

**TeleCPT: Delivery of a Better Conversations approach to Communication Partner Training during a global pandemic and beyond**

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## **Abstract**

**Purpose:** This case report provides an overview of telehealth delivery of our Better Conversations approach to communication partner training (CPT) for people with primary progressive aphasia (PPA) and their communication partners. The purpose is to advance speech and language therapists/pathologists' (SLTs) knowledge of this type of CPT and empower them to deliver teleCPT as part of their clinical practice.

**Method:** We provide a case report describing therapy delivery, outcomes and self-reflections from our clinical practice, which represents a collaboration between a UK National Health Service CPT clinic and the Better Conversations Research Lab at University College London, UK. A man with PPA and his communication partner (a dyad) video-recorded everyday conversations at home using a videoconferencing platform. These formed the basis of an evaluation of conversation barriers and facilitators, which led to 4 weekly 1-hour therapy sessions covering the mechanics of conversation, identification of barriers and facilitators, goal setting and practice of positive conversation strategies.

**Results:** Dyad self-rating of goal attainment revealed three of four conversation strategies were achieved much more than expected, a positive outcome given the progressive nature of FF's condition. SLT access to the dyad at home via teleCPT facilitated the carryover of strategies from the session to everyday conversations in the home environment. TeleCPT was acceptable to this couple during a global pandemic, with benefits including no travel, ease of therapy scheduling around the CP's work and family commitments, and access to a specialist CPT clinic outside their geographical area.

**Conclusion:** TeleCPT is feasible and acceptable to clients, improving access to therapy in a way that should not just be the preserve of service delivery during a global pandemic. SLTs can enable clients and their families to have better conversations despite communication difficulties by offering teleCPT. We have shared practical suggestions for delivering teleCPT.

Adults with communication difficulties are vulnerable to social isolation, deterioration in relationships, poor mental health and reduced quality of life (Cruice et al., 2011; NICE, 2018; Threats, 2010; Victor et al., 2020). The global Covid-19 pandemic has magnified these issues, resulting in increased risk of cognitive decline and mortality (e.g. Liu et al., 2021).

Communication partner training (CPT) is an intervention that is known to be protective of mental health; for people with aphasia a period of CPT can prevent the evolution of low mood into clinical depression (Baker et al., 2018). The aim of CPT is to overcome obstacles in everyday conversations, facilitating their flow and making them more enjoyable. CPT acknowledges the importance of involving communication partners (CPs) in therapy, and is an increasingly impactful approach in the field of communication sciences with applications in adult acquired disorders and augmentative and alternative communication (AAC). A systematic review of 56 studies involving people with aphasia shows CPT is effective at changing the behaviours of a CP (Simmons-Mackie et al., 2016). The authors conclude that interacting with a trained CP is likely to have the positive effect of increasing participation in conversation for a person with aphasia. The number of CPT approaches for aphasia is growing, and the evidence base is one of the strongest for any aphasia intervention. However, there is a need to strengthen study designs (Simmons-Mackie et al, 2016), intervention reporting (Cruice et al., 2018) and outcome measurement (Saldert et al., 2018). While the evidence base for CPT for people with traumatic brain injury (TBI) is more limited (Behn et al, 2021), three studies show positive results using TBI Express. CPT for people with primary progressive aphasia (PPA) and their CPs is a new field of research (Volkmer et al., under review; Volkmer et al., 2018) although speech and language therapists/pathologists (henceforth SLT) report they have been adapting stroke-aphasia CPT programmes for use in PPA for some time (Volkmer et al., 2019; 2020). A systematic review by Shire and Jones (2015) of 13 studies (of moderate methodological quality) of CP interventions to support children who use AAC concludes there is evidence that parents and educational assistants adopt beneficial interactional strategies after CPT, and that these positively influence children's AAC use. Similarly, Thiessen and Buekelman (2013) report that adults who rely

on AAC benefit from a trained CP, and they encourage SLTs to consider principles of adult learning, CPT delivery mode including remote training, and cultural issues when providing CPT.

