

RESEARCH PAPER



Families' and professionals' perspectives of building and maintaining engagement in telepractice early intervention for young children with communication disability

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ABSTRACT

Purpose: To explore and describe families' and professionals' perspectives about building and maintaining engagement in telepractice early intervention (EI).

Methods: Individual semi-structured reflexive interviews were conducted with Australian families of young children with communication disability receiving telepractice EI and their treating professionals. These interviews were conducted within one day of a telepractice EI session and analysed using thematic analysis.

Results: Thematic analysis of 72 interviews resulted in five themes that emphasised collaboration as an overarching enabler of engagement. The themes were: (1) the delivery of family-centred telepractice was essential for engaging children and families; (2) engagement in telepractice was variable and was affected by child, parent and professional factors; (3) engagement was an investment that required time, consistency and technology; (4) maximising communication interactions during telepractice sessions encouraged children and families to engage with professionals; and (5) joint planning and preparation facilitated child and family engagement in telepractice.

Conclusions: In the midst of the current COVID-19 pandemic, the present study shed light that in many ways, engagement in in-person and telepractice intervention is similar. However, the findings revealed the importance of families having an active role in telepractice EI sessions that occur in the family's social and communication environment.

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► IMPLICATIONS FOR REHABILITATION

- Family engagement and high levels of parent participation are recommended in family-centred early intervention (EI).
- In EI delivered via telepractice, families and professionals invest in engagement-building and collaboration in a similar manner to in-person EI and in line with the principles of family-centred practice.
- The distinctiveness of telepractice engagement includes professionals being conscious of their communication style, taking advantage of the home environment, communicating inside and outside appointments, and jointly planning with parents/primary carers.
- EI professionals and students who work with young children with communication disability via telepractice can benefit by considering the engagement-building strategies described in the present study.

Introduction

The provision of early intervention (EI) services to families of young children with communication disability has long been reported as one of the main determinants for reducing the impact of disability [1,2]. Throughout EI, families are guided by experienced professionals on how to support their child's social, emotional, and behavioural development [3]. Although the provision of EI services and implementation of early learning programs is well-established in most high-income [4,5], and low- and middle-income countries [6,7], some families and their children face challenges accessing quality EI services [8]. These challenges include the geographical distance to EI providers [9], a shortage of

specialised professionals, predominantly in rural and remote communities and developing countries [10,11], long waiting lists and inclement weather [12], among others. To address these challenges, alternative solutions have been developed to ensure the timely provision of quality EI services, including the use of information and communication technologies through telepractice.

A growing body of evidence examining the use of telepractice has suggested that services are at least equivalent to in-person EI outcomes in a range of communication disabilities including hearing loss [13], autism spectrum disorder [ASD; 14], and speech/language disorders [15]. Regardless of the nature of the communication disability experienced by children, telepractice

enables equitable access to timely family-centred services for families who may otherwise lack access to specialised care.

The provision of family-centred services that encourage family engagement has long been recommended and encouraged as best practice in EI [16,17]. Family engagement is considered an essential determinant of positive outcomes for young children receiving specialised services [3,18], and has been described in the context of speech-language pathology as a co-constructed process between professionals and families, who are actively involved and empowered in the provision of EI for their children [19]. In order to achieve family engagement, parents/primary carers partake in shared goal setting and decision-making and collaborate with professionals in determining which supports and resources may be needed [17]. As a means to develop an effective family-professional relationship which reflects a true partnership, professionals must purposefully work with families to build collaboration, mutual acknowledgement, and respect [16,17,20].

In the development of family-professional engagement, research studies have reported varying results regarding the impact of parents/primary carers' and professionals' characteristics on engagement. A study by Ebert and Kohnert [21] explored the importance of speech-language pathologist's (SLP) characteristics on treatment outcomes, reporting that SLPs placed more importance on their ability to communicate and develop rapport with their client than other features such as the degree to which they follow the principles of evidence-based practice. Other professionals' personal characteristics such as "patience, flexibility and caring" have been reported by parents of children with communication disability to enhance the family-professional relationship within paediatric SLP settings [22]. Conversely, Law and colleagues [23] found that out of 5,024 practitioners working with children with developmental language disorder (DLD), certain professionals' work-related characteristics (e.g., age, level of professional qualification, experience) were not associated with the use of parent-centred practice while working with families of children with DLD.

Regarding parent/primary carer characteristics, a non-randomised clinical trial by Ellis et al. [24] investigated whether parent characteristics influenced the levels of adherence (i.e., engagement) to a multi-systemic therapy for adolescents with behavioural problems. Ellis and colleagues [24] found that parent characteristics such as closeness, expectations and motivations for intervention, and their level of concern regarding the child's difficulties impacted the professional's engagement in therapy and with the family. Similarly, a recent qualitative study by D'Arrigo et al. [25] investigating occupational therapists' perceptions of parent engagement in paediatric rehabilitation settings found that family characteristics were perceived to impact on parent engagement. Occupational therapists perceived that parent characteristics such as their "personality, coping skills, cultural background and beliefs" (p. 2888) potentially affected parental responsiveness to their child and influenced their engagement or disengagement during rehabilitation [25]. Although professional and parent/primary carer factors may be associated with child outcomes and family-professional engagement during EI, it is unclear how and to what extent these factors impact on the family's relationship with professionals and engagement in EI.

Despite findings that family-centred EI may encourage family engagement and whether parents/primary carers and professionals characteristics impact the development of collaborative relationships between families and professionals, there are some important considerations to bear in mind when using telepractice for delivering EI services. Some literature has suggested that

telepractice is associated with more family engagement when compared to traditional in-person EI services [26–28]. In telepractice, the professional is not physically on-site with the family, therefore professionals use family-coaching strategies to guide them remotely on how to better support their child's needs and carry-over activities into the home environment [28,29]. Another consideration during telepractice EI is the additional communication with families both inside and outside the appointment [29]. This additional communication facilitates open and ongoing dialogue with parents/primary carers and enables additional family members or professionals to collaborate with the family's EI program [26,27,29].

Even though some research evidence suggests that telepractice encourages a more family-centred model of care, two recent studies comparing EI delivery between telepractice and in-person services for families of children with hearing loss found no significant differences on parents self-reported scores of efficacy and involvement [30], and professionals self-reported scores of use of family-centred practices [31]. These findings suggest that telepractice and in-person services may be at least equivalent in terms of family-centredness, enabling the family to make informed decisions, get upskilled, and become empowered and engaged in the child's intervention [31].

