A Relationship Focused & Technology-Enhanced Approach to Early Child Development & Intervention in Northern and Rural Communities in British Columbia

A RESEARCH SUMMARY

2025

University of Victoria

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BCACDI
The BC Association for Child Development and Intervention

Tapping into Tech

Logo by Sam Bond, Youth Community Researcher, Tapping into Tech

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Acknowledgements & Gratitude

This research engaged with people living on diverse traditional, unceded, and treaty First Nation territories in British Columbia including the lands of the Songhees, Esquimalt and WSÁNEĆ peoples. The authors are grateful for and indebted to those who have stewarded these lands since time immemorial and commit to continuing to learn to live in ways that honour the people of this place and the place itself.

The research team sincerely thank the 110 parents and 147 multidisciplinary providers in the ECDI sector in British Columbia who contributed to this research; sharing their time, lived experiences, and knowledge.

This research was funded by a Participatory Action Research grant from the Vancouver Foundation.

Community Advisory Council

This participatory action research was co-led by **Dr. Alison Gerlach in the School of Child and Youth Care at the University of Victoria** and **Mr. Jason Gordon with the BC Association of Child Development and Intervention**. The research design and process, including the research tools, data analysis, and the refinement of this research summary were informed by and drew on the expertise of a Community Council formed for this project, that included:

1 The term 'parent' is used for brevity throughout this report but is understood as being inclusive of a child's primary caregiver that can include birth or foster parents, grandparents and extended family or kin, and legal guardians.

Key Messages from this Research

The following are key messages highlighting how the findings of this research can inform efforts to improve access to early child development and intervention (ECDI) programs and services for northern and rural communities and families, including First Nations and Métis families in BC. Key messages are organized for specific knowledge user groups:

Promising Practices for *All* ECDI Programs and Service Providers

Prioritize relationship focused and technology-enhanced service delivery to improve access to ECDI particularly for northern and rural families –

- ✔ In a hybrid model, 'direct service' needs to be inclusive of virtual ways of building and maintaining continuity in both care and relationships and exchanging information and resources.
- ✔ One size does not fit all – explore and routinely revisit with parents their virtual and in-person options and preferences.
  - Parents should not have to choose between in-person or virtual options as both are routinely offered. Collaborative conversations happen at the point of first contact with parents and touched on frequently to ensure that care is family-directed in ways that work best for each family's circumstances, dynamics, preferences, and learning styles.
  - Not all families experience the same choices and comfort level in accessing ECDI. Intake forms can prompt a conversation about access options and preferences (recognizing that this is dynamic and likely to change over time).
- ✔ To support equitable access to virtual services, options can include but are not limited to:
  - Offering loan devices with data (iPads etc.).
  - Providing funded support for Wi-Fi/data service (e.g., gift cards).
  - Exploring accessible options for computer/cell phone use in local community spaces (e.g., health units, libraries, community centres, Friendship Centre) that offer private spaces with reliable highspeed Wi-Fi appropriate for families and their needs.
  - Collaborate with local service providers (e.g., Family Support Worker, AIDP, therapy assistant) who have established relationships with families.
- ✔ Access training on providing supports and services virtually and be well prepared to support parents in accessing and using virtual technologies and services.
  - Personalize the use of technology, including videoconferencing with each family.

Advocate for and offer alternative low-barrier accessible options for building and maintaining continuity of care and relationships and exchanging information –

- ✔ Use texting/messaging options to support continuity of care and relationships.
- ✔ Exchange photos, audio, and/or video recordings with family members who have the necessary technology.
- ✔ Use social media (e.g., Facebook) to share information about programs, services, the organization and relevant links to supporting organizations and services.
- ✔ Be informed about local, regional, or provincial Facebook groups to ensure this information is readily available for parents, including those on waiting lists.

Establish an intentional relationship focused mindset using a coaching approach –

- ✔ Prioritize geographically distant communities and families during the good weather to optimize relationship building to support virtual care when driving and meeting in-person is not possible.
- ✔ Connect virtually to maintain a continuity in relationships.
- ✔ Engage in a process of professional development to build skills and practices for relationship-centred coaching in-person *and* virtually using videoconferencing.
  - A coaching approach requires a distinct shift in roles for parents/caregivers and providers that can be unsettling for both parties. Exploring and using a coaching approach with parents needs to be done carefully so that shared expectations are explored, and parents do not experience coaching as being more demanding or 'putting the onus on them to be therapists'.

For ECDI Managers, Funders, and Policy Stakeholders

Support northern and rural-service community-based, non-profit organizations to enhance access for northern, rural, and historically underserved communities –

- ✔ Improve ECDI access, in a hybrid model of service delivery requires that MCFD contracts for northern and rural-serving community-based, non-profit organizations include:
  - The use of technology as part of business as usual and a line item in any contract.
  - A baseline level of funding for technical infrastructure that support providers with virtual ways of providing their services, particularly texting/messaging with parents.
  - Funding to increase ECDI service providers' skills (particularly early intervention therapists) in parent coaching; in-person and virtually.
  - Funding that is reflective of and responsive to the distinct geographical and climatic conditions in their service delivery areas and appropriately compensate the essential travel required to build and maintain in-person relationships with families, communities, and Nations in the limited months that offer safe travel conditions.
  - Recognition that 'direct service' in a hybrid model as being inclusive of virtual modes of service delivery.

Research Overview

In 2020, public health measures in response to the COVID-19 pandemic galvanized the rapid use of technology in the early child development and intervention (ECDI) sector in British Columbia (BC). At this time, ECDI leaders in BC identified the need for community voices to inform the long-term uptake and potential of technology in this sector to connect with and provide services to families virtually (in addition to in-person). Also, to address the long-standing challenges in accessing community-based ECDI services and support experienced by many families living in northern and rural parts of BC (Gerlach et al., 2023). The research started in mid-2021 and information on research activities and outputs is available on the 'Community Voices on Tapping into Tech' project website.

Guiding research question

This research aimed to address the following question:

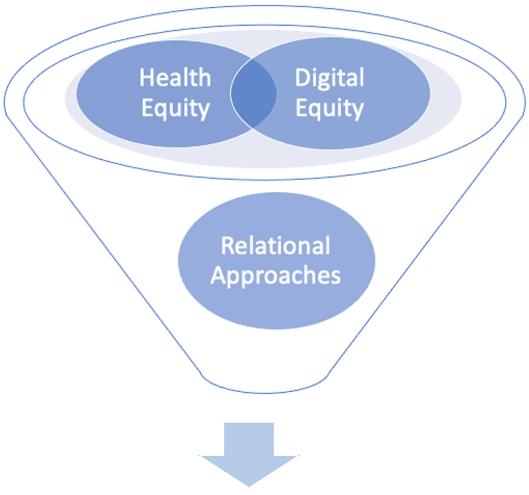
How can community voices on the use of information and communication technologies[2] (ICTs) for virtual service delivery advance systems change to address early child development and intervention (ECDI) inequities for rural and northern children with disabilities and medical complexity in BC?

To address the research question, an equity mindset in the research design and data analysis was employed.

An Equity Mindset

The ECDI system in BC has not historically been designed from an equity perspective. This research used an equity mindset in its design, the key elements of which are shown in Figure 1.

FIGURE 1. AN EQUITY MINDSET



2 ICTs in this study is inclusive of texting/messaging, phoning, videoconferencing, apps, social media etc.

Health equity means that children's optimal health outcomes and their families' access to the ECDI system are not disadvantaged by their ethnicity, culture, Indigeneity, language, geographic location, and so forth.

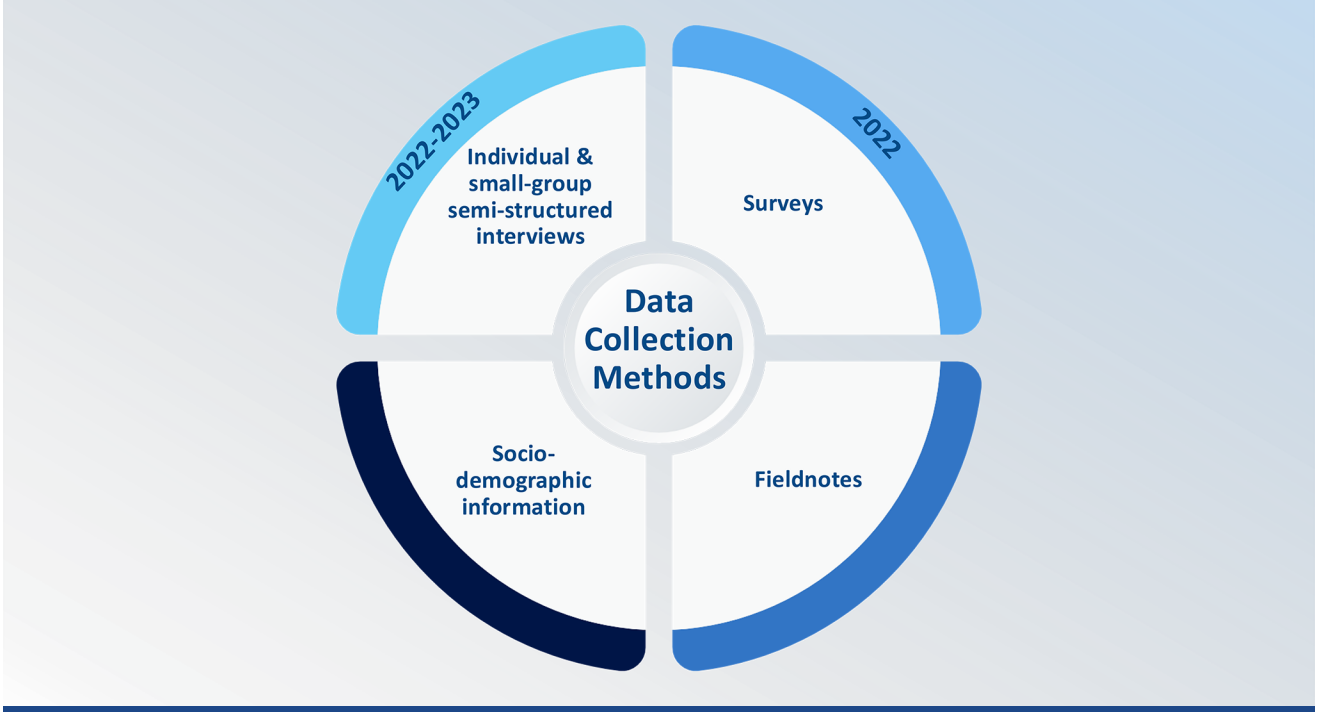
Digital equity has been defined in Canada as *"a state where people can readily and effectively access and use technology to participate in our society [and] is intricately bound to health equity"* (Alliance for Healthier Communities, 2020). While 91% of Canadian households have access to high-speed internet, only 59% of families in rural and remote areas and 42% of households on First Nations have the same access. As more services move 'online' there are serious concerns about inequitable access and urgent solutions are needed to address the urban-rural gap (Office of the Auditor General of Canada, 2023). If left unaddressed this 'digital divide' risks exacerbating current health and health care inequities (Gray et al., 2021).

