FEATURE ARTICLE

Therapist perceptions of barriers to telehealth uptake in children's occupational therapy

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Abstract

Introduction: The COVID-19 pandemic resulted in a rapid shift to telehealth implementation across paediatric occupational therapy services. Although telehealth can be an appealing option, access is conditional, and the delivery of a telehealth service differs from face-to-face. If telehealth is to be a viable and equitable option for families, insight is needed into why the service might be declined. The purpose of our study was to explore barriers to paediatric occupational therapy telehealth services from client and therapist perspectives in a Greater Sydney local health district.

Method: A mixed method approach was used, including (i) retrospective review of clinical records for 250 clients seeking occupational therapy who declined the service and (ii) a focus group with four therapists providing the service. Client demographic information was summarised using descriptive statistics. Open-text responses about reasons for declining telehealth were analysed using qualitative content analysis, whereas thematic analysis was used to explore focus group data.

Findings: Key findings from the mixed methods analysis identified barriers and issues to consider when working to ensure equitable access to telehealth for children and families. These issues included child engagement, family complexity, the nature of assessments, interventions, and overarching service characteristics as well as the family's digital inclusion. Digital inclusion comprises affordable access to the internet, data, and devices and the capacity of a child and/or family to engage online.

Conclusion: Our findings suggest that telehealth is not a panacea when face-to-face services are not available. Multiple barriers confounded uptake of telehealth prompting a call to action to ensure equitable access to occupational therapy services for all children.

1 | INTRODUCTION

Young children needing occupational therapy services are often developmentally vulnerable, with significant difficulties in at least one area of development such as self-help, motor, cognition, behaviour, or social skills (Woolfenden et al., 2013). Despite their vulnerability, children with the greatest needs are more likely to miss out on support services (Woolfenden et al., 2020). Without timely and adequate help addressing key occupations and activities, these children risk poor socio-emotional, academic, and vocational outcomes (Clark & Kingsley, 2020). If we are to optimise children's outcomes and ensure equity of access, we need to understand who receives and who misses out on services and why.

The COVID-19 pandemic saw a rapid shift towards telehealth services across the health-care sector (Howie et al., 2022). This unprecedented shift in mode of service heightened the need to understand which children are missing out on services and why. Reports across the globe on medical or allied health telehealth services for children both prior to and during the pandemic amplified this need, given the proclivity towards the experience and/or outcomes for families able to access services. For example, in a scoping review of occupational therapy telehealth services for children prior to the pandemic, telehealth was reported to be feasible and effective (Önal et al., 2021). Önal and colleagues did acknowledge that research was needed to better understand and address the challenges of telehealth access by children and families who are disadvantaged. A similar caveat could be said about a study of telehealth rehabilitation services for children with disability in Italy during the pandemic. Specifically, although Provenzi et al. (2020) reported that 'remote rehabilitation interventions may be beneficial for both child and parental well-being, with limited practical challenges' (p. 1), the children and families participating in the study were included because they had access to and the ability to use technology. If we are to better ensure equity of access for all children, we need to better understand who is not accessing services and why—we need to examine the barriers to telehealth.

1.1 | Barriers to telehealth

Despite growing evidence on the effectiveness and positive aspects of occupational therapy telehealth

Key Points for Occupational Therapy
- Telehealth may be inequitable for some children and families, resulting in a delay in early intervention.
- Occupational therapy telehealth service provision should consider child and family characteristics.
- Assessing a family's capacity to receive services via telehealth may assist in overcoming inequity.

services for children (Campbell et al., 2019; Önal et al., 2021; Speyer et al., 2018), barriers to access and engagement exist. A commonly cited barrier is technology (Campbell et al., 2019; Howie et al., 2022; Speyer et al., 2018; Sutherland et al., 2021). Although limited access to a computer or the internet is an obvious example of a barrier to telehealth, simply providing such technologies does not address uptake. Access to and engagement with telehealth can be more richly understood using the construct of digital inclusion. Digital inclusion refers to the affordability and accessibility of the internet and associated smart devices as well as one's digital ability to safely locate, navigate, and use online programs (Campbell et al., 2020; Thomas et al., 2021) regardless of age, ethnicity, or socio-economic status (Rodriguez et al., 2022). It has been argued that because digital inclusion is related to housing, employment, and access to welfare and health care, it should be considered a social determinant of health (Sieck et al., 2021). A failure to address inequalities associated with digital inclusion (referred to as the 'digital divide') may worsen health outcomes for vulnerable groups (Campbell et al., 2020; Rodriguez et al., 2022). The role of digital inclusion on the uptake paediatric occupational therapy telehealth services remains to be examined.

The demographics of children and families seeking health services is another factor identified as a potential barrier, with children's age and cultural background impacting use (Campbell et al., 2019; Howie et al., 2022). For instance, Howie et al. noted that although there was a 4750% increase in telehealth service provision (phone and video) in their specialist medical clinic serving over 4900 children in the United States, telehealth

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appointments were more readily accessed by the families of children over the age of 6 years and Caucasian families. What remains to be understood is the demographics, including the cultural and linguistic background, of children and their families not accessing telehealth.

Experience with telehealth may also impact access. In an Australian study on the use of telehealth for conducting speech pathology assessments with children (Sutherland et al., 2021), it was reported that experience with telehealth, available resources, and technology for both therapists and families were facilitators of current and continued telehealth implementation. Sutherland and colleagues did note that telehealth uptake may have been driven by people having no other choice. More nuanced insights about the type of clients who do not access telehealth and why were not addressed.

A client's capacity or willingness to engage in telehealth service provision is yet another barrier to telehealth (Campbell et al., 2019; Sutherland et al., 2021). In a systematic review and meta-analysis of the effect of telehealth versus face-to-face interventions delivered by allied health or nursing professionals, the majority ($n = 33/43$; 76%) of studies focused on adults (Speyer et al., 2018), suggesting that adults rather than children may be easier to engage in telehealth. Concerns have also been identified that telehealth may alter the therapeutic interaction between client and therapist (Sansom-Daly & Bradford, 2020). For instance, Campbell et al. (2019) noted that parents and therapists viewed the therapeutic interaction via telehealth to be inferior to face-to-face services.