The work reported in this article is a collaboration between the CPT clinic pioneered by Farrington-Douglas and Volkmer at the National Hospital for Neurology and Neurosurgery in London, UK (part of University College London Hospitals National Health Service Foundation Trust) and University College London's Better Conversations Research Lab, led by Beeke. Since the outset of the global Covid-19 pandemic, this clinic has been providing remote CPT for people with aphasia, PPA and cognitive communication difficulties after TBI, using videoconferencing platforms. Our CPT approach to PPA is called Better Conversations with PPA (BCPPA) and it will be described in detail later in this article. The popularity of a blog about our service (Volkmer, 2020) drew our attention to the fact that SLTs wish to deliver CPT remotely but have concerns about achieving the same outcomes as face-to-face CPT and need support with the practicalities. This case study provides an overview of our approach and complements a webinar on the subject (Farrington-Douglas, 2020).

The World Health Organisation defines telehealth as the “delivery of health care services, where patients and providers are separated by distance” and notes 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 Organization, 2016). ASHA identifies telepractice as a subsidiary of the broader concept of telehealth, and defines it as “the application of telecommunications technology to the delivery of speech language pathology and audiology professional services at a distance by linking clinician to client or clinician to clinician for assessment, intervention, and/or consultation” (ASHA, 2019). We acknowledge the use of different terms for remote services within the profession, including others such as teletherapy and telemedicine. For the purposes of this article, and given that we are based in the UK, we will use the term telehealth (as adopted by the RCSLT, 2020) to refer to the broad practice of delivering speech and language therapy services remotely, and we introduce the term teleCPT to distinguish CPT delivered via videoconferencing technology.

Telehealth is an appropriate service delivery model for adult speech and language therapy services, according to the findings of a recent systematic review (Weidner & Lowman, 2020). The 31 studies from 2014-2019 reviewed by these authors covered several adult populations, including chronic aphasia, PPA, TBI, Parkinson's disease and dysphagia. Results underline that telehealth delivery is not inferior to face-to-face speech and language therapy; it is feasible to deliver, supports accurate diagnosis and there is preliminary evidence of intervention efficacy. The authors reinforce the need for future studies with robust research designs including experimental control to definitively determine the effectiveness of such services across populations. The literature surrounding the clinical populations of relevance for our CPT clinic provides an indication of the interventions for which positive evidence exists. In an investigation of PPA, Dial et al. (2019) reported largely equivalent outcomes for in-person and telehealth delivery of lexical retrieval intervention and script training. In TBI, a systematic review of 16 studies involving telehealth to support and train carers concluded this delivery method was feasible and achieved positive outcomes (Rietdijk et al., 2012). In a review of telehealth dementia management, Gately et al. (2019) concluded that telehealth interventions appeared to be effective in addressing caregivers psychosocial concerns. However, these authors reported a lack of telehealth outcomes evidence for people with dementia themselves. Gately et al. (2019) also highlighted a lack of detail concerning technology used, support requirements and costs. Encouragingly, a Canadian study of telehealth approaches to stroke rehabilitation concluded efficacy and cost were similar to in-person services, and clients were satisfied with telehealth when trained appropriately and given time for some social interaction during sessions (Caughlin et al., 2019). This study concluded that technology to enable telehealth sessions should be selected based on ease of use and user skill and ability.

There is emerging evidence that teleCPT can be effective. Power et al. (2020) concluded that online delivery of a 45-minute introductory CPT course based on Supported Conversations for Adults with Aphasia (SCA)<sup>TM</sup> (Kagan et al., 2001) for student healthcare professionals was equally effective as face-to-face delivery, as measured using participant self-report. Rietdijk et al. (2020a) found

negligible differences between telehealth and face-to-face delivery in a trial of TBIconneCT, a communication skills training for people with TBI and their chosen CPs. Ratings of conversations conducted by an independent blinded assessor revealed the difference in effect sizes between in-person and telehealth groups was negligible to small for six of eight rating variables, meaning outcomes were comparable. The same TBIconneCT trial also found no significant difference between in-person and telehealth groups on perceived communication ability (measured using the La Trobe Communication Questionnaire, Douglas et al., 2000), with both groups reporting improvements (Rietdijk et al., 2020b). However, participants with TBI reported a more positive trajectory of improvement over time after telehealth delivery. While the authors are cautious about interpreting this finding, they do suggest that families may have found telehealth more engaging, and they point out that telehealth participants mostly lived outside of major cities where service provision may have otherwise been limited.