Relational approaches are strengths- and place-based, flexible, and responsive at a community/Nation and family level and core to equity-oriented approaches to care including cultural safety, anti-racist, and trauma- and violence-informed program design and delivery (Gerlach & McFadden, 2022).

Data Collection & Analysis

Parents (n=87) and ECDI providers (n=109) surveys were conducted in mid-2022 and the results are available on the project website: https://onlineacademiccommunity.uvic.ca/tappingintotech/knowlege-outputs/#SurveysSummary

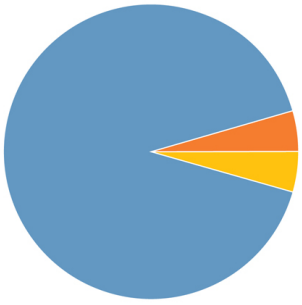
FIGURE 2. DATA COLLECTION METHODS



From October 2022 to June 2023, individual and small group interviews with parents (n=23) and ECDI providers (n=38) in northern and rural parts of BC were conducted by Alison Gerlach who was joined in some of the interviews by members of the Community Council, including co-researcher Dr Kim Bulkeley, youth researcher, Katie Gibbs, and Alyssa Crees with the Métis Nation BC Wellbeing Program. Except for one in-person group interview, a majority of interviews took place via videoconferencing. Alison kept fieldnotes throughout the research process and integrated these into the data. A sociodemographic profile of each participant was also collected and this data are summarized in the following Tables.

TABLE 1: SOCIO-DEMOGRAPHIC PROFILE OF PARENT PARTICIPANTS (N = 23)

Gender

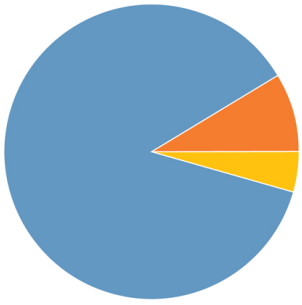


- **21** Female
- **1** Transgender
- **1** Male

Age

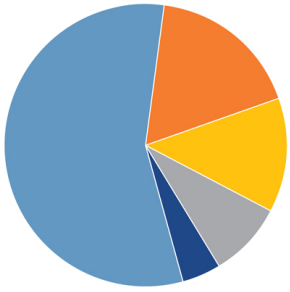
Range: 26 – 62 yrs
Mean: 43.8 yrs

Relationship with child / children



- **20** Mothers
- **2** Guardians
- **1** Dad

Health Region

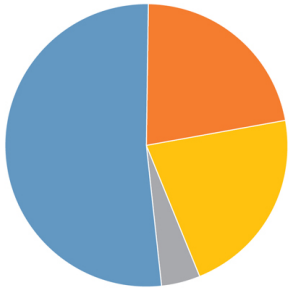


- **13** Northern
- **4** Vancouver Island
- **3** Interior
- **2** Vancouver Coastal
- **1** Fraser

Live in rural/remote or Northern community

20 Yes	3 No

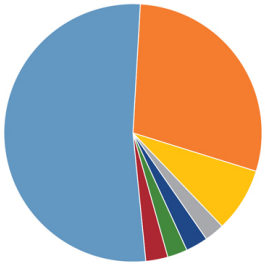
Cultural Heritage / ethnicity



- **12** White settler/Caucasian/ European ancestry
- **5** Métis
- **5** Indigenous/Aboriginal
- **1** Chinese Canadian

TABLE 2: SOCIO-DEMOGRAPHIC PROFILE OF ECDI PARTICIPANTS (N = 38)

Health Region

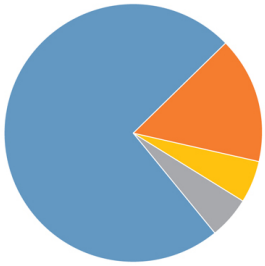


- **20** Northern
- **11** Province-wide
- **3** Interior
- **1** Fraser
- **1** Fraser & Northern
- **1** Van Coastal & Fraser
- **1** Yukon

Service Northern / Rural BC

38
Yes

Cultural Heritage / ethnicity



- **28** White / Caucasian
- **6** First Nations / Indigenous
- **2** Chinese Canadian
- **2** Indo-Canadian

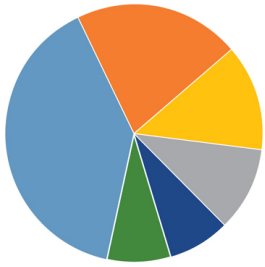
Gender

38
Female

Years of experience

Range: 1 – 37 yrs
Mean: 16.95 yrs

Type of program or service



- **15** Therapists (OT, SLP and PT) in community and tertiary child development programs
- **8** AIDP and ASCDP consultants
- **5** CDC EDs
- **4** Therapy assistants
- **3** IDP and SCDP consultants
- **3** Family support/respite worker

All audio-recorded interview data was transcribed verbatim, coded, and preliminary themes and subthemes were identified through a collaborative process that engaged with the following members of the Community Council:

- Jason Gordon, BCACDI
- Dr Kim Bulkeley, University of Sydney
- Cheryl Work, SLP-A, Northwest CDC
- Brenda Lenahan, parent researcher
- Symbia Barnaby, parent researcher
- Katie Gibbs, youth researcher
- Alyssa Crees, Métis Wellbeing Coordinator, Métis Nation BC

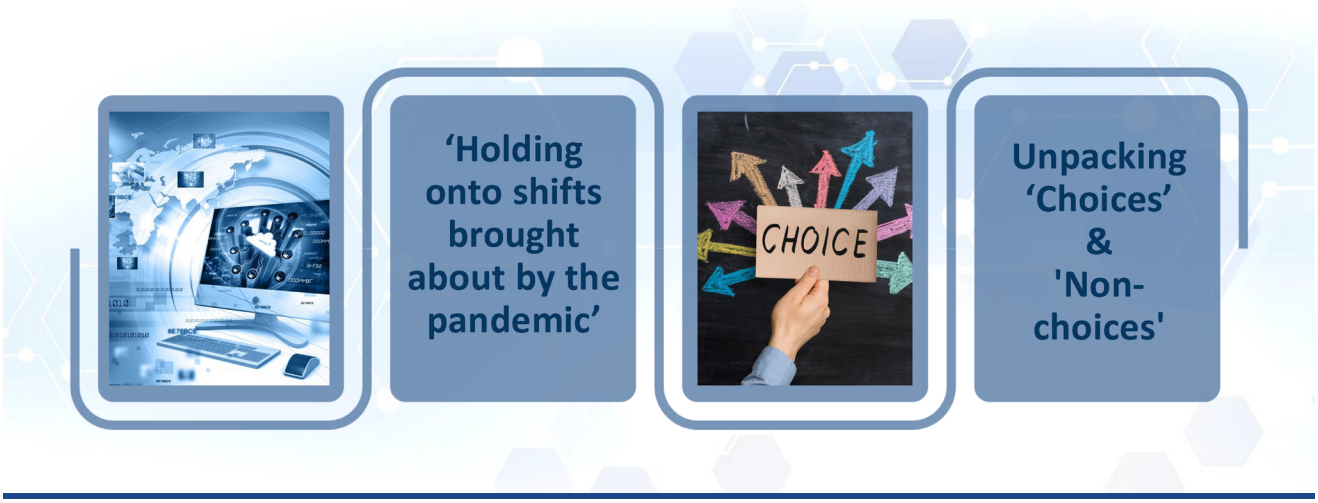
This collaborative process over the course of several months helped to further inform and refine a framing of the key themes and subthemes. Further input on refining the framing of the findings for this research summary was provided by Symbia Barnaby, Dr Kim Miller, and Dr Kim Bulkeley.

Findings

Access to Early Intervention for Northern & Rural Families

The data in this initial overarching theme provide insights into the 'shifts brought about by the pandemic' and how northern and rural families' access to ECDI supports and services were constrained by intersecting factors that were often beyond their immediate control. This data also provides a context for the findings that follow.

FIGURE 3. NORTHERN AND RURAL FAMILIES' ACCESS TO ECDI



'Holding onto Shifts Brought about by the Pandemic'

As noted at a June 2021 research community council meeting: *"COVID has shown that 'it's possible!' – we need to hold onto shifts brought about due to the pandemic"*. Prior to the pandemic – there was very limited capacity for community ECDI programs, agencies, or tertiary services to be delivered in a hybrid model[3] in BC. As in other jurisdictions across Canada, the ECDI system in BC made 'a dramatic shift to virtual services[4]' because of public health restrictions for in-person services. This pivot was viewed by some ECD participants as long overdue:

> **ECD 32-37:** *We've been asking for years and years to have better telehealth and we've tried various things and we've always been shut down… we can't do it, there's not enough privacy. But low and behold when COVID hit we got to use Zoom and it's been such a game changer for us because we've been able to see kids [virtually] in the community.*

3 In the context of this research, 'hybrid model' is used for brevity to refer to in-person in combination with technology-enhanced services using a range of ICTs.

4 Currently there is no consistent terminology for describing technology-enhanced modes of service delivery in the ECDI sector in BC (Hunter, et al 2023). 'Virtual' is used in this report to refer to technology-enhanced services using a range of ICTs.

Expanding on the results of the parent survey that was undertaken in phase one of this research (Gerlach et al., 2022), northern and rural parent participants appreciated how virtual options offset the significant emotional, financial, time expectations, and stressors they experienced when having to access in-person specialist services that often involved driving considerable distances. However, some parent and provider participants expressed caution about the long-term addition of virtual services:

> **Parent 6:** *COVID brought an actual like golden lining… Before COVID there was no [virtual] connectivity and so it kind of forced the world into offering alternatives which in a way turned out to be positive for me and my family…[A hybrid model] is the way of the future and so putting thoughtful planning into how to make that happen versus forcing it to happen… Let's test [this approach] in a way that is really child focused not, you know, Ministry focused or, you know, what they think will work but really starting with the child and then going from there.*

While the COVID-19 pandemic undoubtedly resulted in a seismic shift in virtual service options in the ECDI sector, an important consideration in 'holding onto shifts brought about by the pandemic' was the centreing of families and children and the significant amount of related data generated on parental choices and non-choices.

Unpacking 'Choices' & 'Non-choices[5]' in Access

The centring of 'choice' was an early and prevalent discussion point at community council meetings particularly from parent researchers calling for choices to be driven by parents and not 'top down'. Similarly, the majority of parents (72%) who took part in the 2022 survey wanted to have choices of in-person and virtual access options (Gerlach et al., 2022).