Despite the potential benefits of telepractice in providing family-centred EI, some research studies have identified that the loss of physical interaction may hinder these benefits and become a barrier to the uptake of telepractice in paediatric settings [32]. A study by Hines et al. [32] exploring factors that contributed to SLPs' attitudes to transitioning to telepractice, suggested that further skills in how to engage and work collaboratively with the family could improve the acceptability of telepractice amongst professionals. In light of that, an increasing number of studies have used different approaches to investigate engagement in telepractice environments. For example, Freckmann et al. [33] used an online survey to explore the professionals' perspectives of engagement in paediatric SLP settings. The authors found that child-professional relationships were developed similarly between in-person and telepractice settings, with professionals reporting engagement as more than just "a simple, two-way relationship between the SLP and their client" [33, p. 292]. In 2018, a mixed-method study by Akamoglu and colleagues explored SLPs' perceptions of engagement (i.e., rapport building) in telepractice EI. While professionals valued and worked towards building engagement with the child and family, professionals felt responsible for leading the development of the family-professional relationship [27]. Interestingly, a recent qualitative systematic review investigating the nature of engagement in telepractice EI [29] described engagement as a collaborative partnership in which the child, family members and professionals developed a therapeutic relationship through communicating inside and outside the telepractice session.

Although there is a growing body of evidence investigating engagement in telepractice EI, due to the dynamic and complex nature of engagement, the use of qualitative methods that provide an in-depth perspective from all participants of the telepractice interaction is needed in order to understand how engagement is built and maintained over time. More importantly, due to the increased uptake of telepractice services worldwide caused by the current Coronavirus 2019 (COVID-19) pandemic, evidence-based resources are needed to support professionals and families of young children with communication disability in the use of telepractice EI. Therefore, the present study aimed to: (1) explore families' and professionals' perspectives on building

and maintaining engagement during telepractice EI for young children with communication disability; and (2) describe how families and professionals collaborate in building and maintaining engagement in telepractice EI for young children with communication disability.

Materials and methods

Research design

This interview study utilised a qualitative descriptive approach [34,35] to explore the perspective of professionals and families of young children with communication disability on building and maintaining engagement in telepractice EI. This approach is grounded in the principles of naturalistic inquiry [34,35]. The main purpose of naturalistic inquiry is to conduct research in natural settings to describe the explored phenomenon [36]. Ethical approval (#2019001054) for this study was obtained from The University of Queensland's Human Research Ethics Committee.

The first author (FRW) is a qualified SLP and audiologist with considerable clinical experience in paediatric communication disability and currently undertaking a PhD in telepractice EI. The second (MW) and third (NS) authors are certified practising SLPs, who hold academic positions at an Australian University, and who have extensive research experience in the field of telepractice EI and qualitative research methodology with families of young children with communication disability. The first author conducted the interviews and did not personally know the participants (i.e., professionals or family members) prior to conducting the interviews, as all his prior clinical and research experience was in another country. Although all authors have a professional background in speech-language pathology, the biases that authors may have introduced to the interpretation of the data were diminished by meeting and discussing regularly on the interview process, study findings, and implications for the wider EI community.

Participants

This study involved two participant groups recruited from seven Australian organisations providing telepractice EI for young children with communication disability: (1) EI professionals providing telepractice services; and (2) families of young children with communication disability. Data for this study were generated as part of a larger research project aiming to explore and measure engagement in telepractice EI. The inclusion criteria for the two participant groups were:

1. EI professional from any discipline involved in EI for young children with communication disability (e.g., SLP, educator, occupational therapist, psychologist) who provided EI services via telepractice to families of young children with communication disability living in Australia.
2. Parent or primary carer of a child aged 0 to 7 years with communication disability or delay receiving EI services via telepractice, living in Australia, and speaking English as their primary language.

Maximum variation sampling [37] was used to recruit participants with a variety of characteristics. For professionals, the following features were considered: age, place of residence, level of qualification, role at work, work setting, and years of experience in the profession. For parents, the following features were considered: age, gender, place of residence, educational background, family structure, and the child's diagnosis. Parents/primary carers

of children who met the inclusion criteria were identified and invited to participate in the study by their treating professionals. Participants were provided with an electronic participant information sheet stating the anonymity and confidentiality of the data and asking for their commitment to participate in up to three consecutive interviews per professional-family dyad (i.e., professionals providing services to more than one participant family were asked to participate in up to three interviews per family) occurring within one day of a telepractice EI session. All participants provided written, informed consent. Each participant was asked to complete a basic demographics questionnaire, with professionals being asked about their professional background and work experience in the field; and parents asked about their educational background, their child's diagnosis, and EI journey (both in-person and through telepractice). Demographic information was compared against the inclusion criteria to confirm that participants met the criteria to be included in the study.

A total of 13 professional-family dyads were recruited from seven centres, including not-for-profit community organisations ($n=2$), hospital site ($n=1$), private practice ($n=3$), and university clinic ($n=1$). Professionals ($n=9$) were all females aged 24 to 43 years ($M=30.9$ years) with a background either in SLP ($n=6$), occupational therapy ($n=2$), or psychology ($n=1$). Six of these professionals held a Bachelor's degree (66.7%) and three held a Master's degree (33.3%). Professionals were based in the Australian states of New South Wales ($n=2$), Queensland ($n=6$), and Victoria ($n=1$), and reported having a median of 6 years working in their profession ($IQR=1.2-12.5$ years), 6 years working with children with communication disability ($IQR=1.2-12.5$ years), and 1 year of experience with telepractice ($IQR=0.9-2.5$ years).

Both new enrolments and families receiving ongoing care were invited to participate in the study. Parents/primary carers ($n=14$; 12 mothers, 2 fathers) were aged 25 to 42 years ($M=34.6$ years), with all parents having undertaken at least post-secondary education. All parents lived within Australia and reported English as the preferred language spoken at home, with one family also using Australian Sign Language and one family using Spanish at home. The majority of parents had more than one dependent child ($M=3$ children; $range=1-4$ children). The children ($n=13$) were aged 2 to 7 years ($M=4.8$ years) at the time of the study and were first enrolled to EI on average at 38.7 months of age ($range=6-72$ months; $SD=16.3$ months). Regarding the nature of telepractice services received by families, these appointments included assessment, discussion of assessment results, and intervention. During sessions, professionals interacted directly with either parents only or both children and their parents, and/or coached parents who mediated the intervention with their children. On average, families had received telepractice services for 6.6 months ($range=1-18$; $SD=5.5$ months) in the home environment (92.3%). A summary of the family's demographic characteristics is presented in Table 1.