There is also evidence that teleCPT is feasible and acceptable. Rietdijk, Power, Attard and Togher (2020) compared telehealth and in-person delivery of TBIconneCT and found no significant difference in therapeutic alliance measures between the two. When interviewed, people with TBI and their carers reported the value of teleCPT lay in removing geographical barriers to accessing rehabilitation and allowing it to fit into their lives in a flexible way. Some people reported a preference for in-person delivery given a choice. Participants views were influenced by technical skills and prior experience of telehealth, which the authors suggest can be dealt with by offering trial sessions and training. In terms of the feasibility of telehealth evaluation of conversations, Rietdijk, Power, Brunner and Togher (2020) found no difference between in-person and telehealth recordings for 19 individuals with TBI, independently blind rated using the Adapted Measure of Participation in Conversation (MPC) and the Adapted Measure of Support in Conversation (MSC) (Togher et al., 2010).

At our CPT clinic feedback has been similar, with clients remarking also on the fact that teleCPT can widen its impact to a range of CPs, e.g. “by working online my children and husband were all

involved, they would never have come to the hospital". Although no studies have reported on SLTs' views on the feasibility and acceptability of teleCPT specifically, Volkmer's work on the BCPPA pilot-feasibility study (Volkmer et al., 2018) has uncovered anecdotal evidence that SLT collaborators across 11 sites reported feeling under-confident and requested specific guidance and mentoring on delivering teleCPT. This chimes with the broader literature, where there is evidence that that SLTs' attitudes and competencies are factors in the success of telehealth delivery, for example in terms of problem-solving technical issues and managing their own feelings and clients' fears (Hines et al., 2015; Overby & Baft-Neff, 2017).

Our approach to CPT is influenced by the work of the Better Conversations Lab at UCL, which develops and evaluates CPT interventions underpinned by Conversation Analysis. These aim to help people with communication difficulties to have more flowing, enjoyable and successful interactions in their everyday lives with a family member or friend. We call this partnership a conversation dyad. Both parties in the dyad are involved in therapy, and both work towards achieving conversation goals. This approach is distinctive in applying knowledge of the mechanics of everyday interaction (provided by conversation analytic studies) to understand what communication disorders do to people's everyday conversations, to suggest possible strategies to deal with challenges, and to do this in a way that supports effective behaviour change. The starting point for a Better Conversations approach to CPT is observation of a dyad's everyday conversations using video recordings made in as natural an environment as possible, by the dyad themselves. We engage the dyad in video reflection activities including identification of conversation barriers and facilitators. Facilitators are things we say or do in a conversation that enable conversations to work well, e.g. giving someone more time to speak. Barriers are behaviours that cause difficulties within a conversation, e.g. asking a person with aphasia a 'test' question, where the answer is already known by the questioner. We provide opportunities for both speakers in a dyad to practice the use of individualised strategies to aid conversation flow, with support from the SLT (see Beeke et al., 2019 for an example). Readers are

referred to our forthcoming book for a full discussion of the Better Conversations approach (Beeke & Bloch, forthcoming).