In the interview data, several parents described making strategic choices about when to connect in-person or virtually; choosing virtual options for 'check-ups' or progress updates with specialists to reduce the stress on their children and demands on their time. In contrast to parents who had embraced making strategic choices in access options, it was also evident during interviews, that their experiences of non-choices during the pandemic was still fresh in some participants' minds. As one parent noted that if they 'embrace technology' to access services, it becomes the 'patch that ends up being the permanent'. Some provider participants also expressed concerns that moving long-term to a 'hybrid model' would be dictated by policy or location rather than by families or providers' choice. In fact, most of the data highlighted the complex and nuanced nature of parents' choices and non-choices in how they accessed ECDI due to the intersections of poverty, digital inequities, geography, climate, and mistrust.

'Poverty is a Huge Barrier' to Access

Northern and rural parents' choices in accessing ECDI was limited by household income and geographical location. Parents and provider participants described how families had to make hard 'choices' about how they used their limited income:

> **ECD 15_16_18_19:** *Just the cost of gas is an issue with their transportation, [families] can't come to the centre because they can't afford a trip in every week to access service and that's like a block therapy with me… We've had instances where families have let us know that they have to make a choice between attending therapy or some other service for their family because of fuel or transportation costs.*

5 A 'non-choice' is an action or situation that is not a choice (ref: https://en.wiktionary.org/wiki/nonchoice)

Choice in a hybrid model was also limited by the unaffordability of technology or Wi-Fi which is often more expensive in rural areas of the province:

> [6]**Parent 8:** *If you get technology in everybody's home, cool, well what about Wi-Fi and pay for it because that's the other thing, like poverty is a huge barrier.*

Providers also raised concerns about the non-choices experienced by northern and rural families who 'don't have the means or the access to the technology' or transportation options to reach an in-person site:

> **ECD 32:** *I find the families that really have difficulty to access us in-person, you know they can't afford the gas or other ways. I also have difficulty seeing them via Zoom because they don't have access to the technology. So, it's difficult, I mean it definitely has opened up a lot of other possibilities but it's these same families that are difficult to access in both places.*

'We're Missing a Ton of Families' – A Digital Divide

Connected in part to the previous subtheme, northern and rural parents' non-choices in a hybrid model also resulted from reliable, high-speed internet being unaffordable and/or not available in their community[7]. Parents described 'very spotty internet' where they lived and having to drive to a certain part of town, or stay in a particular part of their home to get internet access:

> **Parent 3:** *I mean even around [city in Interior region] I can be driving five minutes up the hill towards the south end of town, and I lose service. We have dead zones everywhere and connection is really unreliable especially in the outlying areas… we're missing a ton of families.*

The data highlights, as one ECD participant noted, that 'there is a misconception that everybody is hooked up and connectable' – pointing to the digital divide that exists in many northern and rural parts of BC. As a result, some families have no choice but to travel to public spaces to access free public wi-fi despite privacy concerns. This data echoes the concerns raised by providers in our 2022 survey about *"families who lack access to technology and reliable internet"* (Gerlach et al., 2022, p. 25) and highlights the continuities between digital inequities and ECDI access inequities that currently exist in BC for northern and rural families who tend to have less access to affordable, highspeed internet (Office of the Auditor General of Canada, 2023).

'Tricky' Driving Conditions and Long Distances

Linked to the above data, parental choices in driving to access in-person was also bound by their geographical location and weather conditions. Participants described that for up to six months of the year, weather and road conditions in northern communities had a significant impact on the ease and frequency of access to in-person services resulting in appointments being cancelled. Participants in a focus group in northeastern BC commented:

> **ECD 15_16_18_19:** *Well October to April you need winter tires and if a family doesn't have winter tires they probably shouldn't be driving and that's just kind of when the snow and the ice come and that's kind of like it would be a daily choice to make, I guess, based on if it's like really snowy or if there's visibility issues… And that can be a challenge for our staff as well who have good vehicles and good tires… it's just not going to be safe.*

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6 Quotes from parents and providers who self-identified as First Nation or Indigenous are in **orange font**. Quotes generated by parents who self-identifed as Métis are in **red font**.

7 Since this research started Starlink has improved access to highspeed Wi-Fi for many northern and rural families. However the monthly cost of approx. $150 will mean that access remains unaffordable for many families.

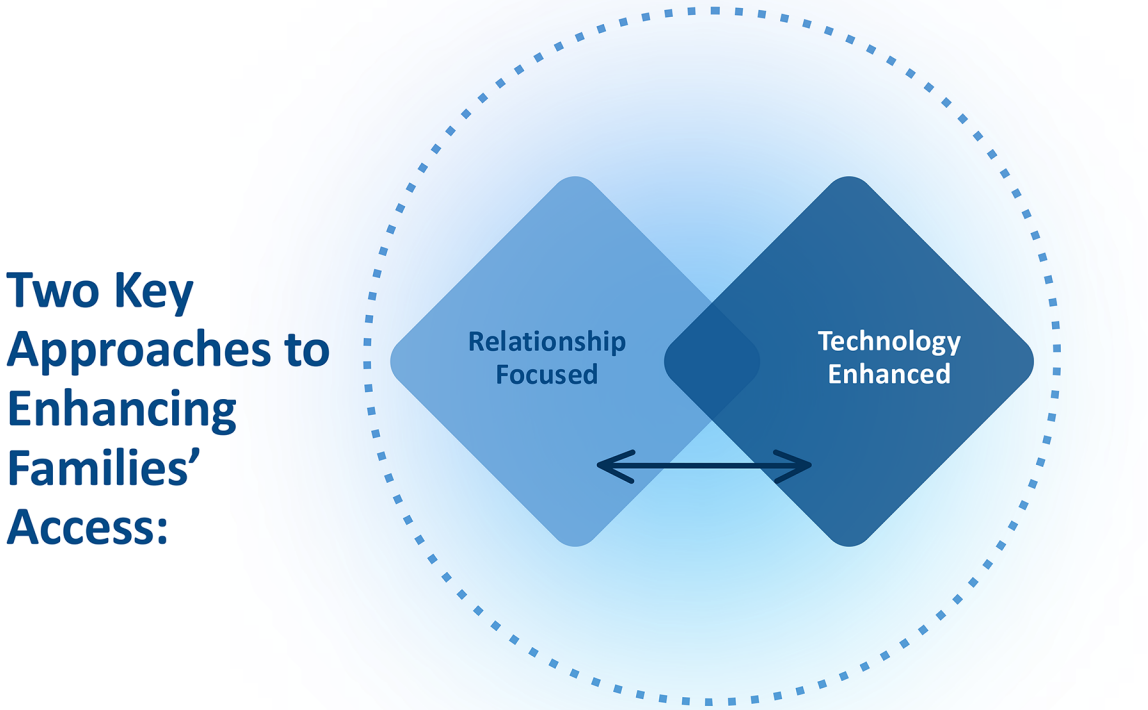
ECD 32-37[8]: *Up north it's the wheelchair vans are mini vans and they're not necessarily the most suitable for winter climates up there so they just don't have a great way of transporting their kids to come, or go anywhere really and so many of them are homebound or they have school bus pick them up and that's the only way they get out of their home on a day to day basis.*

As will be discussed later in the findings, in addition to the above factors, parental 'choice' was further influenced for Indigenous parents by the historical and ongoing violence of children being removed from their home communities and families.

Two Key Approaches to Enhancing Families' Access

Most of the data generated by this research demonstrated how improving northern and rural families' access to ECDI in a hybrid model was predicated on an intentional relationship focused and technology-enhanced approach.

FIGURE 4. TWO KEY APPROACHES TO ENHANCING FAMILIES' ACCESS

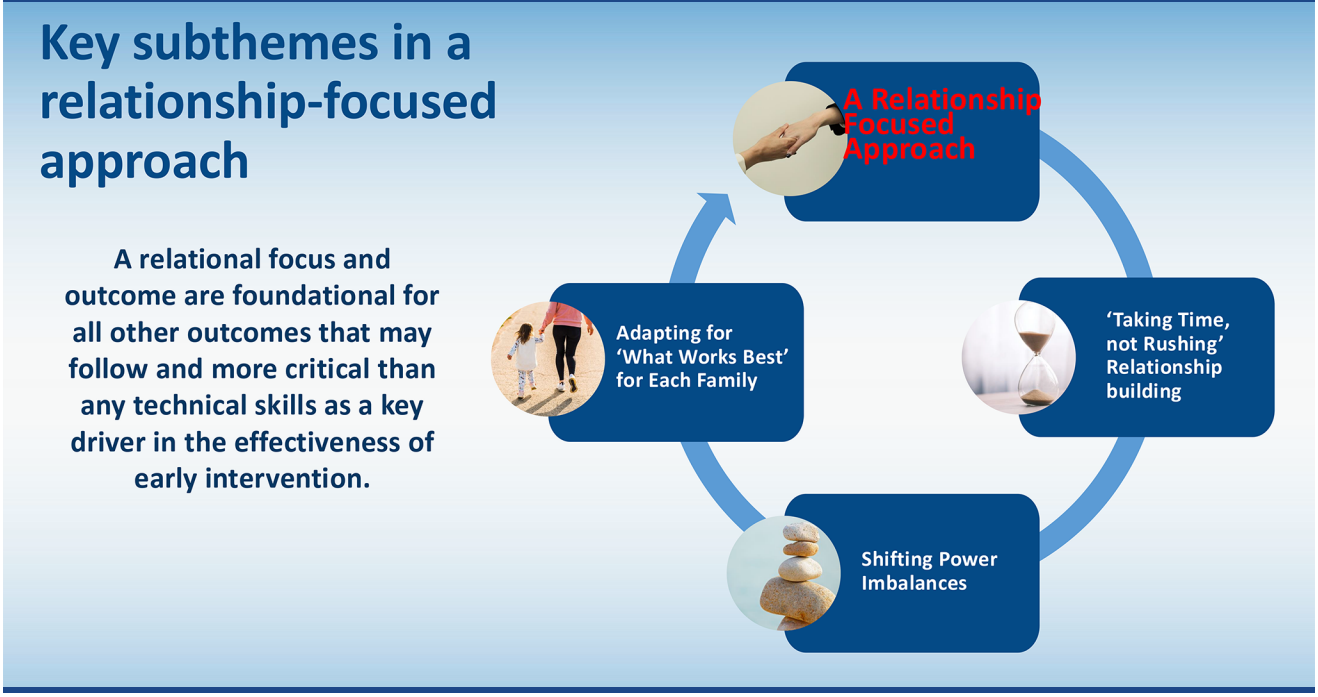


8 The participants in this focus group were interdisciplinary therapists with the Sunny Hill Outreach Team based at BC Children's Hospital in Vancouver, providing specialized outreach services on positioning and seating and assistive technologies with families from across BC.