In summary, children at higher risk of adverse developmental outcomes, based on medical or social complexity, may be prioritised for health service provision in order to mitigate long-term poorer health outcomes (Felitti & Anda, 2010). However, barriers to service provision occurring as a result of the necessity for telehealth during the COVID-19 pandemic may have disproportionately impacted high-risk children and families as they may have had greater difficulty accessing services through telehealth (Christoffel et al., 2021; Dickinson & Yates, 2020). Davies et al. (2021) argued that the lack of equitable access and uptake of telehealth services may be a modern manifestation of Tudor Hart's (1971) inverse care law, which proposed that communities with the greatest need for health care are also those who experience greatest difficulties with access. Further research is needed to explore the barriers to telehealth to ensure equitable access to allied health care can be realised, particularly given the disproportionate negative impact that COVID-19 has had on the lives of vulnerable children (Dickinson & Yates, 2020). Therefore, the aim of this study was to explore occupational therapists' perceptions and parent-reported barriers to telehealth service provision for children needing access to occupational therapy within an Australian public health service.

2 | METHODS

This study was granted ethics approval from the South Western Sydney Local Health District Human Research Ethics Committee (2020/ETH01959).

2.1 | Design

This research adopted a mixed methods approach comprising a retrospective cross-sectional within-group review of clinical records in addition to a focus group. A mixed method was used rather than independent quantitative and qualitative studies, to yield rich insights into barriers to telehealth update for paediatric occupational therapy clients (Castro et al., 2010).

2.2 | Data sources

Two sources of data were used for this study. First, clinical records for all clients who were receiving community paediatric occupational therapy services in a Greater Sydney Health District between 30 March 2020 and 30 September 2020 were reviewed (convenience sample). This time period during the COVID-19 pandemic was when paediatric occupational therapy rapidly shifted from face-to-face to telehealth services and afforded an opportunity to examine barriers to telehealth for those who did not accept the service. The second source of data was a transcript from a focus group with occupational therapists providing the service. This focus group occurred during April 2022.

2.3 | Data collection procedure: Review of clinical records

The procedure for reviewing the clinical records was based on Sarkar and Seshadri (2014). Initially, a list of the types of information relevant to address the study aim was generated by the fourth and last authors, including demographic characteristics, area(s) of clinical concern or need, and parent-reported reason(s) for declining telehealth. All parents/carers were initially phoned to discuss the option of receiving telehealth services. If a parent/carer could not be reached by phone, they were sent an email or text message. The therapist then documented the parents' reason in the relevant child's clinical record.

Next, sources of data were identified, including client electronic medical records, client paper-based files, and the paediatric occupational therapy service database. Staff qualified to extract the data included six registered occupational therapists employed by the service familiar with clinical recording systems and the ethical requirements for handling clinical records and research data. Finally, an Excel spreadsheet was designed by the second, third, fourth, and last authors, for collating the agreed categories of information to be extracted. The data were entered into the spreadsheet by the six therapists, which included the second and fourth authors, with each therapist extracting the data for the client(s) they were responsible for during the study period. Data included a combination of categorical data and open-text comments about reasons for declining telehealth. The first and last authors then reviewed the collated information on the spreadsheet for any missing data. Of the 250 clinical records, 47 records had missing data in various categories. The second and fourth authors reviewed original clinical records and amended the initially missing data. Finally, information extracted for 10% of the clients was re-extracted by the fourth author from the original data by the sources to check agreement with the previously coded categorical data, equivalent to 175 data points. One hundred percent agreement was reported. Any disagreements were resolved by consensus.

The open-ended text responses in clinical records were analysed by the first and last authors using conventional inductive qualitative content analysis based on (Vears & Gillam, 2022). We used a conventional form of analysis (rather than directed or summative), as the categories were directly derived from the data (Hsieh & Shannon, 2005). With regard to the process, initially, the first and last authors independently immersed themselves in the data before undertaking the first round of coding. They then met to discuss their initial codes before undertaking the second round of coding together. This step of the authors independently identifying codes before discussing them together is described by Renz et al. (2018) as 'investigator triangulation' and serves to reduce single investigator bias. In keeping with the iterative and inductive process described by Vears and Gillam (2022), the names for categories were then further refined together by the first and last author in a subsequent re-examination of the data before undertaking synthesis and interpretation. Given that a suite of codes or categories emerged through our iterative process, rather than subsets of fine-grained sub-categories within big-picture categories, our method could be described as based on, rather identical to Vears and Gillam (2022).

2.4 | Data collection procedure: Focus group

Purposive sampling was used to recruit participants for the 60-min focus group to compliment the findings from the review of the clinical records. Specifically, all occupational therapists who worked for the paediatric community health service during the study period were eligible to participate and were invited via email. Four therapists gave written consent. The focus group was conducted via video teleconference, given COVID-19 restrictions, and the need for flexibility. Two of the four participants who consented had also collected data during the period when the data were extracted from the clinical files. The focus group was facilitated by the first and last authors. The first author is an occupational therapist researcher with relevant clinical experience, who was familiar with the service. The last author is an experienced allied health professional, academic, and researcher who was unfamiliar with the team and their services prior to the current study. Although familiar with literature on telehealth, both the first and last authors had limited experience in providing telehealth services.

The focus group was recorded and transcribed verbatim for analysis. Written fieldnotes were taken during the focus group by the facilitators to clarify potentially unclear information on the audio recording. Any identifying information was removed from the written transcript. To address the importance of the credibility and trustworthiness of the data, the de-identified written transcript and initial interpretation were shared with the members of the focus group for member checking (Iivari, 2018). This provided an opportunity for the participants to review the transcript, clarify on any points made, and be satisfied that any potentially identifying information had been removed before analysis. No changes or clarifications were made to the written transcript. The de-identified transcript was then analysed inductively by the first and last authors using thematic analysis based on Braun and Clarke (2022), to explore the occupational therapists' experience of offering and providing the telehealth service. This analysis process involved the first and last author independently reviewing the transcripts and identifying potential themes and sub-themes until all comments were coded and then meeting to discuss their respective themes and sub-themes. The authors compared themes and came to a consensus of themes and subthemes through iterative discussion of the transcript.

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3 | RESULTS

The results are presented in three parts to align with the three types of data included in this mixed methods study: quantitative data from the review of clinical records, qualitative data from open-ended text responses in clinical records, and qualitative data derived from a focus group.