Data collection

The first author conducted up to three individual semi-structured interviews with the participants between September 2019 and December 2020. These interviews were conducted within one day of a telepractice session, at a convenient time to each participant, to enable recency reflection upon each appointment. The use of multiple reflexive interviews in qualitative research is twofold: first, it allows participants to engage and build trust with the interviewer. Second, it prompts interviewees to think and elaborate

Table 1. Families' demographic characteristics ($n = 13$).

Variable	n (%)	M [range]
Family's state of residence in Australia		
Queensland	10 (76.9)	–
New South Wales	1 (7.7)	–
Tasmania	1 (7.7)	–
Victoria	1 (7.7)	–
Parent/caregiver highest educational level		
Technical and further education or equivalent studies	4 (28.6)	–
Bachelor's degree	7 (50.0)	–
Postgraduate degree	3 (21.4)	–
Parent/caregiver professional background		
Education/Disability	6 (42.9)	–
Agriculture	3 (21.4)	–
Nursing	2 (14.3)	–
Other	3 (21.4)	–
Family's number of dependent children		
One child	2 (15.4)	–
Two children	4 (30.8)	–
Three children	3 (23.1)	–
Four children	4 (30.8)	–
Parent employment status		
Employed	7 (50.0)	–
Unemployed (includes homemaker and student)	7 (50.0)	–
Families having another child with disability (besides the child enrolled in the present study)		
Yes	2 (15.4)	–
About the child receiving telepractice EI		
Male	9 (69.2)	4.8 years [2 – 7 years]
Female	4 (30.8)	4.8 years [2 – 7 years]
Previous enrolment to in-person EI before telepractice	9 (69.2)	32.3 months [6 – 48 months]
Children's diagnoses		
Autism spectrum disorder	5 (38.5)	–
Cerebral palsy	1 (7.7)	–
Childhood speech apraxia	1 (7.7)	–
Chromosome disorder (with developmental and speech delay)	1 (7.7)	–
Down syndrome	1 (7.7)	–
Fluency disorder (stuttering)	1 (7.7)	–
Global developmental delay	1 (7.7)	–
Language delay	1 (7.7)	–
Speech disorder	1 (7.7)	–

EI: Early Intervention.

from the questions asked in the first interview [38]. Furthermore, as engagement is reported to be developed between professionals and families over time, the authors aimed to conduct multiple interviews exploring the nuances of engagement across telepractice sessions. In the present study, 11 out of the 13 family-professional dyads participated in all three interviews (i.e., 66 interviews). One family participated in only two telepractice sessions before being discharged and therefore only two interviews were completed for this dyad (i.e., 4 interviews). The other family presented with a busy schedule and only one interview was conducted for this dyad (i.e., 2 interviews). In total, 72 interviews were conducted individually with 9 professionals ($n = 36$ interviews) and 13 parents ($n = 36$ interviews). The mean length of professionals' interviews was 18 min ($range = 8 - 37$ min; $SD = 6$ min) whereas for parents' interviews was 17 min ($range = 8 - 28$ min; $SD = 5$ min). These interviews were conducted remotely either *via* videoconference (i.e., Zoom) with eight professionals (88.9%) and eight families (61.5%) or telephone with one professional (11.1%) and five families (38.5%).

All interviews were audio-recorded and followed a semi-structured topic guide developed based upon a previous qualitative systematic review of the literature on the topic [29], and the research team's expertise. A pilot stage was carried out by the first author with the aim of testing the appropriateness of the questions in relation to the study aims and maintaining consistency and thoroughness across interviews [37]. After the pilot stage, small adjustments were made to the wording of questions

to fully explore the participants' perspectives of engagement (see [supplementary information](#)).

Data analysis

The interviews were analysed using thematic analysis [39]. The first author transcribed verbatim 24 out of 72 interviews recordings (33.3%), with the remaining interviews being transcribed by a professional transcription service. All transcripts were carefully read and checked against the audio-recording by the first author to ensure the quality and accuracy of the transcripts.

All transcriptions were de-identified and then coded using NVivo 12 (QSR International) by the first author. Once the first author coded the first six interviews, the second and third authors reviewed and provided feedback on the coding process. Then, the first author revised these six interviews previously coded against the feedback provided and continued coding the rest of the interviews. Once the first 40 interviews were coded, the first author sorted existing codes into sub-themes and potential themes. The first author continued conducting thematic analysis of the generated data simultaneously while conducting new interviews. These new datasets were included within existing codes and subthemes until theoretical saturation point [40]. The authors met periodically to check the consistency throughout thematic analysis [39]. All codes ($n = 575$) were inductively grouped into 12 subthemes and thematised into five themes.

All families and six professionals (three professionals were unable to be contacted) were provided with a summary of the