A Relationship Focused Approach

This research and supported by existing evidence (Gagné-Trudel et al., 2024; Murdoch Children's Research Institute, 2022) emphasize that relationships are the primary focus AND a primary outcome (perhaps the most important outcome) of ECDI programs. A relationship focused approach is also fundamental to improving access for Indigenous communities and families (Gerlach et al., 2018; Maar et al., 2022) and structurally 'disadvantaged communities' (Buckley et al., 2022) . Figure 5 summarizes the subthemes identified in the data:

FIGURE 5. KEY SUBTHEMES IN A RELATIONSHIP FOCUSED APPROACH



'Taking Time, Not Rushing' Relationship Building

Perhaps not surprisingly, in a province where the same Ministry administers the ECDI and child protection systems, findings point to providers' ethical responsibility to have a deeper understanding of and response to Indigenous parents' logical mistrust and suspicion of community-based ECDI organizations and providers by prioritizing the rebuilding of trusting relationships so that Indigenous parents can feel safe deciding if, how, and where they choose to engage with services. As noted by the following First Nation parent:

> **Parent 8:** *And when we're talking about trust building and we're talking about Indigenous families [or] newcomers to Canada, there's sensitivity in building and forming that relationship. Like there's a lot of trust building that needs to happen and occur when we look through a trauma-informed lens and we look at a cultural safety lens… Taking time, not rushing, that's a huge thing… When you're a practitioner... when you give [families] that time, there's not a time pressure so also it gives them the space… it gives them the idea back that their time is valuable too. Like I appreciate that you're giving, you're sharing of time and your knowledge with me about your child. I'm thankful that you've cut out some time to be here too, right. Like it needs to be reciprocal.*

In contrast, the lack of relationality regardless of the mode of service delivery, was shared by another First Nation parent who described how her experience of being rushed in an online appointment with a specialist left her feeling lost and uncomfortable:

> **Parent 18:** *It was very like that, it was boom, boom, she was like let me see the child, put her in front of the camera. You know, oh get her to sit still and then she fired off a hundred questions. And then she's like, okay, well, I'll contact you back… And I felt so lost, and I didn't feel connected with the person and a lot of the questions like that she asked were very like personal, you know, and they made me feel uncomfortable.*

Being patient in fostering trusting relationships can be a long and delicate process; taking time to create a sense of comfort and connection for parents and conveying that their time and knowledge about their children are valued. Spending *"a lot of time on relationship building and being present in the community"* (ECD 12-17) was also mentioned:

> **ECDI 15_16_18_19:** *In the [name of northern community] the team's really great in terms of reworking that service model, being more available, being seen in community, being people who are available for a chat in the grocery store. They've set up toddler fairs... So, I think we're learning what works in the various communities and taking a community development lens and there's so many strong and amazing people on all of the Indigenous communities we work with, so as much as possible for partnering and honoring those families' choices.*

This data emphasizes that in an ECDI system that can be hard to reach and/or inadvertently harmful to reach, improving access with underserved communities requires that the structure and delivery of ECDI validates and supports the intentional building of trusting therapeutic relationships with a parent, child, family and community as an essential outcome in and of itself. This relational focus and outcome are foundational for all other outcomes that may follow and more critical than any technical skills as a key driver in the effectiveness of early intervention.

'Having a Connection before Relying on Technology'

In building on 'taking time, not rushing' relationship building, parents and providers also emphasized the importance of having an in-person 'connection before relying on using technology'. In building on the above data on providers' prioritizing rebuilding trust with Indigenous families, having initial in-person meetings before 'meeting over Zoom' was further emphasized by several First Nations parents:

> **Parent 8:** *That initial meeting when you're trying to connect with a family should never ever be online… [There are] nuances that just need to be handled in-person… There are a lot of people that have that need to be in somebody's presence to understand does this person have my best interest at heart? How are they gonna handle this? Are they gonna be dismissive?*

> **Parent 18:** *Not having necessarily, the first meeting over Zoom… maybe like establishing like a connection and feeling comfortable with each other. Like maybe meeting in-person if possible before initiating the Zooms.*

An Indigenous provider agreed:

> **ECD 27-31:** *I think too it comes down to relationships too, it's hard to develop those relationships virtually as opposed to in-person and for us, how we are a family centred practice and support the whole family it is hard to achieve the same level of trust and, you know, that feeling of comfort on a screen.*

There was also a lot of similar data from ECDI participants who perceived that having an in-person relationship with parents made connecting with them virtually easier and provided a more comfortable relational space to figure out together what worked best for each child. These findings are consistent with the survey results which identified parents and providers' concerns about building relationships virtually (Gerlach et al., 2022). However, there was interview data in which participants offered advice on developing a sense of familiarity with parents if an initial in-person meeting was for whatever reason not feasible. A First Nation parent offered the following advice:

> **Parent 18:** *Definitely like sending… a picture on your email because if you're only talking by email and then you meet someone… it would be easier if I saw who you are and then when we met on Zoom, there's already a bit of a connection because I feel like I know you a little bit, right? And the same with kids, like I do this anyway for my niece so when she has to meet somebody new in her life I try to get like pictures like we look at Facebook or like if they are working they usually have professional pictures… and then when she met [name] she's like, oh hi [name] she felt a connection with her because she felt like she knew her… Meeting people online it's harder to connect, so like sending them your bio before. Like here's my bio, here's some pictures of me at work, you know… if that's the world we're gonna live in with Zoom and stuff, we need to do that in order to connect, you know. And we have to do that work, I think.*

Local ECDI providers (including therapy assistants, A/IDP or A/SCDP consultants) who have developed trusting in-person relationships with families may also more readily help to increase families access to specialist services that may only be available virtually. Also, 'not rushing in' and spending time getting to know each other is a key strategy for addressing mistrust and power imbalances between ECDI providers and parents regardless of the mode of service delivery. This shift in power in parent-provider relationships is further explored in the next theme.

Shifting Power Imbalances

The data in this theme highlight the need for an intentional shift in power from providers (specifically early intervention therapists) to parents to build therapeutic relationships with families, regardless of whether services are in- person or virtual. From an equity perspective, redressing unspoken provider-parent power imbalances are key to ECDI organizations and providers seeking to have increased engagement with underserved communities and families. This is exemplified by a First Nations parent:

> **Parent 8:** *It doesn't feel comfortable when you feel the tension of that power imbalance, you're very aware of it and it's almost counterproductive for that relationship… Talking at somebody is different than sharing with and acknowledging that wisdom comes in many different forms. And treating the person when they're coming with this information about their child – they are an expert on their child, right. Like sometimes what I've experienced is, even though that there's no intention from that person to treat me in this way or the way that I've experienced… there's a difference between impact and intention… The impacts are paternalization and patronization; you're like a parent and I'm like a kid. That's the power imbalance that starts to happen.*

Parents reinforced that in their relationships and interactions with ECDI providers, the want to be recognized as the experts on their children and 'the number one educators of their children' (parent 6). As a Métis parent stated:

> **Parent 21:** *The expert that's coming in to teach the parents – that never goes well, never. They're never right, it doesn't go well.*

Parent 5: *I've been on multiple conversations with them [therapists] and they've basically said, 'this is how it's going to be done and this is it' and you're just like, 'okay, I guess this is what we're doing but it's not going to work,' right? How is it different from how its working right now?*

In analyzing this data, an interesting, positive, and somewhat unexpected finding was how connecting virtually provoked a shift in power, roles, and expectations that implicitly reinforced 'parents as partners in therapy' and therapists as facilitators and coaches rather than 'hands on' experts. This data is explored in the following subtheme.

Pause & Ponder

- How is your power and social location influencing your relationships with structurally disadvantaged communities and families and Indigenous communities and families?
- How are you currently creating opportunities in your relationships with communities, Nations, and families for them to make decisions and authentic choices about program/service options?
- As an organization and/or provider – how can you problem-solve with families' who experience non-choices in service access?
- How can you build a responsive service delivery package that takes account of families' differential access at all times of the year?
- How does your service explore options with communities and parents to establish and maintain contact using personal or community spaces with technology and adequate internet?

'In that Technology Dynamic, Parents Really are a Partner'

Early intervention therapists shared their perspective that being hands off, being intentional about scaffolding parents' learning, and taking on the role of coach when connecting virtually fostered parents' confidence and self-efficacy about their parenting. However, this shift in roles was not always easy:

ECD 1-11: *In that technology dynamic [parents] really are a partner there – the hands in the moment, right?.. So, I like the idea of a hybrid model for that reason but it was really neat because it really did shift to the parent being the doer and to you being the coacher. But it was at first, there were bumbles toward shifting those roles.*

ECD 12_13_14_17: *When they come in-person, I'm usually the one handling the baby and then I always ask the parents like, 'okay, give this a try' and lots of times the parents will be like, 'oh no, it's okay I'll try it at home'. They feel kind of self-conscious or concerned about I don't know there's lots of different reasons. But that wasn't an option over Zoom, they were the ones that had to handle their baby . . . And I think that was actually a super positive thing because a lot of parents gained some confidence in their handling skills.*

An expert-driven approach maintains provider-parent power hierarchies. Consistent with emerging international evidence (Akhbari Ziegler & Hadders-Algra, 2020; Gagnon et al., 2024) , findings in the theme of 'shifting power imbalances' point to providers making an intentional shift towards a coaching approach that involves conveying to parents that they are recognized as being the experts on their children, focusing on what is important for the parent/family at any one time, and collaborating on identifying possible solutions and strategies that can be realistically integrated into families' daily routines. As two participants pointed out:

> **ECD 1-11:** *I also think understanding that your parents are a partner in therapy as opposed to 'I take my kid to you and you fix them'.*

> **Parent 9:** *The fact is for gains to be had it really does need to be happening at home or at school if the kid's going to school… And then you start to realize that, wow, I really can integrate this into play into what we're doing at home.*

The following reflection further highlights how virtual therapy can subtly shift away from therapist as expert and enhance parents' confidence and skills but also requires that therapists attend to their coaching skills:

> **ECD 38:** *I feel like if you're in-person the parent is more reliant on you to be doing those exercises at that moment. And that was a switch in terms of this success with these clients because they were online. I obviously could not touch them and so my wording really counted, my at-home program really counted, my observations I made. Like everything had to be much more detailed and certain that those parents understood and were able to show me physically that they were able to do that stretch with their child. And I feel like with that population in particular the parents left the sessions mostly feeling confident that they did it, that they were told they were doing it well, that they had the pictures to follow up with at home and therefore had more success or maybe not more success but equal success as if they were in-person because the different level of responsibility on them… I've definitely done things differently… I took hours with the home programs [because]… I wanted to make sure they really understood what I was saying in pictures, in words, something that worked for them… I'm really enjoying it… and I think it's really beneficial.*

Importantly and aligned with a coaching approach, this participant went onto share how the pace of a virtual physiotherapy session was determined by the parent and/or child rather than herself.