3.1 | Part 1: Review of quantitative data in clinical records

Data on telehealth acceptance or decline were gathered from the clinical records for 662 children and their families who were attending or on a waiting list to receive occupational therapy services immediately prior to the study period (prior to March 2020). Of the 662 children and their families, descriptive quantitative analysis was completed for the 187 families who declined telehealth outright and the 63 who declined telehealth after trying it for one session (250 families in total) (see Figure 1 for clinical record review flowchart). For the 250 total families, 40% were seeing an occupational therapist for concerns with handwriting and motor skills as reported by their therapist, followed by around a third of the sample being seen for pre-diagnosis or developmental concerns with just over 11% focused on school readiness as shown in Table 1. Over three quarters of the sample were children under school age (0–6), and a quarter were designated as high risk, meaning they had additional medical and/or social vulnerability.

Over half of the sample were identified as culturally and linguistically diverse (CALD), with only 46% indicating that they only spoke English at home and over 20% of the total sample indicating that they spoke Arabic at home. Twenty percent of the total sample spoke an Asian language at home, with Vietnamese being the most
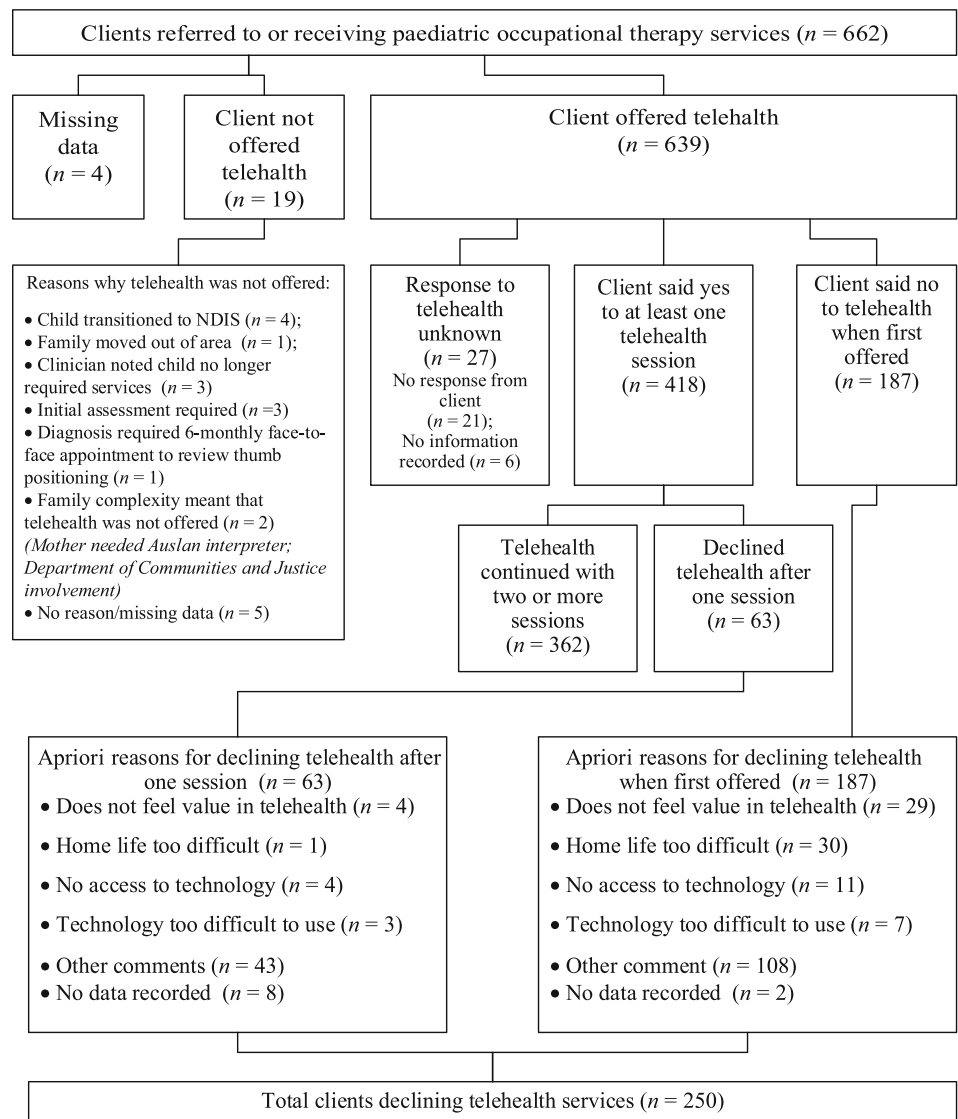

FIGURE 1 Flowchart through service.

TABLE 1 Descriptive quantitative analysis of 250 families who declined a telehealth service.

Demographics: N = 250	n = 187 (initially declined) n (%)	n = 63 (declined after one session) n (%)	Total n = 250 n (%)
Diagnosis area of concern			
Motor skills (incl handwriting)	81 (43.3)	19 (30.2)	100 (40.0)
Pre-diagnostic/developmental	44 (23.5)	28 (44.4)	72 (28.8)
School readiness	20 (10.7)	8 (12.7)	28 (11.2)
Sensory	16 (8.6)	5 (7.9)	21 (8.4)
Play	12 (6.4)	2 (3.2)	14 (5.6)
Self-care activities	8 (4.3)	1 (1.6)	9 (3.6)
Not reported/data missing	6 (3.2)	0 (0.0)	6 (2.4)
Clinician rated priority group			
1A-High risk	41 (21.9)	22 (34.9)	63 (25.0)
1B-1–2 years 11 months	43 (23.0)	18 (28.6)	61 (24.4)
1C-3–5 years, 11 months	62 (33.2)	17 (27.0)	79 (31.6)
2-School age	40 (21.4)	6 (9.5)	46 (18.4)
Not reported	2 (1.1)	0 (0.0)	2 (0.8)
Cultural and linguistic diversity (CALD)			
Identified as CALD	108 (57.8)	31 (49.2)	139 (55.6)
Not identified as CALD	67 (35.8)	30 (47.6)	97 (38.8)
Refugee status	1 (0.5)	2 (3.2)	3 (1.2)
Not reported	11 (5.9)	0 (0.0)	11 (4.4)
Aboriginal and Torres Strait Islander			
Yes	10 (5.3)	12 (19.0)	22 (8.8)
No	168 (89.8)	51 (81.0)	219 (87.6)
Not reported	9 (4.8)	0 (0.0)	9 (3.6)
Languages spoken at home			
English only	82 (43.9)	34 (54.0)	116 (46.4)
English and Arabic	27 (14.4)	5 (7.9)	32 (12.8)
Arabic only	20 (10.7)	6 (9.5)	26 (10.4)
English and Vietnamese	6 (3.2)	0 (0.0)	6 (2.4)
Vietnamese only	8 (4.3)	1 (1.6)	9 (3.6)
Other Asian languages	24 (12.8)	11 (17.5)	35 (14.0)
European languages	5 (2.7)	2 (3.2)	7 (2.8)
Other languages	5 (2.7)	4 (6.3)	9 (3.6)
Not reported	10 (5.3)	0 (0.0)	10 (4.0)
Index of relative socio-economic disadvantage quintile of family's suburb			
Quintile 1 (lowest scores)	71 (38.0)	17 (27.0)	88 (35.2)
Quintile 2	52 (27.8)	26 (41.3)	78 (31.2)
Quintile 3	7 (3.7)	6 (9.5)	13 (5.2)
Quintile 4	19 (10.2)	5 (7.9)	24 (9.6)
Quintile 5 (highest scores)	22 (11.8)	4 (6.3)	26 (10.4)
Not reported	16 (8.6)	5 (7.9)	21 (8.4)