Our most established programme is Better Conversations with Aphasia (BCA, Beeke et al., 2013), which is freely available online and has an accompanying elearning resource. BCA significantly reduces barriers to conversation at the group level, and for some individuals it leads to significant increase in targeted facilitatory strategies (Best et al., 2016). BCA is recognised as one of the best described stroke-aphasia CPT approaches, in terms of detailing intervention components (Cruice et al., 2018). We commonly use a measure of the frequency of facilitators and barriers (targeted in therapy) across before-and-after conversation samples as an outcome measure (see Best et al., 2016), and also Goal Attainment Scaling (GAS, Turner-Stokes, 2009). GAS is a method of scoring the extent to which a client's individual goals are met after an intervention; the outcome measure is tailored to the individual but scored in a standardised way to allow statistical analysis (for GAS resources see Kings College London, n.d.). GAS was first used in mental health settings and is becoming more widely used by UK speech and language therapy services.

### **Case Report**

This case report describes work undertaken with an individual with PPA (FF) and his CP (HH). FF and HH were recruited to participate in the Better Conversations with PPA (BCPPA) pilot-feasibility study (Volkmer et al., 2018) in June 2020 during the COVID-19 pandemic. Ethical approval was granted by London-Camden and Kings Cross Research Ethics Committee (reference 17/LO/0357), and a minor amendment to include telehealth delivery was approved on 6<sup>th</sup> August 2020.

PPA describes a group of language led dementias associated with Frontotemporal Dementia and Alzheimer's Disease. People with PPA experience a progressive dissolution of language as the leading and dominant symptom, impacting on all aspects of daily living (Gorno-Tempini et al., 2011). At present there are three internationally recognised PPA variants; semantic PPA (svPPA; a disorder of semantic memory), logopenic PPA (lvPPA; a difficulty in retrieving word forms) and non-fluent/agrammatic PPA (nfvPPA; an agrammatism and/or motor speech disorder) (Marshall et al., 2018).

Conversation between a person with PPA and their CPs changes over time, both because of progressive difficulties with language and communication, and adaptations people may make to try to maintain interactions.

Research is beginning to uncover a conversational fingerprint for PPA. People with PPA retain the intention to interact and communicate, even into the more severe stages of the disease (although people with nfvPPA often demonstrate increasing apathy at this stage). Despite this intention, topic initiation may be difficult, they may not recognise when conversation breaks down, and there may be lengthy pauses resulting in extended repair sequences (Taylor et al., 2014). People with lvPPA and nfvPPA can experience false starts and hesitations as barriers to conversational flow, whilst people with svPPA may change topic inappropriately with little awareness of the listener (Volkmer, 2013). This may convey a disinterest to the CP. Facilitators used by people with PPA include use of gesture and whole-body language (enactment) (Kindell et al., 2013). A CP is often able to facilitate conversation by allowing time for turn initiation and completion, and actively showing whether a prior turn has been understood or not. CPs may also create barriers by correcting errors and creating test question sequences where both know the answers but the person with PPA is unable to provide a verbal 'correct' response. While test questions are a typical pedagogic behaviour used with children, they can be exposing and patronising for a person with PPA (Volkmer, 2013).

#### *Background information and diagnosis*

FF was diagnosed with nfvPPA approximately 2 years prior to involvement in the BCPPA study. Alongside analysis of brain imaging, this diagnosis was made based on his presenting symptoms of effortful, halting (apraxic) speech and difficulties in comprehension of syntactically complex sentences. These difficulties were progressively worsening, however there was little other cognitive or motor impairment. He and HH (main CP) had been in a relationship for more than 20 years and had a young child. FF worked in education and had to retire early as a result of his diagnosis. See table 1 for FF's performance on subtests of the Comprehensive Aphasia Test (CAT, Swinburn et al., 2004), a stroke-aphasia battery commonly used to assess PPA in the UK and thus used during the

BCPPA pilot-feasibility study. Test results reveal FF was beginning to show mild impairments in auditory and written comprehension at the sentence-level, mild confrontation naming impairments for objects and actions. His verbal output for connected speech was noticeably slow. HH worked part time and had caring responsibilities for FF and their child. Conversation was source of frustration for them both, particularly during the COVID-19 pandemic when they were spending extended periods of time at home together. Throughout this period like many others HH was working from home, although their child was able to attend school.