Implementing a coaching approach can be challenging in the ECDI sector as it can disrupt an expert professional identity and requires being, thinking, and doing early intervention differently. Also, shifting from expert to listener, facilitator, and coach requires a radical shift in expectations for both providers and parents; ensuring that these are explicitly discussed and explored to avoid a virtual approach in which parents feel that 'the onus is on the family to do all the work' or leaves parents feeling defeated and frustrated:

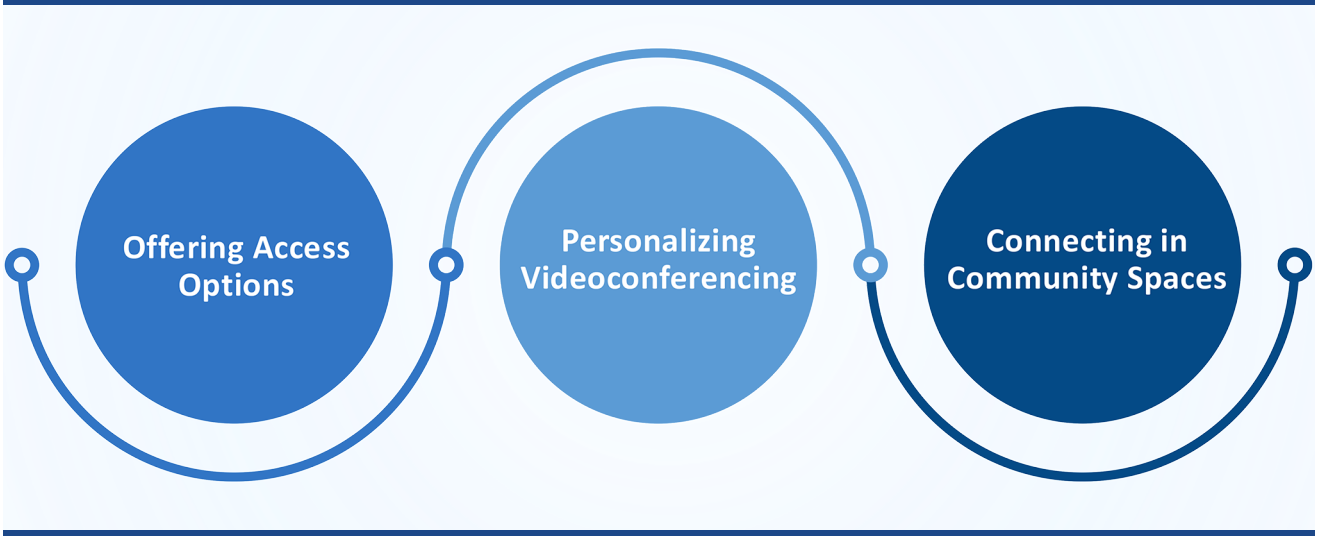
> **ECD 20-26:** *So, what it ended up being was a lot of questions and questions to mom: does she do this? or not do this? and here's some ideas. So, I feel like the therapy part wasn't really happening. It was more like here are some more tidbits for you as a parent to do on top of everything else you're already doing. So, the onus is still on the family to do all the work… Sometimes I feel like when it is virtual the onus is still on whoever is on the other end to have to do all the work because the therapist can't be in the room to kind of navigate it and help and do the one to one directly with the child.*

A coaching approach also requires that providers tailor or adapt in response to what will work best for each community, family, parent and child and this is explored in the following theme.

Adapting for 'What Works Best' for Each Family

Results from the 2022 survey, raised questions *"about how providers and parents develop shared expectations about what will work in a virtual format for their particular circumstances and aspect of a service"* (Gerlach et al., 2022, p. 4). In building on the data on 'unpacking choices and non-choices' and consistent with an intentional relationship focused approach, there was also a lot of data about not 'putting families in the same box' and tailoring services in response to 'understanding the family' and what 'works best' for each family; recognizing that this will 'change over time'. As one parent said, 'the solution needs to match the family' (parent 6).

FIGURE 6. ADAPTING FOR 'WHAT WORKS BEST FOR EACH FAMILY'



Providing greater flexibility in how services are accessed was also important in providers' contextually adapting their engagement in relation to different family compositions, dynamics, and circumstances:

> **ECD 1-11:** *[We] work with some grandparents . . .And they are like, 'no!, not doing it, no!… You want me to do what? I don't think that will work for us… You do it and I'll show up.'… Even filling out online questionnaires for different assessments and stuff . . 'Hey, I guess I'm coming and we're gonna do this together… no problem.'*

In offering in-person and virtual options, parents and providers highlighted the need to carefully tailor their approach so that it could be experienced by each parent and child as a good fit with their personal learning capacity and preference:

> **ECD12_13_14_17:** *So I usually say to parents like how do you best take in information, like is it me telling you things, is it me giving you handouts, do you want Podcasts, do you want textbooks like can I give you Facebook pages to look at like what, how do you learn and let them, yeah, that's kind of been a big change I think since the pandemic has been that question.*

Adapting for what works best may include trying out various options. One provider described trying out different modes of delivery for a parenting workshop – shifting from in-person, to synchronous online, and then to recording a workshop that could be accessed asynchronously by parents at a time that worked best for them.

Connected to the previous data on 'tricky driving conditions and long distances' – there was also evidence of the need for service providers to plan for scheduling in-person and virtual services according to the time of year and the importance of northern and rural agencies prioritizing geographically distant communities and families during the good weather so that by meeting in-person – relationships have a chance of being formed as a basis for then connecting virtually in the winter months. As one parent stated:

> **Parent 3:** *I know for myself personally with my boys growing up we scheduled things for September, October before the snow came and we don't do anything until April when, you know, the snow has pretty much left. So having access to virtual meetings and appointments – it was a godsend. It still really is honestly to not have to travel in the winter.*

Offering Access Options

In building on the data on 'unpacking choices and non-choices', parent researchers on this study repeatedly stressed the importance of providing parents with access options and avoiding anything that looked like a one-size-fits all approach to virtual service delivery. Importantly, the following parent highlights how exploring access options and preferences needs to be broached carefully:

> **Parent 8:** *So, if I was going to look at the best way to approach that I would say what is your preference [for] connecting with you. If you ask people if they have a cell phone and they say, no, they might feel obligated to explain why they don't and it could be pointing to somebody's, you know, poverty… and that can be very invasive and that could be really hard. So, if you're using the language that says – 'What is your preference for us to connect with you?' 'Can you list your preference?' or if you gave a list if it was in a survey or if it was in a form, then they could circle what they would like.. Then they're not being put on the spot. What way works best for you and your family? Then they get to name what it is… So there's got to be a language which would work… one of the things I was saying initially is there a way to approach it to offer it but then not to have to explain and also say we understand that your needs will change each time, so I will either ask you every time or you can just tell me this always works, you know?*

Having the flexibility to offer and respond to parents' choices was also voiced by providers:

> **ECDI 15_16_18_19:** *I certainly feel this quite strongly – families need choice. It's when they feel like they have no choice that anxiety raises and they start to feel like services are imposed on them or [provided] only in a certain way. So as much as we can give choice, because I think there are sometimes when appointments at this point might get cancelled because of weather or transportation that we could actually still say, well, we could still do a Zoom visit with you and that appointment could still happen. So, I feel giving families that choice I think it's important.*

A primary concern in offering access options is to provide timely access in a way that works for each family. Suggestions from providers for increasing families' access options, included organizations having a mobile 'internet hub' that could travel to First Nations and communities, inviting families to come to the child development centre to use their computers to do training online, or to access online portals or forms etc., having gift cards on hand for families that don't have enough minutes on their cell phones and need to connect for a specific purpose, and having iPads or tablets to loan out to families with data. There was also considerable data in a subsequent subtheme of 'connecting in a community space'.

Personalizing Videoconferencing

Our survey data indicated that videoconferencing was increasingly being used in the ECDI sector to access and provide services and supports (Gerlach et al., 2022). In the interview data, there was evidence of personalizing the use of videoconferencing platforms, such as Zoom[9] *with* parents in recognition of their variable comfort level and knowledge of videoconferencing, and their home situation, and children's abilities:

> **Parent 8:** *[When] parents are the ones that have to come up and organize all this stuff [it] can be very overwhelming. You know, there are parents who have neurodevelopmental issues themselves, or have learning delays, or have language barriers, or have literacy barriers. So, you know, relying on families to be the only ones to try to set some of these things up is a barrier.*

Data highlight the importance of ECDI organizations having the staff and resources to support parents in becoming familiar and comfortable with videoconferencing. This process needs to include shared and ongoing decision-making and collaboration with 'parents as partners' so that if videoconferencing is used – it is a comfortable and positive experience for parents and children:

> **ECD 4_7_8_9:** *I think that there's some fear and discomfort around using platforms like these [Zoom] for people that are not familiar with technology in our daily lives… So there needs to be someone that can… do that leg work.*

> **Parent 6:** *Make sure that you're set up with the equipment and then every appointment having dedicated times at the beginning to make sure, you know, 'how's your child doing today? Are they having a rough day?' Instead of them having to guess and do we have to alter our plans for today to adjust to, you know, maybe what's the day felt for the child? And then at the end… the last ten minutes is for you and the therapist to connect and determining kind of what the next steps are.*

In the following, a provider shared how they support families in online meetings using videoconferencing:

> **ECD 15_16_18_19:** *I do try to prep the families for the experience as much as you can sort of prepare them for the fact of how it's gonna go, what it's gonna look like, it's gonna be presenting information when they might be able to ask questions that type of thing. I always take notes for the family, I try to let them just attend the meeting in the moment while I take notes for them that I provide after. And that, I might clarify if there are acronyms of things being used, clinical language that I feel the family might not want to ask about but I can certainly clarify… I might even say or do you want to come in like you don't have to be at home on Zoom alone you can come in and be here with me and then we can have a debrief after as well, so providing that context after.*

Data also pointed to therapy assistants who know the family playing a key role in helping to set up the space, and to position and move the camera so that the session is effective and positive for the family.

As indicated by the above data, there are multiple factors that providers need to consider in-personalising the effective set-up and use of videoconferencing with a parent and/or child and organizations and programs need to have the capacity and resources to provide these supports which are integral to and accounted for in a hybrid model.