T A B L E   1 (Continued)

Demographics: N = 250	n = 187 (initially declined) n (%)	n = 63 (declined after one session) n (%)	Total n = 250 n (%)
Care options if no telehealth			
Active waiting with surveillance	13 (7.0)	3 (4.8)	16 (6.4)
Active waiting only	31 (16.6)	3 (4.8)	34 (13.6)
Passive waiting with surveillance	16 (8.6)	2 (3.2)	18 (7.2)
Passive waiting no surveillance	82 (43.9)	5 (7.9)	87 (34.8)
Not reported	45 (24.1)	50 (79.4)	95 (38.0)

common of these. Just under 10% of the sample identified as Aboriginal or Torres Strait Islander. More than 60% of the 250 families lived in suburbs designated in the lowest two quintiles (Quintiles 1 and 2) on the Index of Relative Socio-economic Disadvantage according to SEIFA data (ABS, 2022), indicating that they experienced more socio-economic disadvantage than families in Quintiles 3–5. Ten percent of the sample lived in suburbs designated in the top quintile (Quintile 5) as shown in Table 1.

When families declined telehealth, just over a third of families were described as passively waiting for a service with no surveillance, meaning they were not being followed up by the service in any way and not being provided therapeutic activities. Less than 10% were designated as actively waiting for a service with surveillance, meaning families were provided with therapeutic activities to do with their child such as fine motor skill development or play activities while waiting.

3.2 | Part 2: Review of qualitative data in clinical records: Qualitative content analysis

Qualitative content analysis was conducted on responses recorded by six therapists recording barriers in responses from predetermined categories (Apriori) in the spreadsheet as shown in Figure 1 and in open text (Apostieri) as shown in Table 2.

Qualitative content analysis was performed on 231 open-text responses from the 250 families as shown in Table 2 and six categories emerged. A preference for face-to-face service provision was cast as the most common reason for declining telehealth (29.9% of comments) followed by issues related to the child's individual difficulties and needs (27.8% of comments). In exploring these reasons further, therapists reported that some parents 'would prefer to wait until face-to-face appointments are available; does not feel child's difficulties are "urgent"' (clinical record 492) (Therapist 5 who was seeing a 0–2-year-old for fine motor skills). Therapist 4 wrote

that a parent of a pre-school child they were supporting with fine motor skills had concerns about screen time and would 'prefer face to face, concerned with time already spent on technology for schoolwork and learning at home' (clinical record 85).

Analysis of open text revealed 64 references to families declining telehealth based on their child's capacity to engage and attend with therapy through telehealth. Therapist 3 who was supporting a 0–2-year-old child with developmental issues reported 'Mo feels child would not engage due to poor attention and fixed interests' (clinical record 195). Similarly, Therapist 1 reported that the family 'didn't think the child would engage' (0–2-year-old working on sensory processing; clinical record 281). For some children, comments referred to a previous unsuccessful experience with telehealth, for example, Therapist 6 reported that the child 'has tried and [child] didn't respond well to video session (0-2 year old, fine motor skills; clinical record 611). One family was reported to have "trialled online learning classes with [child], which have not worked well due to his inattention"' (3–5-year-old child working on fine motor skills, Therapist 5; clinical record 527).

Technology challenges were also cited by therapists as a barrier and analysis of open text revealed that these challenges were often coupled with other reasons. For example, Therapist 5 reported that the family 'would prefer to wait until able to offer face-to-face appointments again and technology has been difficult during stuttering telehealth sessions' (3–5-year-old, school readiness; clinical record 520). Therapist 4 reported that the family of a 3–5-year-old working on sensory processing had 'no home internet, don't feel [child] will engage' (clinical record 75).

Family and individual complexity was also cited as a reason as noted in Table 2 with Therapist 6 reporting that the child was 'transitioning back to school and changing medications' (school-aged child working on handwriting; clinical record 620). Another family reportedly declined telehealth as they were 'currently busy taking care of younger son, who has a congenital heart condition' (3–

TABLE 2 Qualitative content analysis for 250 families who declined telehealth[a].