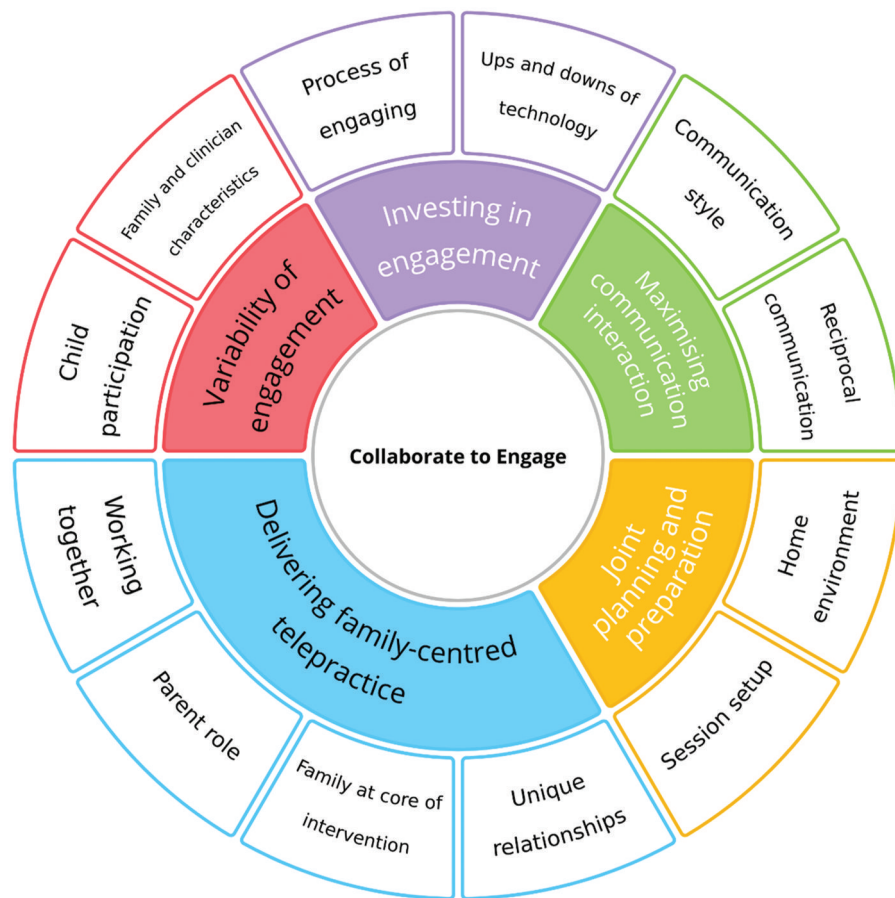


Figure 1. Illustration of the five overarching themes representing the families' and professionals' perspectives of engagement-building in telepractice early intervention.

findings to check the accuracy and credibility of the authors interpretation of their experiences, and to ensure the trustworthiness of the analysis [37]. Participants were asked to provide any comment or feedback on the findings and to agree whether the analysis reflected their perspective of building engagement *via* telepractice. All responses received from participants that returned the member checking enquiry (i.e., 5 out of 6 professionals [83.3%] and 8 out of 13 families [61.5%]) reported that themes and subthemes were relevant and represented their experience of telepractice engagement.

Results

Thematic analysis of the interviews resulted in five themes exploring families' and professionals' perspectives on building and maintaining engagement during telepractice EI. Specifically, these themes were: (1) the delivery of family-centred telepractice was essential for engaging children and families; (2) engagement in telepractice was variable and was affected by child, parent and professional factors; (3) engagement was an investment that required time, consistency and technology; (4) maximising communication interactions during telepractice sessions encouraged children and families to engage with professionals; and (5) joint planning and preparation facilitated child and family engagement in telepractice. A common thread across these five themes was collaboration to enable the establishment and maintenance of engagement throughout the telepractice intervention. Each theme is described in detail below, with subthemes representing shared meaning across data [39] and examples of participant quotes.

Within this section, codes used to identify parent quotes also indicate the child's diagnosis: 'family of a child with ASD' (F-ASD) and 'family of a child with other communication disability' (F-OTHER). Codes for professionals also indicate their working experience as 'experienced professionals' (EP; over the median years of experience in using telepractice with families of young children) and 'novice professionals' (NP; under the median years of experience in using telepractice with families of young children). Themes and subthemes are illustrated in Figure 1.

Theme 1: the delivery of family-centred telepractice was essential for engaging children and families

Placing the family at the centre of the intervention facilitated child and family engagement in telepractice

Professionals' display of family-centred behaviours was perceived to facilitate family engagement in telepractice EI. These behaviours included professionals being respectful, empathetic, and kind to families, validating parents and acknowledging their concerns. Parents reported that the feeling of being validated and respected was essential for their engagement, for example, "I never feel like I'm being attacked or put down or told what to do" (F-OTHER11). Professionals described structuring telepractice sessions in an individualised manner to match individual child and family needs, as well as tailoring intervention goals through observing the child and parent behaviours and reactions within the session. The provision of tailored care over telepractice was perceived to build trust with the family, which was reported to be

essential for the establishment of an effective therapeutic relationship.

Professionals also described upskilling parents as part of the intervention, which resulted in parents feeling more engaged since they were able to better support their child and solve problems independently. Parents became upskilled with resources “to help promote their child’s communication” (F-ASD13) as a result of working directly with the child during telepractice sessions. Upskilling parents was also accomplished by setting dedicated one-on-one professional-parent time that was used for a “consultative chat, planning for homework” (EP 5). During this time, professionals reported providing parent education and coaching, particularly for those parents feeling unsure how to support their child or carry-over activities. Parents reported using this dedicated time to “discuss how he’s [child] progressing and, what we will focus on moving forward” (F-ASD13) and appreciated being upskilled: “There’s some pretty practical things that I’m doing now that [professional] taught me that I didn’t know” (F-ASD12).

Participants reported mixed opinions about the impact of involving additional family members other than the primary carer during telepractice sessions. The involvement of additional family members as siblings or grandparents was seen by some parents as potential causes for children being more distracted or fidgety during sessions. Conversely, having other family members around was perceived by others as a facilitator of child engagement, since these additional family members provided spontaneous support during activities and facilitated carry-over. As EP 5 stated about having the child’s mother and grandmother present in the telepractice session,

She [grandmother] was also in her role facilitating her [child] engagement... she took her for a walk up and down the hall, she was also helping her with the planning for what would come after session... also thinking about what the forthcoming weeks might look like and what they could do at home. She is a key asset.

Deliberately building a unique relationship was key to engagement in telepractice

The development of a unique relationship that worked for the family-professional dyad was driven by parents openly providing input and discussing ideas with professionals and the professionals providing individualised advice to the families. Some professionals felt that while their relationship was not as strong for some families as others, it still seemed to work: “We haven’t, I guess, gotten a stronger relationship but also, it’s what works for us, and it’s what works for the family and the family’s happy with that arrangement” (NP1).

Professionals and parents discussed the importance of getting to know each other, which included professionals asking about the child’s and family’s interests, personality, and expectations. Some professionals reported engaging with families by catching up regularly with them, either at the beginning or end of sessions. Likewise, parents reported filling in professionals about “... the last couple of weeks” (F-OTHER15) and felt that telepractice enabled them to know personal things about professionals and vice versa, which facilitated establishing “those kind of personal connections” (F-OTHER16).

Parents felt having dedicated one-on-one parent-child time without other distractions as a factor that improved their relationship during telepractice sessions. As a result of setting a time to work together, parents felt they were able to understand their children better and their relationship improved: “[Our relationship is] becoming more positive because we are just opening that line of communication more and more... it certainly does help with our

relationship. Just being able to understand what he wants and what his needs are” (F-ASD13). However, some parents perceived their relationship with their child did not change because of telepractice. Challenging relationships were reflected during telepractice sessions: “I feel [child] is defiant, maybe oppositional a little bit, especially in regards to practicing repetitive articulation drills... It sounds like mum is trying to set some boundaries and he’s trying to push them” (EP4). Nonetheless, already positive relationships remained the same: “[The parent-child relationship] was really solid beforehand... Hasn’t changed for them at all... they have a beautiful connectedness that didn’t really need any work” (EP2).