9 Zoom was the predominant videoconferencing platform referenced in the data.

Connecting in Community Spaces

Tied in with the theme of 'adapting for what works best' and the subtheme of 'exploring access options' was data on families and providers connecting in a neutral and private community space where families may feel more comfortable having in-person outreach visits with therapy professionals, particularly 'when families don't want us in their homes' (ECD 15-19). The data highlight the potential for community spaces to connect families with providers virtually when the spaces have reliable, high-speed internet, the technology, and affords families' privacy. First Nations and Métis parents talked about wanting an *intentional* community space that was 'kid-friendly', low-barrier, and private that families could easily book to access stable Wi-Fi, and the necessary technology, and resources. Community spaces that were identified as possible locations included Friendship Centres, public libraries, health centres, schools, health units, and health authority buildings that have free access to high-speed internet.

There was also data on how having a local person with the family could further facilitate low barrier access to technology in a community space. This person would have a pre-existing relationship with the family and be able to provide tech know-how and support as needed:

> **Parent 19:** *You could have a place within the community that would have the technology and… have somebody there that knows technology; that the sound is good… you could have some of the pieces in the room that the therapist would actually want to see how he's reacting with and say, hey, so we'll do this or, you know, that it would already be set up as a community space. So, when you have your appointment with that therapist you would go into that space and there would be somebody there like it wouldn't be again the parent having to set it all up, they would go in, the parent would be there and could be communicating with the person visually like through the technology… It would be nice to have a space to go to. It wouldn't work for everybody, but I think that it would be really helpful [and] it could be a choice, right – it could be in home or it could be going to that space.*

The data in 'connecting in community spaces' is important to consider and expand in the future as one way of mitigating the digital divide and inequities that exist in many northern and rural parts of BC.

Overall, the findings in this over-arching theme of an intentional relationship focused approach are well aligned with a coaching approach to early intervention. Relationships are also at the heart of principle-based approaches aimed at addressing inequities including cultural safety and trauma- and violence-informed care. It is important to recognize, however, that the pressures from high caseloads and waitlists and relationship building activities not being recognized as a critical form of direct serve can threaten the capacity of organizations and providers to prioritize a relationship focused approach.

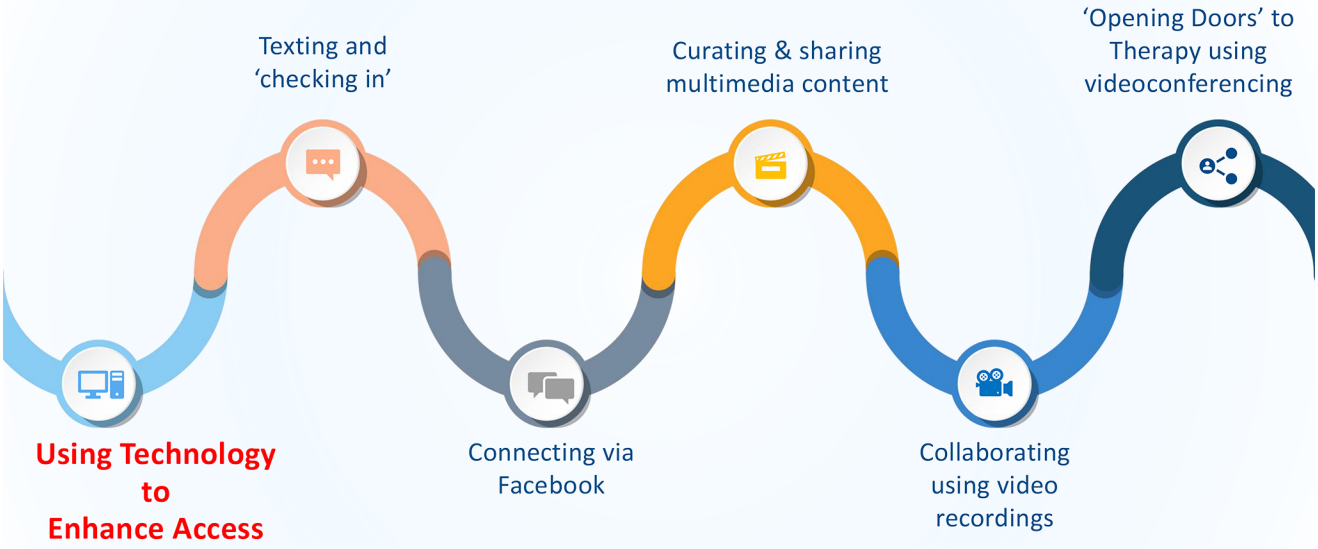
Pause & Ponder

- What are you currently doing, and what could you do further to reduce power imbalances in your routine ways of being and doing with families?
- What is your organization currently doing, and what could you do further to address the barriers and gaps experienced by underserved communities in accessing your services?
- How do you have conversations with parents about and negotiate their expectations of your program/service?
- How flexible are you in how you engage with and provide supports with families?
- Are there opportunities for you to tailor your supports in response to families' self-identified strengths, preferences, priorities, circumstances, and community context?
- How do you know if your program/service is relationship focused?
- Is it feasible for families to access specialists and therapy sessions that require high-level camera quality to be scheduled in local hospitals or health centres that have high-quality telehealth facilities already in place? Can these spaces be mobilized?

A Technology-enhanced Approach

The theme of being intentionally relationship focused continues into this next major theme of a technology-enhanced approach and expands on earlier survey results with parents and ECDI providers (Gerlach et al., 2022). As previously discussed, exploring, and adapting access options to early intervention resources and services with communities and families, needs to respond to their variable access to Wi-Fi and technology. In other words, technology needs to be implemented in ways that reduce and not compound parental stress in navigating the early intervention system. In this theme, there are five subthemes centred on how different forms of technology are used within a relationship focused approach.

FIGURE 7. INTEGRATING TECHNOLOGY TO ENHANCE ACCESS



Texting and 'Checking in'

In our 2022 survey, 56% of parent and 42% of ECDI participants reported using texting to access ECDI services in the previous year (Gerlach & Gordon, 2022). Supportive of a relationship focused approach, there was a large amount of data on using texting/messaging for fostering continuity in relationships. A recurring theme was providers' emphasis on texting as sometimes the *only* way of staying connected with families who did not have talk minutes and/or WiFi access. Texting was used to send reminders about upcoming appointments, and/or sharing resources when parents' only option/preference for staying in touch was texting often using WhatsApp or Facebook Messenger[10]. Texting allowed for synchronous or asynchronous interactions:

> **Parents 10-15:** *I think text messages although they don't have that intimacy, I think they can convey that strong connection piece and keep that connection alive, right… You get a lot of things that are happening at once and then you go a long time where you're alone… So if you can have those access points along the way in some way, that really makes a difference.*

10 Both of these Apps require a low band width.

> **ECD 20-26:** *Those quick check ins with parents that we can do… you know they're okay, if they need anything…Texting I think is a really great way for making that quick connection. It keeps you in touch with families but also for those families that need reminders or have a quick question it's a really fast way to interact… [and] they can send or receive whenever it's convenient for them, so I think texting has been really helpful.*

Providers also talked about how the quick check-ins with parents afforded by texting was an efficient way of managing their caseloads and scheduling:

> **ECD12_13_14_17:** *[For] some of my clients that are a little bit lower priority that I'm just kind of monitoring that I'm not overly concerned about I just kind of text every couple of months and see how things are going and where we're at, you know, if an appointment is necessary or not or a phone call… When I'm trying to contact a family I always call and leave a voice mail and then immediately send a text and I'd say 99% percent of the time the text is what gets responded to.*

A few large organizations such as BC Children's Hospital have the resources for an automated appointment system that sends text reminders. However, we also heard that individual providers were spending time texting to confirm appointments or when texting was not an option (for providers), time was being wasted driving to homes/communities only to find out the visit was cancelled.

The data on texting emphasizes that this is a low-barrier form of families staying connected and in reach with service providers and may be considered as an important option in mitigating digital inequities and enhancing access to early intervention. Moreover, texting as it fosters continuity in relationships may be viewed as a priority with families and communities who can find the ECDI system hard to reach.

Connecting via Facebook

The data on Facebook was largely driven by parents. Parents connecting with parents on Facebook was repeatedly mentioned as a source of mutual emotional support and reassurance that 'you're not alone' (parents 10-15). Parents also used Facebook for easy access to parent-driven information.

Parents supporting parents – 'You're not alone'

Parents shared how they used Facebook to connect and gain emotional support and reassurance:

> **Parent 7:** *I'm part of many [Facebook] groups that have to do with special needs all over B.C., one in my local town… the next town and the one that's a majority of all over B.C. or the one that's also northern just northern B.C. as well… We can share our successes and then we have parents giving other parents hope. When I see people's success, I'm like 'oh, that gives me hope,' we could share out ideas what works, what doesn't work, what we could miss, what we don't miss.*

> **Parent 6:** *I'm thankful, you know, for those support groups and the knowledge sharing that comes, you know, for families that really don't have any extra time… There's a whole social emotional element being a family with complex needs; that those needs never get met… I go to social media to support others or when I'm searching out, you know, doing something new in our kind of routine.*

This data reinforces how low-barrier social media platforms like Facebook can create a sense of belonging in a virtual parent community, helping parents to feel less isolated and able to give/receive emotional support by making connections online with other parents and families with similar experiences.

Sharing and accessing information – 'It's quick and easy'

Parents also shared how they 'gravitated' to Facebook as an 'instant help board' to 'access information quickly':

> **Parent 4:** *So if it wasn't for the [Facebook] support groups like B.C. Complex Kids or other cerebral palsy groups, I probably would not be on Facebook. I've thought about that many times like I just want to get rid of it but there's so many times I gravitate towards the pages in situations… If people are looking for food or… like special things we get from the At Home program; if we have run out and can't get the supplies and it's kind of like an instant help board.*

In recognizing the prevalent use of Facebook by families and communities, some organizations are using Facebook to enhance awareness and knowledge of their programs and services in a welcoming way:

> **ECD 15_16_18_19:** *We did a video which was the virtual tour of the centre too. It goes through the centre and invites the child to see what it's like and the family to see what it's like prior to coming in… So you can see that on our Facebook page. We've [also] got a few videos of staff doing activities… to take some worry or anxiety away if people were worried about coming into a space; what it would actually look like and what you're gonna get.*

Some providers are wanting to explore the potential of Facebook to help build relationships with communities and families and share information about their services:

> **ECD 12_13_14_17:** *Many of the smaller communities have multiple Facebook community pages where they'll post about current events or just things happening or ideas. So, I think that that's something that I want to explore more with our team. I haven't quite kind of dived too deep into how we might be able to share information on those platforms but Facebook in these small communities.*

Creating and maintaining a Facebook page takes time and expertise. In the following, an Executive Director of an child development organization describes how they have been able to hire someone to manage their social media and communication:

> **ECD27-31:** *We were able to just hire somebody to do that communication piece for us and… it's completely changed our approaches to Facebook and social media. They're not a therapist and just have that insight into like what is good communication [laughing] and what do these Facebook posts look like and how frequent should they be and knowing who to go to for things and knowing how to communicate with government and to put out news releases and just all those pieces. It's been amazing… and that person is only on a term position we don't know if we have the funding to keep them but we've definitely seen the value.*

The data on 'connecting via Facebook' highlight its potential for fostering a sense of connectedness and knowledge exchange for/between parent groups who are raising children with disabilities and medical complexity. The data also provides insights into how organizations are using this social media platform in relational ways so that communities and parents can have welcoming, user-friendly, and asynchronous access to information about an organization, program, or service. However, how to resource the creation and maintenance of social media is a key consideration for organizations.