Category	Examples of comments	187 families who declined outright (% of 171 comments)	63 families who declined following one session (% of 60 comments)	Total $n = 250$ (% of 231 comments)
		Count of comments		
Issue with the child	*Didn't think child would engage* *Reported [child] doesn't engage with telehealth sessions well* *concerned re: [child]'s attention during a telehealth session* *Parents do not feel child will engage.* *[child] wouldn't participate* *Trialled telehealth with private psychology service with nil success* *Family felt child would not engage with telehealth session* *Mo[ther] feels child is too shy to engage in video sessions*	47 (27.5)	17 (28.3)	64 (27.7)
Family complexity	*Prefers clinic appointments due to sibling* *Busy during Ramadan* *reported [child] wont engage, sister has had trouble with it* *Currently busy taking care of younger son, who has a congenital heart condition* *Requires case management/interpreter.*	17 (9.9)	3 (4.8)	20 (8.7)
Technology	*Concerned with time already spent on technology for schoolwork and learning at home* *Technology has been difficult during stuttering telehealth sessions* *Currently experiencing difficulties with technology during stuttering sessions* *No home internet* *Internet not suitable* *Carer only has landline*	8 (4.7)	14 (23.3)	22 (9.5)
Preference for face to face	*Mo[ther] would prefer face to face* *Preference for face-to-face appointments*	65 (38.0)	4 (6.7)	69 (29.9)
Other reasons	*Does not feel child's difficulties are 'urgent'* *Mo[ther] expressed frustration with service change.* *Awaiting group program* *Happy to continue with home program*	7 (4.1)	0 (0.0)	7 (3.0)
Exited service- not a barrier	*Sought out private face-to-face services instead* *Has access to NDIS funds* *Approved for NDIS funding; therefore, discharged from service* *Reported nil current concerns and requested discharge from service*	27 (15.8)	22 (36.7)	49 (21.2)

[a]Of 250 participants, 187 declined outright (171 comments), 63 declined following one session (60 comments). Across 250 participants, 231 comments were provided from open-ended responses.

5-year-old working on readiness for school, Therapist 5; clinical record 535). Therapist 1 reported that the 0–2 year-old child they were supporting with fine motor skills was not the only child accessing a therapy service via telehealth and this was as a barrier: 'Bro[ther] is

doing telehealth and she [mother] felt it would be too much' (clinical record 296).

Just over 21% of comments related to families exiting the service because they were able to gain access to an alternative service (such as through a private provider or

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with National Disability Insurance Scheme [NDIS] funds) or they believed their child had no further need for therapy as shown in Table 2. The NDIS is an Australian Federal Government scheme that provides individual funding packages to cover the cost of disability, including children with diagnosed disabilities (NDIS, 2022).

3.3 | Part 3: Thematic analysis of focus group

Three key themes emerged across the focus group with four therapists, including client complexity, the lack of human connection, and the lack of digital inclusion (see Figure 2 for subthemes within each theme). Therapists who participated in the focus group are referred to as Participants A through D.

With regard to the barrier of client complexity, there were two subthemes, including the complexity of child and the complexity of family (including families with CALD backgrounds and families with vulnerability). Participants spoke about the challenge of using telehealth with children who had more complex clinical presentations as 'there are certain types of kids with presentations that you really do just need to see them face-to-face to be able to model things' (Participant A) with specific presentations requiring hands-on help particularly challenging—'the young babies that we get with some upper limb asymmetries or upper limb concerns. I've had a few concerns about contractures. And you can't really stretch out a contracture over video, it just doesn't work' (Participant A). Participant C described the challenge of trying to adapt assessment tasks for a 10-year-old client with developmental delay, 'they've got a particular retained primitive reflex, you need to do this position and it was really tricky to do it over telehealth because I'd be demonstrating but I'm like angling have a camera and

it's not getting my whole body and I'm trying to watch your child do it and it's just not working' (Participant D).

The complexity of a family and their understanding about the role of the therapist was also identified as a barrier for some families from CALD backgrounds. Participant C described the challenges associated with parents' expectations of the therapist role and how this is at odds with what is needed when providing services to children and their families via telehealth—'when they think of the health care service or accessing health care, like, it's still that perception of, you're the professional, you help my child and I step back, because I'm, I need your help. Whereas when we do telehealth, it's, you need to do the work' (Participant C).

The second barrier identified was the lack of human connection. Therapists spoke of the importance of therapeutic rapport and need for connection in conversation. As Participant C reflected 'when it comes to true connection and human engagement, it kind of needs to be in person. And having like, do that virtually, it's difficult.' Participant A also noted that 'building rapport with families through an interpreter on telehealth is a lot more challenging' and how some conversations with difficult or confronting topics can be challenging to have over telehealth—'so if you're talking about, you know, maybe referring a child to a paediatrician or to NDIS, those conversations I think go a lot better in person' (Participant A).

The third barrier was the lack of 'digital inclusion'. Three subthemes were identified within this broader theme, including affordability—as captured by Participant C, 'Like we have families who have prepaid internet, because I can't afford the like, like the NBN [National Broadband Network] themselves. So they just have like the prepaid Internet, and I feel awful, using up their data'. This participant's reflections about feeling awful for using up their data also conveyed an element of emotional distress when working with families who had limited financial resources to access telehealth. A second
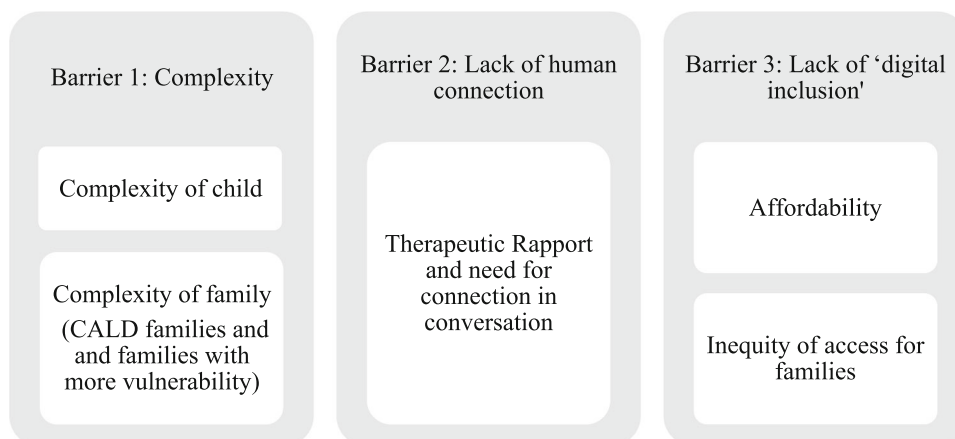
FIGURE 2 Focus group themes about barriers to telehealth for children's occupational therapy clients.