Parent-professional collaboration inside and outside telepractice facilitated family engagement

Parents and professionals reported working collaboratively to maximise child outcomes. This collaboration involved finding out ways to motivate the child to participate, being responsive to the child’s needs, planning together, supporting each other during the intervention, and reflecting upon EI. Another collaborative opportunity between professionals and parents was sharing therapy resources via email. Email communication involved sharing “session plans or just what equipment they need prior to the session” (NP7) and checking whether the family was prepared for the upcoming session. This prior communication enabled the family to know what to expect in the session and “not just coming in blind” (NP7).

Professionals and parents reported that they continued to develop this therapeutic relationship outside of the session through other methods of communication. For example, professionals were available to parents before and after sessions via email or phone to follow-up on the child’s progress and solve parent concerns. As EP 5 described, “having touch points, not consistently but every now and then, knowing that there are channels available to them if they would like to touch base and not being limited to a very discrete therapy time” facilitated building parents’ trust, confidence, and engagement. For parents, knowing they could contact professionals was essential for helping professionals to “work out a good plan for the upcoming session” (F-OTHER15) and building trust.

Parents had a key role in facilitating child engagement in and carry-over beyond the telepractice session

Parents felt they had an active role in supporting their child during telepractice EI. The parent’s role was diverse including encouraging child participation, filling professionals in when they missed some input from the child, getting the child back on task, and providing physical support to the child. As a parent (F-ASD12) discussed, “doing it [intervention] via telehealth, what helps me is that I’m a lot more involved perhaps... so I have to be a lot more engaged”. Professionals also perceived some parents as being readily available to support their child when needed, with parents taking “the role of an allied-health assistant” (EP5).

Most parents reported more enjoyment, buy-in and trust in the EI process compared to previous in-person intervention because they actively facilitated the sessions, which in turn, made them more engaged and able to carry-over therapy activities into the home and other environments. As a parent (F-ASD12) reflected, “it’s only half an hour to an hour with [professional] once a week, but I’m still doing that with her, with her schoolwork and her homework... For me, to be involved and know what I’m doing... it’s definitely beneficial”.

Although most parents and professionals were consistently present throughout the intervention, some parents were not

actively involved during sessions: “[I] sort of try and stay out of the picture a little bit with the thing [session] because I like to make sure the focus is on her [child]” (F-OTHER11). Other parents reported observing how the session went and participating only when needed: “If he’s mucking up a little bit, not concentrating, just try and pull him back in, but I don’t really get involved in the learning” (F-ASD9).

Theme 2: engagement in telepractice was variable and was affected by child, parent and professional factors

Child engagement was variable throughout the telepractice intervention

Children were perceived to be receptive to parents and professionals in telepractice interactions and were described as being happy talking to professionals, and excited and willing to participate in activities. These reactions are exemplified by a parent (F-OTHER10) observation: “He [child] was happy when he came out, when I called him to come out to the session, he came out and he goes, ‘It’s my turn to talk. It’s my favourite time of the week’”. Although children were receptive, their engagement varied both within and across sessions. Some parents reported that their child’s engagement and participation depended on their feelings and mood: “We’ve had some days where he’s just not in the mood to engage much, and we’ve got to work a bit harder with him to do things” (F-OTHER15).

Variability in children’s engagement was exemplified by children getting distracted, losing their interest and stopping participating in telepractice activities. For example, some children remained engaged only as the activity was of their interest or got frustrated after being asked to do the same activity repeatedly. Once this occurred, children made it clear when they were done participating: “If it’s game he’s had enough of, he’ll put his foot down and just play dumb” (F-OTHER1). Similarly, when children felt unwell, were tired or distracted, professionals and parents shifted the focus of the session to a parent-coaching approach.

Parent and professional factors affected the development of engagement during telepractice

Professionals perceived that some parents were intuitive at supporting the intervention and providing their children with positive feedback and modelling: “[Father] is really fantastic at giving [child] feedback and providing him models when he has trouble” (NP9). When parents demonstrated these skills, some professionals reported not needing to provide direct coaching to them: “I’ve never had to directly provide a lot of true parent coaching to [mum] because she is so intuitive” (EP5). Some parents were aware of their capacity and felt comfortable with supporting their child’s telepractice intervention: “I’m comfortable doing it [supporting the child], and I think that the reason for this is probably because I have four children, so I have plenty of hands-on experience with children” (F-OTHER1). Parents’ professional background was also perceived as a facilitator of engagement, for example, some parents attributed their “caring nature” (F-OTHER1) or “similar background knowledge” (F-OTHER8) to their professional background in nursing or education.

The family’s prior experience with in-person EI and telepractice was reported to influence family engagement. For example, a parent (F-OTHER15) stated: “We did try the in-person... he [child] didn’t bond with the therapist, and we didn’t really bond either. We weren’t too happy with things”. Prior negative experiences made parents feel “very wary” (F-OTHER10) about telepractice EI and were seen by the family’s treating professionals as generating

“trust issues in terms of therapists” (EP2). Conversely, parents that reported having “a positive experience” (F-OTHER11) receiving telepractice services with another child felt at ease while interacting with professionals via telepractice and were able to engage with them. Parents who had positive experiences with telepractice reported not seeking in-person services because they were “more than happy to do it with the next [child] over telehealth” (F-OTHER11).

Professional personal characteristics were reported to impact on family engagement in telepractice. For example, displaying calmness and using a soothing voice enabled a positive environment for both children and parents: “No matter how I’m getting nervous because he’s [child] not focusing, she’s [professional] kind of, ‘Ah, it’s okay’. She brings a bit of peace” (F-ASD12). Other characteristics positively perceived by parents were professionals being “flexible and adaptable” (F-ASD12) with the intervention plan and being “open to suggestions of anything I think might help the session” (F-OTHER1). However, professionals perceived themselves as having to be “fun and engaging and trying to be creative on the spot” (EP3) during sessions. These attributes may be developed through experience: “I might not be engaging quite as much with them if I’m trying to figure out what to do next. I’m still quite a new grad so that takes up a fair amount of my brain...” (NP9).