Curating and Sharing Multimedia Content

There was also data generated from multiple provider participants who were spending time developing their own multimedia educational content or researching for and using public-facing multimedia to post on their organizations' websites, YouTube channels, or share directly with individual families. The 'leg work' of researching for the 'right resource' or creating and sharing informational videos, websites, social media etc. for families so that they did not have to go online looking for information and determining what was the correct or right information they need, requires an initial investment of providers' time which was not always feasible and was often 'put aside when things are pressing':

> **ECD 4_7_8_9:** *When we have such high caseloads, it would be nice to think that we would be able to do that kind of prep work with our families, but what does it really look like, what's more valuable? Spending time doing that or spending time with intervention or assessment or whatever? I get it and I know it's important and this might save time in the long run but in terms of these really high need kiddos and us being short staffed what does that really look like.*

> **ECD 15_16_18_19:** *We have talked about getting a little more organized with our videos and having a bit of a store house… but why reinvent the wheel if there's already some videos out there that we could find that are best practice to be able to provide to families?*

Several providers mentioned the need for a provincial repository for parents and providers that was easily searchable for accurate, user-friendly information. Since these interviews took place, a searchable 'Child Development and Rehabilitation InfoSource Website' has been launched that aims to provide 'evidence-informed development and rehabilitation resources for children and youth with neurodiversity and/or disability in BC'. This site is for parents and providers and may ease the burden of having to do their own searches. However, rather than providers directing parents to this site, the sharing of resources (from this website and other sources) with parents may contribute towards staying connected and building a relationship.

Collaborating using Video Recordings

Taking into consideration the data on 'in that technology dynamic, parents really are a partner' – parents described how using their cell phones to take and share video recordings of their children during their typical day were a helpful way of collaborative problem-solving with therapy professionals:

> **Parent 7:** *I would send [videos from my phone] into the speech therapist… All the videos that I had of him helped out a lot too because she was able to [see] any happy moments, middle moments, horrible moments. She was able to watch all those and observe [son] from her end.*

Parents also 'loved the idea' of having a video recording of specific therapy techniques as a teaching strategy and 'reminder' of what to do at home:

> **Parent 3:** *I love the idea of having that [Zoom recording] play back for like say a physio or speech session or something like that, that trigger and reminder of what we're supposed [to do].*

> **Parent 6:** *Where I do think recording especially with PT would be really helpful is… those home stretches, right? So often I felt like I was the therapist and I'm not qualified to be doing, you know, this assessment or whether or not I'm doing this right? So, I do think incorporating more like videos on like, hey, these are the things that are going to be part of the debrief so… the four home stretches that I want you to be doing; the details really show you how to do it like you can pause, reflect, go back, try it again, maybe then I would submit a video of me doing it with my son for them to review and reflect.*

The use of video recordings described by these parents appears well aligned with a 'relationship focused approach' in fostering parents as partners and exploring options for 'what works best' for each family, child, learning style, and so forth.

'Opening Doors' to Therapy using Videoconferencing

One of the key 'shifts brought about by the pandemic' was the rapid use of videoconferencing platforms to increase access to virtual therapy services that were not available locally and to improve continuity in services when provided with in-person options. Parents living in northern and rural communities where they 'can't access some of the stuff that there is down on the coast' (parent 22) shared how videoconferencing platforms, such as Zoom and Teams, had 'opened doors to appointments' to specialist services in urban centres in the south of the province:

> **Parent 20:** *I'm kind of limited on our access to professionals and things up here [northern region] and there's long wait lists. And I know for some families that's the only way they can access something like speech therapy or something because they can't get in with somebody locally… I think tech overall is a good thing.. and it definitely in some cases has opened doors to appointments and things that we might not have been able to get.*

> **Parent 5:** *I can virtually now go to a SLP in Victoria, right… I have a consultant in Vancouver right now because there is none in [city in Interior Region], right, and so you're able to do that which is awesome.*

Parents and providers also shared fun and creative ways that therapists were using videoconferencing with their children to support continuity in and integration of their children's therapy in their homes and typical routines:

> **Parent 2:** *We had an SLP who would use video clips and social stories and they played games and I'm still trying to wrap my head around how they both engaged in the games because they worked together… That was probably the one therapy that my daughter was most engaged in because the therapist would change the screen suddenly to like, 'yay, you got a coin' or whatever. And so my daughter felt like she was really winning and was really interested in it.*

Videoconferencing was also being used to overcome recruitment challenges in northern areas of BC as evident in a pilot project with one northern community organization who were unable to recruit a physiotherapist. A catalyst grant from this research for a pilot project with a northern child development centre provided iPads and stands that greatly enhanced the quality of synchronous videoconferencing between centre-based staff in a northern CDC and coaching from a physiotherapist connecting virtually from the lower mainland. Results from brief parent (n=24) and provider (n= 26) surveys during this pilot project showed that both groups found the synchronous videoconferencing 'very useful'. Also, 96% of the parents who took the survey reported that they received 'the information or support that they wanted' and 83% said they would 'want to use the iPad in the future for virtual services in addition to in-person'.

Using videoconferencing to 'open doors to therapy' requires that therapists adapt how therapy is thought about, embrace a mindset and skill set aligned with the data above on a 'relationship focused approach' and a distinct shift in roles for parents and early intervention therapists. Therapists also need to be supported in having the skills to mobilize their knowledge and skills into this virtual environment. The following fieldnote was from a 2023 pediatric symposium hosted by research co-lead Jason Gordon and Community Council member Dr Kim Miller. The audience of interdisciplinary therapists were asked for their suggestions on how to help parents leave a virtual session feeling empowered.

> **Fieldnotes:** Prioritize what to focus on; keep session short and not complex; end with activities/ suggestions that are easy for a family to implement; use items/suggestions from their home; prepare family ahead for what they will need for the session, and always make space for questions, feedback, etc. Align expectations and focus on the session. Provide family support virtually by using active listening, guided problem solving, and coaching. Leverage local connections for remote communities and Indigenous families (e.g. local health unit, Nation office). Divide roles when there are multiple people and sets of hands (e.g. one person hold the device, the clinician focus on the service, one person take notes, etc.).

Overall, the findings in 'using technology to enhance access' is consistent with growing national and international evidence on the possibilities afforded to communities and families of having ECDI programs, services and resources that are offered in-person *and* virtually and which tap into a range of ICTs. Importantly, these findings also highlight how technology can be used in ways that are consistent with an intentional relationship focused approach to ECDI.

Pause & Ponder

- What aspects of your program/service can be offered in-person or virtually? [eg. Intake forms…]
- How are you using or could further use Facebook to connect with parents and utilize existing Facebook groups to let families know who you are, and share information or clips of therapy tips?
- How can your Facebook page be resourced so that it is not another off the side of the desk activity?

Enhancing the Capacity of the ECDI Sector

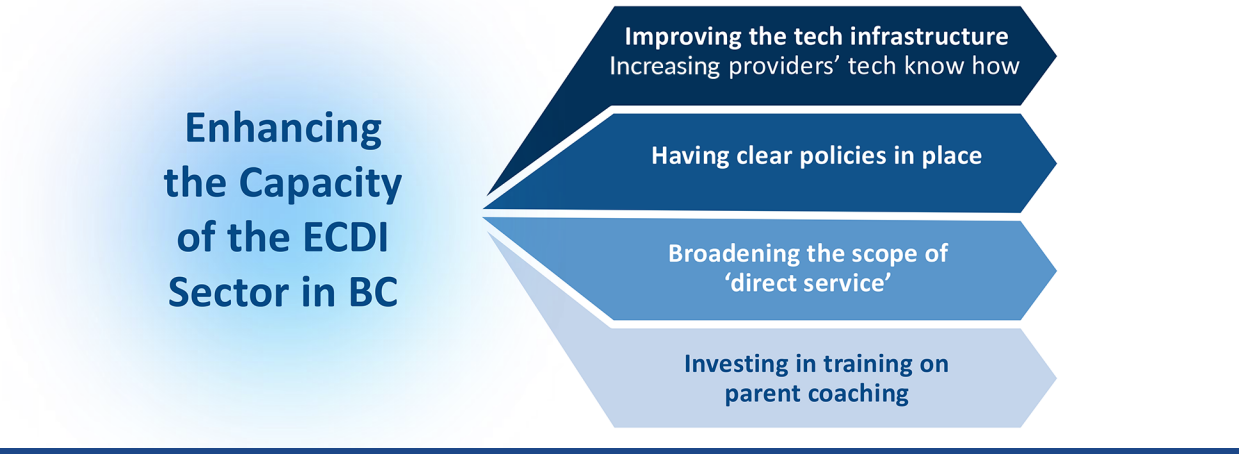
The potential to scale-up a relationship focused and technology-enhanced approach to increasing historically underserved communities' access to ECDI was tempered by the need to address several broader, system-level factors. As noted by several provider participants, scaling up tech infrastructure and digital literacy in this sector must consider the longstanding and current pressures on the ECDI system:

> **ECD 27-31:** *It doesn't matter if [therapists are] providing virtual services or in-person services you still need the people, and we do not have adequate hours to provide services either way… it boils down to that time. I love the idea of virtual services and the access and barriers it reduces for families. But I also know it still takes a lot of therapists' time or the therapy assistants' time. It doesn't matter, it's still time…Also the added piece of staff learning technology – you may save some travel time but now you have kind of one more thing like, schedule a zoom visit… check my phone, check my email… so I think it goes both ways.*

Similar concerns about the added expectations and pressure on therapists and therapy assistants of adding virtual options with existing staffing levels was noted in the following focus group:

> **ECD 32-37:** *With all of this tech there's an increase in time but I've been practicing for 27 years and the expectations of ongoing communication and service provision and support for community has changed and increased and yet our staffing levels have decreased . . .So I would love for that message also to come through as well that if there's this expectation that we can continue to provide the type of service and all of this ongoing support we don't have the bodies on the ground to do it.*

FIGURE 8. ENHANCING THE CAPACITY OF THE ECDI SECTOR



Improving the Tech Infrastructure

A strong recurring theme from provider participants was their frustration at not being able to provide families with choices for connecting virtually because of their own inadequate technology infrastructure and its capacity to be 'welcoming for all parents'. Providers described being limited by not having access to a laptop with a camera for example, or having to make do with outdated and/or the wrong technology, which resulted in wasting time in a system where 'time' is a limited commodity and a poorer quality service:

> **ECD 32-37:** *I've hosted Zooms as well with community therapists at [tertiary centre]… I have to walk around with this laptop, and it does impact my assessment… When I'm carrying a laptop I can't actually tell what they're seeing so I have to check in with them and make sure that my laptop is centred on the person… You're trying to manoeuvre your laptop and you're spending 30% of your time just dealing with that as opposed to being able to be 100% focus on the family and the kid and what's going on in front of you.*

These findings echo the results from the 2022 survey which showed that the majority of ECDI participants (77%) said that they would like to be able use cell phones to connect with parents if they had work cell phones (Gerlach et al., 2022). A common thread in our survey results from ECDI participants who identified as being 'neutral' or 'unsatisfied' in how they had connected and provided their services virtually was concerns about their lack of access to tech equipment and restricted access to some apps such as Facebook messenger. Also the need for providers and organizations to have designated funding for tech equipment with the most in demand tech identified as work cell phones with data plans (Gerlach et al., 2022).