Barrier 1: Complexity	Barrier 2: Lack of human connection	Barrier 3: Lack of 'digital inclusion'
Complexity of child	Therapeutic Rapport and need for connection in conversation	Affordability
Complexity of family (CALD families and and families with more vulnerability)		Inequity of access for families

theme was equity of access for some families—'they want to do telehealth, but I'm just like, no, it's going to use up your whole data and like money. You know, I guess like there's financial barriers to some of these families' (Participant C). The third subtheme was the consequence of poor digital inclusion—inequity of access to services. Participant B spoke of this issue when raising concerns about running group sessions via telehealth, fearing that some children will be left behind because of difficulties accessing technology—'how are we going to make sure that they don't sort of get left behind if they can't get on a telehealth group session? Does that mean that they don't get anything?'

4 | DISCUSSION

This study adopted a mixed methods approach to explore the barriers to telehealth for families who accessed a community paediatric occupational therapy service in greater Sydney. A number of key findings emerged from the data analysis and are discussed. The first key finding was that child-related issues were commonly cited in clinical files by therapists (following their communication with families) as a barrier to participation in occupational therapy via telehealth. These included the child's general capacity to engage in telehealth or because of specific characteristics about the child such as their age, diagnosis, or the presence of contractures. Telehealth literature has cited difficulties with child engagement as a potential barrier to successful telehealth service provision (Campbell et al., 2019; Howie et al., 2022), with particular difficulties cited for children under the age of six (Howie et al., 2022), the age of children in the present study. In keeping with Hiscock et al. (2022), engagement may have been particularly difficult for children with additional vulnerabilities such as a developmental disability. The findings suggest that decisions about the use of telehealth need to be mindful of children's ages and the nature of their difficulties (Hiscock et al., 2022). Conversely, positive outcomes have been reported from telehealth service provision (Speyer et al., 2018), with Önal et al. (2021) reporting that it may be as effective as face-to-face service provision. However, the specific issues associated with telehealth service provision for children under 6 years of age were not addressed.

Second, based on the therapists' file entries documenting their communication with the families about the option to use telehealth, it was evident that family complexity was also a barrier to telehealth. A large portion of families in the sample identified as culturally and linguistically diverse as well as being from lower socioeconomic suburbs. Previous studies have indicated increased barriers to telehealth access for CALD families (Albon et al., 2021; Jeste et al., 2020) and those from lower SES backgrounds (Darrat et al., 2021). More than half of the families who experienced barriers to telehealth in the present sample were characterised as high risk because of family and social complexity. These families are usually prioritised to receive services in a more timely manner than other children who access the service. Priority categories are determined based on the findings of the adverse childhood experiences study and timely access to service provision is particularly important for those designated as high risk as they may be at higher risk for poorer health outcomes in adulthood (Felitti & Anda, 2010; Oral et al., 2016).

A third finding from the present study is that digital inclusion and exclusion may have played a role in barriers to telehealth experience, as perceived by therapists. A small number of families cited internet access issues as a barrier, but reasons were broader than this. Families may have not wanted to explicitly identify that access to and use of digital technology was a barrier by simply opting to politely decline the service. Alternatively, a large portion of families indicated that they did not feel there was 'value in telehealth'. Whether or not these families did not have high levels of digital inclusion could not be determined. What was apparent among the therapist participants however were observations that a family's access to 'data' was a potential barrier to telehealth, a concern echoed by Davies et al. (2021) who described 'data poverty' as a potential driver of digital exclusion. Australia's digital inclusion roadmap outlines affordability as one of the key elements that includes access to data, devices, and the internet (Campbell et al., 2020). Digital exclusion is more commonly experienced by those from lower SES backgrounds and CALD backgrounds and those with greater social complexity (Rodriguez et al., 2022; Thomas et al., 2021). Findings from the present study may demonstrate the presence of a digital divide (Sleep & Harris, 2021) or a 'digital inverse care law' as coined by Davies et al. (2021). Planning for future allied health services could directly address digital inclusion to ensure families are not falling through the gaps (Sieck et al., 2021). This could include assessment of a client's access to affordable internet, data, and associated devices as well as their capacity, confidence, and willingness to access online platforms, required training, and technical supports (Sieck et al., 2021).

A fourth finding is that a potential barrier to telehealth lies in a preference for face-to-face human connection. The present study demonstrated a wide preference for face-to-face services in the content analysis without provision of additional reasons. Focus group analysis echoed the face-to-face preference but also highlighted an

element of 'human connection', which may be necessary for successful therapy service provision. The importance of human connection has been explored by Sansom-Daly and Bradford (2020) who described clinical psychology services for adolescents and young adults in an oncology setting. They highlighted that face-to-face connection may be an important component of a 'therapeutic interaction' between therapist and client and that in telehealth services, this may be altered or lost. Similarly, a study by Campbell et al. (2019) of parents accessing telehealth for their children described that therapist–child interactions through telehealth were inferior to face-to-face interactions. Therapists in the present study cited that difficult and sensitive conversations were harder to have through telehealth and this finding was echoed by Shannon et al. (2022) who conducted a survey of Australian clinicians who used telehealth during the COVID-19 pandemic. These views contrast with research reporting no difference in the therapeutic alliance and relationship between children and their clinicians when receiving speech-language pathology telehealth versus in-person sessions (Freckmann et al., 2017). More research may be needed to better understand the diversity of factors contributing to decisions to accept or decline occupational therapy telehealth services for children.

4.1 | Limitations

Retrospective clinical record review methodology was adopted and can have limitations, including a reliance on the accuracy of therapist-reported data as well as important data not being available (Hess, 2004). Although authors had access to age categories, for example, 3–5-year-olds, specific age and gender for each child were not available. In this study, we were not able to capture the perspectives of families directly, which may have altered the findings. Responses retrieved from the file were summarised by therapists and were mostly not verbatim responses from families. This may have impacted the findings. Inferential statistical analysis on file data was out of scope for the present study. This type of analysis may have allowed a quantitative explanation of the relationships or cross over between quantitative variables. Although the present study described that those from CALD backgrounds and those who lived in lower SES areas are over-represented in this sample, future quantitative research would be needed to explore the extent to which these factors may be a barrier to telehealth uptake. Data were collected at one time period during the COVID-19 pandemic, which may have impacted a family's wiliness to engage in a telehealth service. A further limitation is that therapists' communication with

families about the option to use telehealth was conducted via telephone or email. Difference in reasons for declining may have been influenced by the mode (phone vs. email) of their response to the offer of telehealth services.

