisite tech skills in clients being assessed, in interacting with the assessment'. They also identified the need for a physical space to do telehealth. Therapists described specific functions that would help telehealth ($n = 14$) including screen sharing or mirroring, the ability for a therapist to turn on a client's annotate function, and an interactive platform where patients can click or touch their response, and this can be viewed by a therapist: 'A platforms [sic.] that does not require a patient to pay but allows me to call them on a tablet sized screen and screen share and allows them to screen share or respond to choices by touching a screen'.

Future use of telehealth

A large majority of participants reported that a proportion of their caseload would involve telehealth following the COVID-19 pandemic ($n = 108$, 91.5%). Most participants responded that there was a need for existing measures to be tested for administration via telehealth ($n = 68$, 70.8%) which they reported was either moderately, very or extremely important to them ($n = 71$, 84.5%).

Participants reported that access to measures designed for telehealth administration would help them conduct telehealth assessments ($n = 46$) with materials that provide tips, support and guidance. Access to aphasia-friendly platforms and functions that help administration of assessments via telehealth ($n = 15$) was also mentioned by some participants (e.g., screen touching, therapist able to call patients and turn on their annotate feature).

Participants prioritised multiple areas for assessment via telehealth. Some of these were stated in terms of general areas of assessment and some were identified as specific measures. The terms language impairment ($n = 16$), communication activity and participation ($n = 21$), and quality of life and well-being ($n = 23$), were given without mention of a specific measure. In terms of specific measures, few were identified three times or more (Table 3). The most frequently mentioned language impairment measure was the CAT ($n = 21$) followed by the WAB ($n = 7$). Though, communication activities and participation were identified as important areas where telehealth measures were needed, a few specific measures were raised by ≥3 participants: the Communication Activities of Daily Living (CADL-3, $n = 4$) and The Scenario Test ($n = 3$). For the quality of life and well-being, the AIQ, a measure that covers multiple WHO International Classification of Functioning, Disability and Health (ICF) domains, was frequently mentioned ($n = 10$) followed by the Stroke and Aphasia Quality of Life Scale (SAQOL-39g, $n = 8$).

DISCUSSION

The survey findings demonstrated use of telehealth by at least 80% of SLT respondents when working with people with aphasia. Much of this shift in working may be attributable to the COVID-19 pandemic. Prior to the pandemic, therapists had been reluctant to use telehealth (Molini-Avejonas et al., 2015); however, post-pandemic between 70% and 86% of therapists planned to continue to use telehealth in the future (American Speech-Language-Hearing Association, 2020; Campbell & Goldstein, 2022; RCSLT, 2020). The results of this survey show that more than 90% of therapists anticipate the future use of telehealth for people with aphasia and were able to identify factors that may help facilitate use as part of caseload management. However, therapists were also mindful of the challenges that would need to be addressed or mitigated if telehealth were to become an ongoing flexible option for SLTs in aphasia rehabilitation.

Challenges identified include issues with access to internet and telehealth platforms, and practical problems with using the different technologies. Similar challenges have often been reported in other studies of telehealth (Campbell & Goldstein, 2022; Hall et al., 2013; Tenforde et al., 2020). SLTs highlighted that access to training, resources and materials that assist the administration of

TABLE 3 Domains and measures (mentioned three times or more) that should be tested for telehealth administration.

Domain	Measure	Count
Language impairment	No specific measure stated	16
	Comprehensive Aphasia Test (CAT)	21
	Western Aphasia Battery (WAB)	7
	Boston Naming Test (BNT)	5
	Psycholinguistic Assessment of Language Processing in Aphasia (PALPA)	5
	Mount Wilga	5
	Cognitive Linguistic Quick Test (CLQT)	5
	Apraxia Battery	3
	Brisbane Aphasia Test (BAT)	3
Well-being and quality of life	No specific measure stated	23
	Aphasia Impact Questionnaire (AIQ, measure covers multiple ICF levels)	10
	Stroke and Aphasia Quality of Life Scale (SAQOL-39g)	8
	Communication Outcomes After Stroke (COAST, measure goes across multiple ICF levels)	4
Activities and participation	No specific measure stated	21
	Communication Activities of Daily Living (CADL-3)	4
	The Scenario Test	3

Abbreviation: ICF, International Classification of Functioning, Disability and Health.

assessments and delivery of therapy sessions were important. Along with improvement to the access and funding for internet access and technology, similar suggestions have been made elsewhere (Campbell & Goldstein, 2022). Some previous studies have reported negative attitudes of therapists towards telehealth (McClellan et al., 2020; Tohidast et al., 2020), however, these were less apparent for SLTs working with people with aphasia in the current survey.