Theme 3: engagement was an investment that required time, consistency and technology

Family engagement in telepractice was a process built over time

A combination of factors facilitated the development of engagement between professionals and families over time, such as the frequency of the interaction, family perseverance, and getting to know each other session after session. As NP1 commented, “...like any relationship, it just needs time” for participants to feel comfortable during the interaction. Parents felt that “for any child, it just takes a couple of sessions, some getting used to” (F-OTHER1), with the relationship continuing to develop as professionals naturally responded “to the changes in presentation or the change in needs” of children (EP5).

Children engaged longer in activities after receiving services for a while because they “knew what was happening” (F-OTHER8) and what was coming next. Parents’ confidence also increased after receiving telepractice services regularly, making them feel “more empowered or more comfortable in sort of interpreting those speech and language sides of things” (NP1). For parents, the consistency of services was essential for building that therapeutic relationship: “I believe it’s the consistency... We know on Friday that we see [professional]. It’s very constant, very routine. So it’s easy to maintain that relationship” (F-ASD13).

Technology could either facilitate or hinder child and family engagement

It was reported that “technology impacted in a positive way” (F-ASD13) on child and family engagement. Children were perceived to enjoy interacting with professionals and observed to look at the screen during telepractice sessions, with those children who were “quite good with the computer... doing better than doing face-to-face” (F-ASD9). Technology was reported to open new avenues of interaction during EI, such as manipulating pictures together with parents and professionals, enabling remote control of the screen, following children around the house, and taking professionals out for walks: “[child] took [professional] for a walk... and showed her some little bits and pieces of what he was interested in” (F-OTHER15).

There were some instances, however, where child and parent engagement were hindered by technology. For example, some devices reportedly limited the participants' ability to see and interact with each other. As a parent (F-OTHER15) commented, *"We do it [telepractice sessions] on our phone, so it's quite a small screen. So sometimes, I feel like, because it is so small, he's [child] just sort of not interested"*. Similarly, professionals felt telepractice limited communicating with the family because of the difficulties associated with having control of the session and experiencing technological problems that impacted on the ability to communicate effectively with each other: *"I could see he'd run off, but I didn't know where or what to, and it was difficult for mum to hear with the crying, overriding the mic"* (NP8). These technological problems caused sound distortion and overlapped talk, that made parents struggle to hear professionals properly, which ultimately impacted on their engagement within the session. Professionals described that a limited viewing angle may have impacted parent engagement as parents were able to only *"see sort of shoulders up rather than, you know, my arms and leaning forward, and actual eye contact can look a little bit odd on the screen"* (NP9).

Theme 4: maximising communication interaction during telepractice sessions encouraged children and families to engage with professionals

Reciprocal communication facilitated child and parent engagement

The majority of professionals described giving explicit and positive feedback to children so they were able to remain engaged in the session, understand how well they did during activities, and have a *"better chance to do it again"* (EP5). Participants also reported the benefits of providing immediate feedback to parents: *"It's good just to know that we're doing the right thing here as well, when we don't have a [professional] at home with us all the time"* (F-ASD13). Both professionals and parents described that praising seemed to encourage child participation during the telepractice session. Parents felt praising was a good strategy to keep children focused on tasks and willing to do more activities, and made them feel *"happy and smiley"* (F-OTHER1).

Professionals felt that child and parent engagement was shown through verbal and non-verbal communicative behaviours. As NP6 commented, *"A lot of the cues are just her [child] body language. You can see if she's looking, if she's smiling, if she's telling a story, even if you don't always understand what she's saying"*. Professionals perceived that engaged parents wanted to share information about their child and were interested to engage at a conversational level: *"She [parent] had a couple of questions for me at the end. So, she asks questions about him [child] and also yeah, she participates, she turn takes..."* (EP2).

Professionals were conscious of their communication style while interacting with children and parents during telepractice sessions

Professionals reported being conscious of their communication style while interacting over telepractice. This consciousness was demonstrated by *"learning about her [child] as a child, and the style she has in communicating, and then how I can modify my communication to suit hers"* (NP1), and minimising the amount of language used with children to avoid overwhelming them. Professionals also had to look engaged on camera by being animated, showing big reactions, looking intently at children, and *"seating close to the camera"* (NP7) so the family could see them clearly. In this regard, parents felt professionals had to not only look engaged but also be *"present in the situation, in the actual*

session" (F-OTHER11) so children could see they were interested and would want to engage with them.

Professionals used a diverse range of other communication strategies to encourage child engagement in telepractice. Amongst these strategies, professionals described (a) using humour and laughter; (b) following the child's lead to adjust their level of participation; (c) giving choice so they felt certain level of autonomy; (d) giving more time to respond and expand on their sentences; (e) including the child's interests and preferences into therapy activities; and (f) building the child's confidence. Professionals reported using non-verbal strategies to prompt children to engage during telepractice sessions. These non-verbal strategies included: (a) changing their tone of voice; (b) clapping and doing other physical movements; and (c) using facial expressions and gestures to support the interaction. There were some comments from professionals reporting being *"more expressive"* (NP8) while delivering telepractice EI. Others found that *"gestures and non-verbals are quite emphasised"* (EP3), which lead to professionals exaggerating their communication strategies to get children engaged. As a result, professionals described telepractice *"a bit more tiring than face-to-face"* (EP2).

Most professionals described also engaging with parents by: (a) being explicit with scaffolding and approaches used so parents were able to apply and support the intervention; (b) giving the rationale for any specific aspect of the intervention; (c) setting expectations about the importance of parent support and engagement; (d) striving for a high-level of family-centredness; (e) coming at the same level as parents and making the intervention look like having a friendly conversation; and (f) using easy and accessible language.

Theme 5: joint planning and preparation facilitated child and family engagement in telepractice

Professionals planned and adjusted telepractice sessions to maximise child and parent engagement

It was reported that professionals structured telepractice sessions in a way that parent participation was encouraged. For example, professionals let parents talk first so parents were able to express their concerns and professionals could address them. Some professionals reported planning to have a parent-focused second half of the session, generating further opportunities to obtain parent input and provide support and education.

Professionals also described selecting and adjusting intervention activities to maximise child engagement. These adjustments included: (a) briefly introducing new activities so children did not get frustrated; (b) making children point and touch the screen; (c) adapting activities to the attention span of children; (d) using non-therapy related activities such as movement breaks, songs or games; and (e) using visual aids such as schedules or timetables.