4.2 | Implications for occupational therapy practice

The provision of telehealth service in light of the COVID-19 pandemic may offer increased options for occupational therapy service provision. However, this study highlights that not every young child and their family can access occupational therapy via telehealth, with some families opting out of service provision altogether and losing access to therapy services, which may be critically important during early childhood, particularly for children with additional vulnerabilities. When considering suitability for telehealth service provision, therapists should attend to specific child and family characteristics, including child's disability, age, potential capacity to engage, and family complexities. Prior to telehealth service provision, therapists should also undertake assessment of the family's digital inclusion to ensure they can access services on offer. Similarly, investments in digital inclusion may be required at a service level. This may include the appointment of a telehealth 'clinical champion' within a health service to support implementation (Campbell et al., 2020) as well as co-designing digital tools with consumers who may use them (Davies et al., 2021). Rapid implementation of telehealth services across the board without individual considerations could further exacerbate disadvantages in some communities of children.

5 | CONCLUSION

Our findings suggest that telehealth is not a panacea when face-to-face services are not available. Although the pivot to telehealth in response to COVID-19 may have been beneficial for some families, it exacerbated inequities for others. This is concerning for young and vulnerable children who need occupational therapy to optimise outcomes. As highlighted in this study, multiple barriers confounded uptake of telehealth, prompting a call to action to ensure equitable access to occupational therapy services for all children.

AUTHOR CONTRIBUTIONS

Elise Baker is a senior author and designed the overall study, led on ethical approval and recruitment, supported data collection, and completed data analysis, data interpretation, and write-up. Caroline Mills was involved in

data cleaning of quantitative data and data analysis, interpretation, and write-up of the manuscript. Kirralee Hazeltine was involved in study design, data collection, and data interpretation following analysis and contributed to the manuscript write-up. Annette Zucco was involved in study design, data collection, and data interpretation following analysis and contributed to the manuscript write-up. Tracy Phan was involved in study design, data collection, and data interpretation following analysis and contributed to the manuscript write-up.

CONFLICT OF INTEREST STATEMENT
Authors KH, AZ and TP were employed in the occupational therapy service where data were collected from. Data analysis was led by CM (who was not employed by the service) and EB (who was employed by the broader health district in a conjoint position with a local university, but not providing occupational therapy services). The authors do not gain any financial benefit from any findings.

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

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REFERENCES
ABS. (2022). *Socio-Economic Indexes for Areas* Retrieved 20th June from https://www.abs.gov.au/websitedbs/censushome.nsf/home/seifa

Albon, D., Van Citters, A. D., Ong, T., Dieni, O., Dowd, C., Willis, A., Sabadosa, K. A., Scalia, P., Reno, K., Oates, G. R., & Schechter, M. S. (2021). Telehealth use in cystic fibrosis during COVID-19: Association with race, ethnicity, and socioeconomic factors. *Journal of Cystic Fibrosis*, *20*, 49–54. https://doi.org/10.1016/j.jcf.2021.09.006

Braun, V., & Clarke, V. (2022). *Thematic analysis: A practical guide*. SAGE Publications. https://doi.org/10.1007/978-3-319-69909-7_3470-2

Campbell, J., Theodoros, D., Russell, T., Gillespie, N., & Hartley, N. (2019). Client, provider and community referrer perceptions of telehealth for the delivery of rural paediatric allied health services. *Australian Journal of Rural Health*, *27*(5), 419–426. https://doi.org/10.1111/ajr.12519

Campbell, L. H., Smith, A. C., & Brooks, P. (2020). The NBN Futures Forum: Social and economic benefits of broadband for digital inclusion and telehealth [Other Journal Article]. *Journal of Telecommunications and the Digital Economy*, *8*(3), 18–32. https://doi.org/10.18080/jtde.v8n3.346

Castro, F. G., Kellison, J. G., Boyd, S. J., & Kopak, A. (2010). A methodology for conducting integrative mixed methods research and data analyses. *Journal of Mixed Methods Research*, *4*(4), 342–360. https://doi.org/10.1177/1558689810382916

Christoffel, M., Monterio Gomes, A. L., de Souza, T. V., & Ciuoof, L. L. (2021). Children's (in)visibility in social vulnerability and the impact of the novel coronavirus (COVID-19). *Revista Brasileira de Enfermagem*, *73*, 1–5. https://doi.org/10.1590/0034-7167-2020-0302

Clark, G. F., & Kingsley, K. L. (2020). Occupational therapy practice guidelines for early childhood: Birth-5 years. *The American Journal of Occupational Therapy*, *74*(3), 7403397010p1. https://doi.org/10.5014/ajot.2020.743001

Darrat, I., Tam, S., Boulis, M., & Williams, A. M. (2021). Socioeconomic disparities in patient use of telehealth during the coronavirus disease 2019 surge. *JAMA Otolaryngology. Head & Neck Surgery*, *147*(3), 287–295. https://doi.org/10.1001/jamaoto.2020.5161

Davies, A. R., Honeyman, M., & Gann, B. (2021). Addressing the digital inverse care law in the time of COVID-19: Potential for digital technology to exacerbate or mitigate health inequalities. *Journal of Medical Internet Research*, *23*(4), e21726. https://doi.org/10.2196/21726

Dickinson, H., & Yates, S. (2020). *More than isolated: The experience of children and young people with disability and their families during the COVID-19 pandemic*. Report prepared for Children and Young People with Disability Australia (CYDA).

Felitti, V. J., & Anda, R. F. (2010). The relationship of adverse childhood experiences to adult medical disease, psychiatric disorders and sexual behavior: Implications for healthcare. In C. Pain, E. Vermetten, & R. A. Lanius (Eds.), *The impact of early life trauma on health and disease: The hidden epidemic* (pp. 77–87). Cambridge University Press. https://doi.org/10.1017/CBO9780511777042.010

Freckmann, A., Hines, M., & Lincoln, M. (2017). Clinicians' perspectives of therapeutic alliance in face-to-face and telepractice speech-language pathology sessions. *International Journal of Speech-Language Pathology*, *19*(3), 287–296. https://doi.org/10.1080/17549507.2017.1292547

Hess, D. R. (2004). Retrospective studies and chart reviews. *Respiratory Care*, *49*(10), 1171–1174.