Table 1: FF's performance on the Comprehensive Aphasia Test (CAT, Swinburn, Porter and Howard, 2004)

CAT Section	Subtest	Score
Auditory comprehension	Words	30/30
	Sentences	25/32
Written comprehension	Words	30/30
	Sentences	26/32
Oral reading	Real words	48/48
Verbal expression	Object confrontation naming	45/48
	Action confrontation naming	8/10
Repetition	Real words	32/32
	Non-words	6/10
	Sentences	12/12
	Digit span	14/14

*Conversation assessment – SLT identification of barriers and facilitators*

Before starting teleCPT, FF and HH were asked to make four video recordings of themselves having a 10-minute conversation each time, over 1 week. Conversations were scheduled and recorded on a video conferencing platform approved by the local National Health Service provider, with the support of their SLT. After initiating the recording, the SLT remained logged into the video conferencing platform but turned off their video camera and microphone (this did not affect the audio-visual recording streams) and they moved to a different room (so HH and FF did not feel overheard) to facilitate a more natural conversation. Recordings were saved to the encrypted hard drive of the SLT's computer. The dyad was advised to turn towards one another to record as natural a conversation as possible despite needing to sit in front of a computer side-by-side. As the dyad

showed some concern about what to talk about, several future family plans were identified with them to provide naturalistic topics for discussion.

Before the first therapy session, the SLT reviewed the four videos to identify common barriers and facilitators in the dyad's conversations. The video recordings revealed a barrier caused by HH often doing multiple activities concurrently, meaning she frequently spoke to FF from another room or another part of the same room. During these conversations FF would not look toward HH to check she was present (it later transpired he commonly started conversations when HH was not in the room). As a result conversation would break down, with HH either not hearing what FF said or not responding at all. This led to extended periods of repair and caused frustration for both FF and HH. A barrier in FF's conversation was the presence of long pauses before he took a turn. In this silence HH would sometimes take a turn herself, or begin an unrelated activity in the home. However, it was noted that when FF used gesture (on one occasion pointing to a map during an extended pause) this enabled him to hold his turn in the conversation. Another barrier resulted from FF's speech and language difficulties; sometimes he was unintelligible, or his utterances remained incomplete. HH let these difficulties pass, even when she had not understood, and as a result she often responded with an unrelated comment. This led to visible frustration for FF. In comparison when HH asked FF to clarify what he said, FF was able to do so, and the conversation flowed.

#### *TeleCPT using the BCPPA intervention programme*

The BCPPA intervention programme consists of four once-weekly sessions of 1 hour's duration. For a full description of the BCPPA programme the reader is referred to Volkmer et al. (2018) (supplementary information: intervention description using the TIDieR framework).

#### *Session 1: What is conversation*

In session 1 the SLT provided FF and HH with information about how conversation works and what can go wrong, discussing turn taking, questions and answers, breakdown and repair, and topic maintenance. This activity was supported by handouts, which were shared using the screen share function. The dyad was encouraged to reflect on how it feels for both people in a conversation when

something goes wrong. The dyad was supported to view and discuss a first short clip of around 30-seconds in length from their video recorded conversations using the screen share function. This clip was chosen as an example of a positive sequence where one or both used a facilitator.

### *Session 2: Goal setting*

In session 2, the SLT presented three further video clips. FF and HH were supported to watch each one in turn and use their new knowledge of the mechanics of conversation to identify what they felt was happening, and what were the facilitators and barriers. A range of prompts were used to support this process, with the SLT acting as facilitator not teacher to encourage the dyad to come to their own decisions about how conversations were for them. In a Better Conversations approach, an SLT is encouraged to give a professional opinion on facilitators and barriers only if the dyad cannot be supported to do so; people problem-solving their own conversations is felt to foster motivation to change and ownership of therapy goals. The SLT asked the dyad reflective questions such as: What do you think is happening here? Did you know what FF meant? How did you know? Why did you do that? How did that feel? Another activity involved comparing clips showing a barrier and facilitator, e.g. for this dyad to explore the effect of FF's use of gesture to hold the conversational floor versus no gesture. Sometimes the SLT would encourage the dyad to describe the video as a whole or the feeling in the video, e.g. during a clip when FF did not observe HH leaving the room and continued to talk to her. During this process of facilitating a dyad's reflections on their conversations, the SLT clarified whether a behaviour was typical of their general conversation style or not. What one dyad consider to be a barrier may be a facilitator for another dyad, e.g. completing a person with PPA's utterances.