Professionals and parents took advantage of the home environment to engage with children during telepractice

Having telepractice sessions in the child's natural environment seemed to positively impact on their engagement. For example, having sessions at home enabled children to build expectations around how the session would be, eased the development of the parent-child relationship and facilitated involving other family members living with the child. Telepractice was reported to enable children to sit calmly and feel comfortable at their own environment, which enhanced their engagement during sessions. As a parent (F-ASD9) described,

He [child] likes to be at home. This is where he's comfortable. So he does do better here than me trying to drag him out the house, driving him

40 minutes down the road, where he would fall asleep in the car to then go out, do a half an hour speech session, and he wouldn't be interested.

Whilst telepractice enabled the delivery of EI at the family's home, parents and professionals used resources from the home environment to facilitate children engagement. Professionals used the family's home as a therapy resource, as indicated by EP 2: *"The only way that I think engagement is different over telepractice is that you're able to use what's in the home."* Professionals reported asking parents for resources at their end and sending resources in order to facilitate child engagement. Some parents offered professionals with resources that children had been using at school and had resources at hand if needed: *"I do actually take a bag of activities in with me. So that if things really aren't going lucky... I have like some little backup things, like things that I know he enjoys that are going to help him"* (F-OTHER1).

A common perspective amongst participants was that preparation for telepractice sessions facilitated child and parent engagement. This preparation included: (a) setting boundaries for children around intervention; (b) setting up the environment for telepractice; and (c) getting into the telepractice mindset ahead of the session: *"I kind of rush into these sessions because I'm cooking and then [videoconference], right? That's not what you would do if you were physically going somewhere, so getting a little more ready in my mind and physically"* (F-ASD12).

Discussion

This study aimed to explore families' and professionals' perspectives about building and maintaining engagement in telepractice EI for young children with communication disability. Thematic analysis of parent and professional interviews revealed that the provision of family-centred telepractice EI facilitated engagement building not only with the child but wider family. Collaborative practice was found to be an overarching enabler for engagement in the telepractice environment. Each family-professional dyad established a unique relationship over time, with participants communicating both inside and outside telepractice sessions. Although child engagement was reported to be variable, telepractice empowered participant parents to be key agents in their child's EI. Joint planning and preparation were essential to take advantage of the home environment in which children felt comfortable and enjoyed the telepractice intervention. As engagement in telepractice EI has been defined in the literature as a co-constructed process between the family and professional [29], findings from this study provide insight onto how engagement was and should be built and maintained during telepractice EI interaction, particularly in the midst of the current COVID-19 pandemic. Although some of the findings of the present study are similar to Melvin et al.'s [19] systematised review of engagement in early speech pathology in-person intervention (e.g., placing the family at the centre of the intervention, building a unique relationship with families, parents/primary carers being key agents of change, family-professional collaboration inside and outside telepractice sessions), other findings are distinctive to telepractice. These distinctive findings could serve as evidence-based guidelines for professionals to maximise intervention outcomes and may be foundational for the development of training programs for professionals and families of children with communication disability receiving telepractice EI.

Previous research has highlighted professionals' concerns about the difficulties in engaging with families within telepractice settings [33]. The findings from the present study suggest that engagement can be built and maintained when principles of

family-centred practice are adhered to. The use of family-centred behaviours during telepractice EI has been previously described as an enabler of engagement [27,41] with these behaviours aiming to establish professional-family partnerships and provide tailored care. The current study found that behaviours of children, parents, and additional family members facilitated the establishment of engagement as a two- or multiple-way relationship. The behaviours thought to be particularly important in a telepractice model of intervention included deliberately getting to know each other, being responsive, open and honest with professionals, using a natural communication style, planning together, developing a relationship outside the telepractice session, and taking advantage of the home environment. Though these behaviours are not entirely unique to telepractice EI, they have been deemed critical for engagement in telepractice [41] and traditional in-person [42] settings. These behaviours may need to be intentionally addressed by professionals, particularly at early stages of the telepractice intervention where professionals and families get to know each other in order to gain the family's trust and buy-in.

Although family-centred services have long been encouraged for EI [17], families enrolled in EI have continued to report a lack of understanding of their role in supporting their child's intervention [43,44]. Interestingly, both professionals and parents in the present study felt telepractice enabled parents to become active participants within their child's intervention, with further clarity about their role in supporting their child being provided. Previous studies have found that families of young children with hearing loss receiving telepractice EI were more engaged in the intervention compared to those receiving in-person services [26,45]. However, McCarthy et al. [30] found no differences in parent engagement between telepractice and in-person EI for families of young children with hearing loss. The family-coaching approach used during telepractice EI may enable parents/primary carers to feel better prepared in supporting their child's needs, despite the absence of professionals working directly on-site with children. Empowering and building parents/primary carers' capacity through coaching has been suggested to improve communication outcomes in young children [46] and might encourage parents/primary carers to display a more active and hands-on role during telepractice sessions [47]. Given that children's, parents', and professionals' characteristics and prior experiences with telepractice were reported to affect how engagement was built and maintained, investigating family-professional engagement in newly implemented services during the current COVID-19 pandemic may provide further insight on the impact of prior experience and familiarity with the mode of service delivery in telepractice outcomes. In addition, further research is needed to investigate how parents/primary carers become upskilled during EI and how telepractice may increase parental/carer competency and sense of responsibility in the care and success of their child.

The delivery of telepractice sessions in the child's home was positively perceived by participants of telepractice EI. This positive perception seems to be the result of families and professionals taking advantage of the home environment during telepractice sessions, in which the child interacts with their family and uses everyday resources. The delivery of EI in the home environment has been associated with increased family-centred care and parental/carer carry-over in telepractice [29]. One of the minimum components for EI is that services are provided in the child's natural social and communication environment [5]. The provision of telepractice services enacts that component to perfection as families typically receive telepractice services at their own home. However, as suggested in this study, emphasis needs to be placed

on professionals collaborating, planning, and setting up sessions along with families in a way that child and family engagement is deliberately encouraged.

Professionals being conscious of their communication style during EI sessions is also important for engagement in telepractice EI. Adding upon existing research reporting professionals need to be more animated to engage with children during telepractice compared to in-person intervention [32], this study found that professionals were also aware of their communication style during telepractice sessions. The importance of communication skills has been reported as best practice for patient- and family-centred care in medical [48], and SLP and audiology interactions [49] and was essential for telepractice in the present study irrespective of the children's diagnosis (e.g., ASD, Down syndrome, speech disorder, stuttering, childhood apraxia of speech, global developmental delay, cerebral palsy), nature of telepractice sessions (e.g., assessment or intervention), or approach used (e.g., family-coaching, parent/primary carer-mediated intervention, direct intervention). Given during telepractice EI there is limited or absent physical contact with families, professionals deliberately use diverse strategies to compensate for this limitation, maximising visual and auditory channels (e.g., using visual aids, providing detailed verbal descriptions, minimising extended periods of silence), and relying on non-verbal behaviours while interacting with children and families [29].