Hiscock, H., Pelly, R., Hua, X., West, S., Tucker, D., Raymundo, C.-M., & Dalziel, K. (2022). Survey of paediatric telehealth benefits from the caregiver perspective. *Australian*

Health Review, *46*(2), 197–203. https://doi.org/10.1071/ah21036

Howie, F., Kreofsky, B. L., Ravi, A., Lokken, T., Hoff, M. D., & Fang, J. L. (2022). Rapid rise of pediatric telehealth during COVID-19 in a large multispecialty health system. *Telemedicine and e-Health*, *28*(1), 3–10. https://doi.org/10.1089/tmj.2020.0562

Hsieh, H.-F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, *15*(9), 1277–1288. https://doi.org/10.1177/1049732305276687

Iivari, N. (2018). Using member checking in interpretive research practice. *Information Technology & People*, *31*(1), 111–133. https://doi.org/10.1108/ITP-07-2016-0168

Jeste, S., Hyde, C., Distefano, C., Halladay, A., Ray, S., Porath, M., Wilson, R. B., & Thurm, A. (2020). Changes in access to educational and healthcare services for individuals with intellectual and developmental disabilities during COVID-19 restrictions. *Journal of Intellectual Disability Research*, *64*(11), 825–833. https://doi.org/10.1111/jir.12776

NDIS. (2022). *How the NDIS works* Retrieved 23/03/2023 from https://www.ndis.gov.au/understanding/how-ndis-works

Önal, G., Güney, G., Gün, F., & Huri, M. (2021). Telehealth in paediatric occupational therapy: A scoping review. *International Journal of Therapy and Rehabilitation*, *28*(7), 1–16. https://doi.org/10.12968/ijtr.2020.0070

Oral, R., Ramirez, M., Coohey, C., Nakada, S., Walz, A., Kuntz, A., Benoit, J., & Peek-Asa, C. (2016). Adverse childhood experiences and trauma informed care: The future of health care. *Pediatric Research*, *79*(1–2), 227–233. https://doi.org/10.1038/pr.2015.197

Provenzi, L., Grumi, S., & Borgatti, R. (2020). Alone with the kids: Tele-medicine for children with special healthcare needs during COVID-19 emergency. *Frontiers in Psychology*, *11*, 2193. https://doi.org/10.3389/fpsyg.2020.02193

Renz, S. M., Carrington, J. M., & Badger, T. A. (2018). Two strategies for qualitative content analysis: An Intramethod approach to triangulation. *Qualitative Health Research*, *28*(5), 824–831. https://doi.org/10.1177/1049732317753586

Rodriguez, J. A., Shachar, C., & Bates, D. W. (2022). Digital inclusion as health care—Supporting health care equity with digital-infrastructure initiatives. *New England Journal of Medicine*, *386*(12), 1101–1103. https://doi.org/10.1056/nejmp2115646

Sansom-Daly, U. M., & Bradford, N. (2020). Grappling with the "human" problem hiding behind the technology: Telehealth during and beyond COVID-19. *Psycho-Oncology*, *29*(9), 1404–1408. https://doi.org/10.1002/pon.5462

Sarkar, S., & Seshadri, D. (2014). Conducting record review studies in clinical practice. *Journal of Clinical and Diagnostic Research: JCDR*, *8*(9), JG01–JG04. https://doi.org/10.7860/JCDR/2014/8301.4806

Shannon, M. M., Callum, S. M., & Callisaya, M. L. (2022). Uncovering healthcare staff attitudes to the rapid deployment of telehealth in Victoria, 2020–2021: A 12-month telehealth experience. *Internal Medicine Journal*, 1–9. https://doi.org/10.1111/imj.15750

Sieck, C. J., Sheon, A., Ancker, J. S., Castek, J., Callahan, B., & Siefer, A. (2021). Digital inclusion as a social determinant of health. *Npj Digital Medicine*, *4*(1), 52. https://doi.org/10.1038/s41746-021-00413-8

Sleep, L., & Harris, P. (2021). Editorial: Lockdowns, exclusion and resilience: Our first pandemic related studies. *Journal of Social Inclusion*, *12*(1), 1–3. https://doi.org/10.36251/josi.230

Speyer, R., Denman, D., Wilkes-Gillan, S., Chen, Y. W., Bogaardt, H., Kim, J. H., Heckathorn, D. E., & Cordier, R. (2018). Effects of telehealth by allied health professionals and nurses in rural and remote areas: A systematic review and meta-analysis. *Journal of Rehabilitation Medicine*, *50*(3), 225–235. https://doi.org/10.2340/16501977-2297

Sutherland, R., Hodge, A., Chan, E., & Silove, N. (2021). Barriers and facilitators: Clinicians' opinions and experiences of telehealth before and after their use of a telehealth platform for child language assessment. *International Journal of Language & Communication Disorders*, *56*(6), 1263–1277. https://doi.org/10.1111/1460-6984.12666

Thomas, J., Barraket, J., Parkinson, S., Wilson, C., Holcombe-James, I., Kennedy, J., Mannell, K., & Brydon, A. (2021). *Australian Digital Inclusion Index: 2021*.

Tudor Hart, J. (1971). The inverse care law. *The Lancet*, *297*(7696), 405–412. https://doi.org/10.1016/S0140-6736(71)92410-X

Vears, D. F., & Gillam, L. (2022). Inductive content analysis: A guide for beginning qualitative researchers. *Focus on Health Professional Education: A Multi-Professional Journal*, *23*(1), 111–127. https://doi.org/10.11157/fohpe.v23i1.544

Woolfenden, S., Galea, C., Badland, H., Smithers Sheedy, H., Williams, K., Kavanagh, A. M., Reddihough, D., Goldfeld, S., Lingam, R., Badawi, N., & O'Connor, M. (2020). Use of health services by preschool-aged children who are developmentally vulnerable and socioeconomically disadvantaged: Testing the inverse care law. *Journal of Epidemiology and Community Health*, *74*(6), 495–501. https://doi.org/10.1136/jech-2019-213384

Woolfenden, S., Goldfeld, S., Raman, S., Eapen, V., Kemp, L., & Williams, K. (2013). Inequity in child health: The importance of early childhood development. *Journal of Paediatrics and Child Health*, *49*(9), E365–E369. https://doi.org/10.1111/jpc.12171