Having identified facilitators and barriers, FF and HH were invited to use these to identify goals to work on in therapy. HH was able to identify goals that were important to her and to articulate how she would address these:

- To use more clarification questions (to deal with the barrier of not understanding FF but letting this pass)

- To try to focus more on the conversation whilst not doing something else at the same time (to deal with the barrier created by not being present in the room when FF had something to say)

FF struggled to articulate his goals and benefited from a summary of barriers and facilitators in the conversation videos, and guidance to identify strategies he might like to work on. As part of this summary and support, HH was able to identify which of FF's conversation behaviours she found useful. FF benefited from this collaborative approach to setting his goals with HH's help, and was motivated to achieve the resulting goals because he understood their potential impact on HH. This emphasises the value of doing CPT with a dyad, not just the individual with a communication difficulty or the CP alone. FF's collaborative goals were:

- To use gesture more to indicate I still have something to say (to deal with the barrier of long pauses in the conversation, and incomplete utterances)
- To check HH is in the room before talking, either checking verbally or looking (to deal with the barrier created by speaking to HH when she was not in the room)

Having identified their goals, FF and HH rated the importance of each goal and how achievable they felt it was, using a four-point scale for each (3=extremely, 2=very, 1=fairly, 0=not at all), in line with GAS procedures. Their ratings are shown in table 2.

### *Session 3: Practice*

Session 3 focused on conversation practice. At this time, FF and HH were planning a trip to visit family and focused their practice on these discussions. This included difficult decisions about childcare during the school holidays. Practice was facilitated by the SLT first reminding them of their goals (screen sharing a slide with these in written form) before observing them during a conversation. After a practice conversation the SLT asked them to evaluate their use of gesture, checking and clarification questions in line with their goals. During this session, FF and HH also reported back on how they had been managing to make progress on their goals since the last session. During problem-solving discussions around enacting their goals, a virtual tour of their living

space enabled identification of the best chair for FF to use to be able to check where HH was in the room. Being able to access the home setting via teleCPT facilitated the carryover of strategies from the session to everyday conversations in the home environment.

#### *Session 4: Problem solving and planning for the future*

Before session 4 the SLT created an accessible handout summarising the work done in previous sessions. This was emailed and posted out to the dyad and discussed in the session. Strategies that may become more relevant over time were raised, such as the need to give more time to allow FF to respond, to provide more contextual cues to support his understanding, and the potential of alternative and augmentative communication strategies or devices. This addressed the importance of anticipating future changes in conversation for people with a progressive condition such as PPA. People with PPA report wanting a wide range of personalised strategies that continually evolve as the disease progresses (e.g. Douglas, 2014).

#### *Outcomes*

At the end of this period of teleCPT, the SLT supported the dyad to review their goals on a four-point scale focused on achievement (+1 more than expected, +2 much more than expected, -1 less than expected, -2 much less than expected). FF and HH both reported that they had achieved the goals they had set themselves more or much more than expected (see table 2). Overall baseline and attainment scores were then calculated using the standardised GAS formula. The baseline GAS score was calculated as 36, and the achieved GAS T-score was 69.1 (if all goals are achieved as expected the T-score will be 50). This T-score can be interpreted as showing that overall, the dyad did much better than expected (>60), reflected in a change score of 33.1.