Both professional and parent factors were perceived relevant to engagement as they influenced its development and maintenance during telepractice EI. This study found that professional characteristics such as calmness, flexibility, and openness were positively perceived and highly valued by parents as enablers of engagement during telepractice interaction. Previous literature has reported similar findings, where clinician characteristics such as dedication, flexibility, empathy and compassion impacted on family engagement in early SLP in-person intervention [19]. Parent characteristics such as their professional background and natural caring skills were perceived by participants of this study as enablers of engagement in telepractice EI. Although previous studies have reported parental self-efficacy and involvement to impact on speech and language development outcomes for children with hearing loss receiving telepractice services [31], the findings of this study are insufficient to determine how and to what extent parent/primary carer characteristics influence engagement.

Engagement was unanimously reported to be built and maintained over time, with parents and professionals collaborating and communicating with each other both inside and outside of the telepractice session. Previous literature has described parents/primary carers and professionals communicating outside the telepractice session through other communication methods, such as email, phone calls, text messages and mail correspondence [27,29]. In contrast, however, in a recent e-Delphi consensus study by Retamal-Walter et al. [41], experts in telepractice EI from research and clinical practice reported that communicating outside of the session was not essential for engaging with families. Findings from the current study showed that professionals offered communication opportunities to parents outside telepractice sessions. Indeed, parents felt that professionals' approachability and availability to communicate outside of the session was essential to trust professionals and build a relationship with them, regardless of whether parents actually contacted professionals or not. Therefore, the impact of using other communication methods for building and maintaining engagement in telepractice EI should be further investigated.

As many EI professionals and services had to suddenly shift to the telepractice setting in light of the current COVID-19 pandemic, there are a number of clinical implications to this study. First, there is a need for EI professionals to deliberately encourage parent/primary carer and family engagement during telepractice EI, particularly at the beginning of the intervention. Given the collaborative nature of engagement, professionals should foster and demonstrate collaborative practices that encourage the family's active participation, empowerment, and communication. Second, professionals should take advantage of the home environment (e.g., use resources familiar to the child; include additional family members in activities) during telepractice sessions. This may facilitate carry-over into daily living activities. Third, professionals may offer families their availability to communicate outside telepractice sessions, as this opportunity was positively perceived and appreciated by parents/primary carers, regardless of whether they contacted professionals offline. However, professionals will have to set clear boundaries of communication with families to develop therapeutic relationships that remain professional. Lastly, although some professionals might feel comfortable interacting and engaging with families over telepractice, professional development opportunities and specific training on how to effectively engage with families in the telepractice environment are recommended to maximise intervention outcomes, enable the provision of family-centred and collaborative EI, and increase the uptake of telepractice services.

Limitations and future research

The findings from the current study have identified some distinctive aspects to building and maintaining engagement with families of young children receiving EI services *via* telepractice. However, due to the qualitative nature of the study and the limited sample size, these findings need to be interpreted with caution. Although the authors attempted a maximum variation sampling strategy to recruit participants, only female professionals from three allied-health disciplines with a similar cultural background participated (i.e., non-indigenous Australians, speaking English as their first language, most of them living in metropolitan areas and holding a SLP degree). Therefore, consideration should be given to the generalisation of results to other professional and cultural backgrounds. In regard to the families' characteristics, all parents had completed at least secondary education, and with over two-thirds of families having prior experience with in-person EI before telepractice. Five out of 13 children had an ASD diagnosis (38.5%), with each one of the other children having a different communication disability. A majority of families reported English as their preferred language, with only two families using languages other than English at home (i.e., Spanish and Australian Sign Language). In addition, 12 mothers and two fathers participated in the interviews, with fathers' input accounting for only 5.6% of the gathered data (i.e., 4 out of 72 interviews). Though father participation in EI is limited [50], EI programs should advocate for father involvement, with the use of telepractice and other communication technologies minimising the barriers represented by distance and work. Future studies should continue exploring engagement from the perspective of professionals from diverse disciplines and cultures and a wider breadth of families from diverse cultural backgrounds and educational levels, investigating the impact of capacity building initiatives for professionals and families of young children with diverse communication disability receiving telepractice EI. Children's perspectives on engagement could be also considered under certain circumstances, as they are direct

recipients of care and their participation may guide and support the implementation of intervention processes and likely increase the provision of quality family-centred EI. Given all participant families had been receiving ongoing telepractice EI at the time of data collection, it is likely that parents were already engaged with treating professionals. Therefore, future studies should investigate the foundations of engagement from the first family-professional encounters. Future research should also seek out the perspective of families of young children who withdraw from telepractice EI or of families and professionals who are still reluctant to embrace telepractice in order to gain a wider perspective of challenges to engagement in telepractice and to explore further potential differences in professional and family experiences. Lastly, training programs for professionals and families should be developed, incorporating both the technical aspects of telepractice as a digital approach to healthcare delivery and the competencies required to coach, model and engage with families remotely. Given that engagement is a co-constructed process, families may need to be equipped with the knowledge and skills to take advantage of telepractice EI to better support their child's needs.

Conclusion

This study is one of the first exploring how engagement is built and maintained in EI from the perspective of both participants of the telepractice interaction: the family and professional together. Though some features of engagement were perceived to be similar in telepractice and in-person EI, such as developing a unique, open, and honest relationship between professionals and families, and adhering to the principles of family-centred practice, there were also some distinctive features to telepractice. Professionals should consider the individuality of telepractice engagement when interacting with families of young children to potentially enhance family engagement and maximise intervention outcomes for young children with communication disability receiving telepractice EI. The delivery of family-centred telepractice enabled parents to become key agents of their child's EI, with professionals upskilling and empowering them to fulfil this role. Although young children were perceived to engage with and enjoy receiving EI services at their home environment, key to family engagement was tailoring the intervention to the individual needs of each child and family. Given there will be as many shapes of family-professional relationships as family-professional dyads exist, professionals need to discover together with families what works for them. Training programs may need to be developed and implemented to prepare both families and professionals with the knowledge and skills required to engage effectively with each other and take advantage of telepractice EI.

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Data availability statement

The data that support the findings of this study are available on request from the corresponding author, FRW. The data are not publicly available due to their containing information that could compromise the privacy of research participants.

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