The survey highlights that there are a variety of platforms that therapists are using to deliver telehealth, with 23 different platforms identified. Earlier studies focused on either device to deliver telehealth (e.g., computer, laptop, tablet, mobile phone) or type of technology (e.g., videoconferencing, email or telephone) (Harkey et al., 2020; Tenforde et al., 2017). Since the pandemic, our understanding of telehealth has evolved further. The most used platforms in this UK survey were Zoom, Microsoft Teams and Attend Anywhere, which are compliant with the European Union General Data Protection Regulation. In the United States, Zoom and FaceTime were the most used platforms (Campbell & Goldstein, 2022). Participants in this survey reported that Zoom worked best for telehealth, most likely the result of a range of features that may have been lacking in the other platforms (e.g., screen sharing, annotate) at the time of the survey. However, some health services were noted to be permitted to use or have access to only a single platform (e.g., Attend Anywhere, Accurx, Nearme). As technologies advance further in the coming

years, other platforms may adapt and/or new platforms may emerge to address existing limitations of platforms.

Access to support from a carer, relative or friend was considered important to the delivery of telehealth. This is consistent with a study of paediatric telehealth services which reported the lack of support as a challenge to the successful delivery of services via telehealth (Campbell & Goldstein, 2022). It also ties in with findings regarding the perceived importance of SLT and family support for people with aphasia accessing social networking technology online (Roper et al., 2018). Such support may be most appropriate for individuals who have significant cognitive or physical needs, or who have limited access or knowledge of technology to engage with telehealth. Though the results presented here indicate a perception that people with less severe impairments and some technological competence may benefit most, future research to empirically examine this and determine which patients are most likely to benefit from telehealth is still needed (Coleman et al., 2015). Future research could also explore the barriers and facilitators to enabling those from diverse backgrounds, and with different aphasia profiles, to access telehealth.

One challenge for many therapists related to the lack of measures suited to telehealth assessment for people with aphasia. Almost 70% of therapists reported the use of measures via telehealth, of which many were not validated for this mode of delivery. In paediatric speech and language therapy, there has been growing concern of the distinct lack of measures standardised for telehealth

administration and furthermore, SLTs have raised uncertainty about the ease of telehealth administration in this clinical population (Campbell & Goldstein, 2022). Similar reports were found in the current survey. Therefore, it is encouraging to see that participants reported a need for assessment measures to be tested for telehealth, which was of moderate-to-extreme importance to the majority.

Participants prioritised multiple areas for assessment via telehealth, with the areas of quality of life, wellbeing and activities and participation more frequently raised as important, though language impairment measures were frequently mentioned. This is in line with international research, where wellbeing and activities and participation were considered more important treatment outcomes for people with aphasia (Wallace et al., 2017b; Worrall et al., 2011). There is evidence from a systematic review on the equivalence of face-to-face and telehealth aphasia measures that focus on specific language impairments (e.g., naming pictures, following simple instructions) (Hall et al., 2013). Encouragingly, in recent years, more formal aphasia measures (WAB-Revised in Dekhtyar et al., 2020, PALPA and Assessment for Living with Aphasia in Guo et al., 2017, WAB-Revised for primary progressive aphasia in Rao et al., 2022) and cognitive impairment (Galusha-Glasscock et al., 2016; Loring et al., 2023) have been validated for telehealth administration.

Coleman et al. (2015) reported equivalence for some activity and participation measures for people with cognitive and communication needs after brain injury, although the authors acknowledged the need for more research in these areas. In line with a recent scoping review in this area (Teti et al., 2023) our study suggests that equivalence testing between face-to-face and telehealth administration for quality of life and well-being measures for people with aphasia is an important area for future research. Though this remains to be explored, such measures may be more feasible for telehealth use as they do not have stimulus manipulation demands like language and cognition measures.

Limitations

Due to the anonymous nature of the survey, the true response rate is unknown, however, of those who initiated the survey, there was a high completion rate (>90%). There is the possibility that the therapists who engaged with the survey had an interest in telehealth for people with aphasia, so there may be a selection bias, and the results may not be representative of the SLT profession working with people with aphasia more generally. Furthermore, as the timing of this survey coincided with when many COVID

restrictions had been lifted, many SLTs are likely to have returned to face-to-face rehabilitation. Therefore, the real-life long-term impact of COVID-19 on future telehealth services may yet to be truly known. Lastly, our respondents were drawn from the United Kingdom only, and as such issues identified may not apply to different countries and clinicians working in different healthcare systems. Still, the sample comprised 124 SLTs in the United Kingdom, working across a variety of settings and locations and identified a wide range of barriers as well as facilitators to telehealth.

CONCLUSIONS

SLTs in the United Kingdom reported they intend to continue to use telehealth alongside face-to-face rehabilitation for people with aphasia. The lack of measures suitable for telehealth assessment and practical problems with delivering assessments via telehealth were important barriers. To facilitate successful implementation of telehealth assessment, there is a need for measures validated for use via telehealth and more online resources that have been trialled for use via telehealth.

CONFLICT OF INTEREST STATEMENT
The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT
The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

ORCID
Katerina Hilari https://orcid.org/0000-0003-2091-4849
Abi Roper https://orcid.org/0000-0001-6950-6294
Sarah Northcott https://orcid.org/0000-0001-8229-5452
Nicholas Behn https://orcid.org/0000-0001-9356-9957

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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