Table 2: Goal Attainment Scaling data for FF and HH

	<b>Goal:</b>	<b>Important</b> 3=extremely 2=very 1=fairly 0=not at all	<b>Achievable</b> 3=extremely 2=very 1=fairly 0=not at all	<b>Post therapy self-rating</b> +1 (more than expected) +2 (much more than expected) -1 (less than expected) -2 (much less than expected)
FF	I will use gesture more to indicate I still have something to say	1	3	+2
FF	To check my wife is in the room before talking (either checking verbally or looking)	2	3	+2
HH	To use more clarification questions	1	3	+1
HH	To try to focus more on the conversation whilst not doing something else at the same time	2	1	+2
Baseline GAS = 36; Achieved GAS T score = 69.1				

### Reflections

This case study demonstrates it is effective, acceptable and feasible to deliver teleCPT to people with PPA and their CPs. This dyad’s self-rating of goal attainment using GAS revealed three of four goals were achieved much more than expected, with the fourth (CP) goal (clarification questions) achieved more than expected. This is a positive outcome given the progressive nature of FF’s condition. It demonstrates the utility of GAS which allows for individualised, person-centred goals to be evaluated using a standardised procedure to ensure rigorous outcome measurement.

TeleCPT was acceptable to this couple during a global pandemic. It provided them with access to a specialist CPT clinic and SLT based outside of their local geographical area. Delivering this intervention remotely meant the client's wife could fit sessions around her work and childcare commitments. She reflected that she would not have been able to do this under usual circumstances, due to the additional time required to travel to and from the hospital. FF also commented on the benefits of no travelling; he had developed some physical symptoms and found mobilising slow and tiring. Finally, FF and HH commented on the affordability of teleCPT. It meant they did not have to spend prohibitive amounts of money on public transport.

In terms of feasibility for the SLT, it was notable that being able to deliver teleCPT in the dyad's home (versus in an outpatient setting) maximised the ecological validity of the intervention. Practising and problem-solving conversations in their own home had a greater functional impact than an outpatient setting would have afforded. For example, the SLT was able to have a virtual tour of the couple's house and use this knowledge to facilitate a shared solution to the barrier created by HH's need to do activities around the house and FF's wish to talk to her. It also meant that the process of goal setting and attainment was highly concrete and contextual, goals were set and practice took place in the space they would be enacted. In order to prepare for teleCPT sessions, the SLT ensured the dyad had access to therapy handouts both online (via screen sharing) and by emailing them to FF to print in preparation. There were no particular technology barriers experienced by the SLT, although she did need to provide online feedback to ensure the dyad were both visible on the screen during therapy and video recorded conversations.

The devastating and deleterious impact of the social restrictions resulting from the COVID-19 pandemic on people with dementia and their families are well documented (Liu et al, 2021). Exponential deterioration in cognitive skills (including communication) has been observed alongside increased loneliness and social isolation. Being able to deliver teleCPT during the COVID-19 pandemic has been essential to the maintenance of relationships and mental health for people with communication difficulties and their families who attend our CPT clinic. The drive to transfer services online has also highlighted cost benefits in terms of both resources and time (Caughlin et al., 2020). Nevertheless, there remain challenges to delivering teleCPT. Technological issues are a big part of what concerns clients, families and SLTs about telehealth. As the professional responsible for delivering a service, the SLT needs to possess the skills and attitude to navigate teleCPT both when it is going well and when things go wrong. In our clinic this has led to the development of recommendations that we share with SLTs who attend our CPT training days (for an example, see table 3). Clients and families themselves also may need to acquire new skills, and we have found offering a trial session to practice connecting and talking to the SLT is valuable for some. Digital

poverty is another concern. There are clients and families with no access to telehealth who during the pandemic have been unable to have therapy.

TeleCPT was effective in this case. The work of Rietdijk, Power and colleagues in Australia has provided initial important efficacy data for teleCPT in TBI via their trial of TBIconneCT. As a profession we lack the large-scale trials of teleCPT with an experimental control and for a range of clients with acquired communication difficulties. Evaluation of teleCPT also requires us to have information on the validity of remote assessment of conversation. As yet there is no evidence of the validity of observational evaluation of conversation barriers and facilitators as used in a Better Conversations approach when conversation samples are collected via a video conferencing platform. Rietdijk, Power, Brunner and Togher (2020) have shown no significant difference between in-person and remote conversation samples evaluated using an observational rating scale (the adapted Kagan Scales, Togher et al., 2010). This suggests that SLTs working in aphasia services could consider using the original stroke-aphasia Kagan Scales (Kagan et al., 2018) for the remote assessment of conversation.

Challenges remain. It is known that many people with aphasia and PPA have deficits in comprehension that may be exacerbated by the loss of auditory information conveyed via video conferencing (Hardy et al., 2017). Certainly, it is our clinical experience that people with nvPPA experience more comprehension difficulties over videoconferencing than during in-person sessions. In addition, we find that teleCPT can limit the range of facilitators that it is practical to include in people's goals. For example trialling the use of writing, drawing or pointing is more laborious because the SLT does not have direct access to these visual facilitators as they would in an in-person session. However, reaching out for peer support from our tech-savvy colleagues can often reveal neat solutions to such challenges. We have recently learnt that it is possible to set up a smart phone as a desk-facing camera and share both this and the usual speaker view on the screen at the same time. This reinforces the need for us to be constantly exploring and embracing new (to us) technology.

## Clinical Implications

The best advice we can give SLTs who are considering setting up a teleCPT clinic is JUST DO IT!

TeleCPT can enable our clients and their CPs to achieve their conversation goals, and although it is not the same experience as in-person therapy, people do find it feasible and acceptable. It is also cost-effective both for services and for clients. A global pandemic has forced us to embrace teleCPT but we have found a new way to deliver our services that brings many benefits, not least increased access to therapy. We will not be reverting to our pre-pandemic in-person only model once the pandemic is over; a hybrid model seems much more likely. We continue to learn how to improve our service delivery. SLTs can arm themselves with knowledge about videoconferencing platforms, attend training and get tips from more experienced colleagues. Our recommendations are in table 3. In our experience, people are willing to try telehealth if they feel supported to know what to expect, and what to do if something goes wrong. This can be as simple as sharing a phone number to call if the connection fails.

Table 3: Better Conversations - recommendations for teleCPT

- Email handouts to the people at least a day in advance of a session
- Even if you have pre-arranged the session with them, remind them the day before
- Provide opportunities for social interaction before the session begins, it is amazing how comfortable people are with video calls and you will have an opportunity to informally observe their communication skills and conversation
- Do not shy away from videoing a conversation. Do this via the videoconferencing platform itself OR encourage people to make their own video on their smart phone or tablet and problem solve how they would like to share it with you – people often come up with some great ideas that work well for them. Some examples we have tried include WhatsApp (for short files), or the file transfer platform Signal (both are encrypted)
- At the start of every session provide a verbal outline of the session structure – virtual sessions are often much more likely to be led off plan than in-person sessions, so having a clear structure and sticking to it is important
- Make sure you give people feedback on whether you can see them properly – they may not realise they are not fully on-screen
- Look directly into your video camera to help people feel you are making eye contact with them

## Limitations

This is a single case study and as such we cannot know if teleCPT using BCPA is effective for all.

Volkmer is currently analysing the results of the BCPA (in-person) pilot feasibility study. As pointed

out by Weidner & Lowman (2020), the SLT research community needs to engage in more robust evaluation of telehealth outcomes in general, e.g. using experimental designs with a control group. The Australian study of teleCPT versus in-person delivery of TBIconneCT for people with TBI and their families offers a useful design that can be adapted for implementation in future studies with larger numbers of participants and other types of acquired communication difficulties. Our outcome measure was GAS, which is beneficial in that it is both person-centred and has a standardised measurement procedure. Future evaluations of teleCPT need to use a range of outcome measures (evaluated in terms of their validity for telehealth use) including blind-rated observations of pre- and post-therapy conversations and of wellbeing/quality of life.

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