Despite the data from this research on the relative accessibility of texting/messaging as a low-barrier way of connecting and staying connected with parents and the alignment of texting with a relationship focused approach, there was a significant amount of data on providers' frustrations at wanting to text with families but not having work cell phones resulting in some providers having to be 'selective' in using their personal cell phones:

> **ECD 1-11:** *I would say over the past three years, more people would like to text, but we only have our personal cell phones. So personally, I'm selective in terms of who I am texting, but we do have some families that we do need to text because we can't get into their apartments, or call and say 'hey we're down here.' Or they want text reminders. I get a lot of requests for that [others: yah]… I use my own phone and I get [families] to download WhatsApp because I have WhatsApp and you can send videos like very easily and then I tell them I'm very sorry but I have to delete your number off my phone. But that's what I've done.*

A recurring theme particularly in the focus group with leadership was the additional financial burden on community-based non-profit organizations in trying to find the budget to update and upscale their technology infrastructure. ECDI leaders[11] talked about having to fund raise and apply for grants to purchase cell phones, iPads, laptops with cameras, or better Wi-Fi etc because of the shortfall in operational costs in their contracts/agreements with MCFD:

> **ECD 27-31:** *[Technology is] typically funded through fund raised dollars so… And agencies have had to innovate to figure out ways to do more with less and ask new people for help… And if I have to choose between cell phones and technology or putting a roof on my building next year which is gonna cost $125,000 I'm choosing the roof so, it does come down to funding.*

11 ECDI leaders refers to leaders of community-based, non-profit organizations that are providing ECDI programs and services.

At the time of this research, there were significant inequities in technology resources between child development organizations and within organizations between different programs. A reliance on fund raising and competitive grant applications had resulted in a wide range of disparities in access to technology and technology-enhanced service delivery throughout the province. Some agencies were sharing two work cell phones between ten therapists in other agencies every therapist had a work cell phone

Being able to offer a hybrid model of ECDI requires more fundraising, competing for grants and making hard decisions about 'paying for a new roof' or buying more cell phone and plans for staff. ECDI leaders responded that to move forwards long term with a quality, low barrier, flexible model of service delivery that includes in-person and virtual services, funding for tech infrastructure needed to be 'funded accordingly', and in their service agreements with the provincial government:

> **ECD 27-31:** *I think that definitely moving forward that has to be part of our service agreements is that piece of technology and adequate funding for it. None of us use our 10% admin to fund our technology… I think the funding for technology like I really don't think the ministry understands how stressful it is. Every time my IT guy comes to us with like time to like upgrade some of your computers, I'm ready to lose it because it feels like it's every couple of years all of a sudden we're dropping all this money that there's absolutely no money for… and nothing in our contract has changed in a very long time.*

Having timely access to 'the right technology' is essential to build on the 'shifts brought about by the pandemic' and improve low-barrier access options in reaching, building, and maintaining relationships and continuity of care with families, particularly those in rural and northern parts of the province where there are 'tricky' driving conditions and long distances to access in-person specialist/therapy appointments. Having the right equipment and the quality of the internet connection are also key to the quality of virtual services.

Increasing Providers' Tech Know How

In addition to 'improving the tech infrastructure' in the ECDI sector, data also highlighted the need for investing in increasing providers' knowledge and skills in using different technologies to provide quality relationship focused virtual supports and services. This data builds on the survey results from 2022 that highlighted concerns about the quality of virtual services and the need for organizational-level support and training (Gerlach et al., 2022). As one provider noted, *"Zoom has opened up so many possibilities but it requires 'tech literacy' and having the technology available"* (ECD 35).

However, the time it takes to become knowledgeable and comfortable using technology, particularly for therapy staff who are 'overwhelmed' with high caseloads, is an important consideration that may influence providers' capacity to offer parents service access choices:

> **ECD 32-37:** *I think the other thing I would add is that for so many of our community therapists in rural areas, they are so overwhelmed with so many things that are on their plate, adding something else, like another training like, it may be beneficial in the long term but… I don't know if adding something else to the community therapists' plate would necessarily be a feasible solution, even though it will have long term benefits.*

Findings of this research supports quality assurance standards for virtual service delivery by organizations providing ECDI. CARF Canada identified the training of 'personnel' on using technology for service delivery and providing services 'at a distance' in their 2022/23 standards with expectations that accredited organizations will demonstrate how technology is used to increase access to services and supports and enhance services. Similarly, regulations for the three therapy professionals in the newly formed College of Health and Care Professionals of BC have 'performance expectations' related to 'virtual care' such that therapists have 'sufficient training, knowledge, judgment, and competency (including technological competency) to manage client care virtually.

Investing in Training on Coaching

In a 'relationship focused approach' and closely tied to 'improving the tech infrastructure' and 'increasing providers' tech know how' is the need for the province to invest in ECDI providers' knowledge and skills in coaching *both* in-person *and* virtually. As the following data highlights, this is necessary so that ECDI is truly responsive to parents' preferences, circumstances, priorities, and own capacities and that they do not feel overwhelmed at being 'the therapist' or guilty for not feeling confident in their parenting/caregiving:

> **Parent 4:** *It was a lot of relying on me to portray what was happening with him [her son], which is a lot of pressure… During our dire straits when things were going south it was a lot, a lot of pressure. I felt like I was making decisions that were way above my eighth grade. Which comes with a lot of guilt and especially I think us as moms, caregiver – we already carry a lot.*

> **Parent 6:** *So often I felt like I was the therapist and… I'm not qualified to be doing, you know, this assessment or whether or not I'm doing this right?.*

Provider participants also expressed similar concerns that point to the need for professional development in this sector so that parents do not feel that coaching equates to shifting the responsibility for therapy onto their shoulders. As noted in the following quote, there is a need for the ECDI sector in BC to support providers with developing and enhancing their virtual coaching skills:

> **ECD27-31:** *I think one of the pieces that's really important if you're doing intervention virtually is that parent coaching piece. So, we definitely did some training with our staff thankfully just before COVID started but I think that's an ongoing piece that is really, really important.*

This data builds on concerns raised in the survey from 2022 about the quality of virtual services and the need for *"training for providers in how to connect with, coach, and provide their services with families effectively using different forms of technology"* (Gerlach et al., 2022, p. 4). A known barrier to practice changes in ECDI (Fingerhut et al., 2013) and in shifting towards a coaching approach is providers' attitude (Akhbari Ziegler & Hadders-Algra, 2020). Improving equitable access to ECDI will require that providers can access training and supports on implementing a coaching approach in-person and virtually (Childress & Schumaker-Murphy, 2024). This will be key to the increasing the capacity of this system to reach underserved communities and families. Furthermore, the alignment of the essential elements of coaching with Indigenous value systems centered on relationships, reciprocity, and responsibility, may also increase providers' capacity to better serve Indigenous communities and families by using a coaching approach.

Having Clear (Privacy and Confidentiality[12]) Policies in Place

Due to the rapid shift to virtual services during the pandemic, there were some concerns about the development of privacy and confidentiality policies being put in place and which have continued to evolve. The following is from parents' perspective and highlights the need for transparency with parents about the risks and benefits when using technology:

> **Parent 6:** *Some of my concern with going virtual, for sure, is like confidentiality, you know, emailing information back and forth knowing whether or not they're working on secure systems its hard. You kind of almost have to take the risk and balance it with the rewards and trust that there's policies put into place to protect you and your information.*

This parent goes onto talk about how therapists are careful in what information they share via texting:

> **Parent 6:** *I would kind of go back to confidentiality... I do a lot of answering through texting with both my local PT and OT and they're very careful on what they put into messages and we use initials instead of like full names. They don't ever add details, sometimes, you know, I will have verbal diarrhea and tell them more details than probably I should put in a text.*

There was also some privacy concerns and confusion about recording a 'Zoom visit' or a portion of a Zoom visit to share with a family member who could not attend and/or for parents to review at home:

> **Parent 4:** *I always wondered when [child] sees his orthopedic surgeon, there's always a note on the door asking permission before we even videotape or record and I've often wondered like why do we need permission like?.. I've always thought because they're usually consults sometimes I travel a lot on my own with [child] so if the timing is right then I'll often like just video call my husband in or a physio or somebody else just to listen as well… So I think it would be helpful for those situations to be able to re-listen to things.*

> **ECD15_16_18_19:** *We don't have a policy around the privacy concerns of sending video like that so if ECD were to record, unless it was using the device of the individual, then she would have to send that recording to them and I'm not sure. We don't have as far as, I could find out our policy around how they get that safely and securely into someone's hands.*

Providers expressed their concerns about not having a policy around 'privacy concerns' and conversely not wanting to overwhelm a parent with too many policies or consent processes and paperwork. Community-based ECDI organizations receiving provincial funding and regulated therapy professionals in BC must comply with federal and provincial privacy legislation. At the time of this research, policy development on the use of technology in the community ECDI sector in BC appears to be a work in progress at provincial, organizational, and professional levels (Hunter et al., 2023).

[12] Although confidentiality and privacy are often used interchangeably, they are legally different. Confidentiality is an ethical duty that prevents certain people from sharing information with third parties. Privacy is the right to freedom from intrusion into one's personal matters or information.

Broadening the Scope of 'Direct Service'

The following data points to confusion, frustration, and a disconnect between MCFD's required 'stats' from Ministry funded ECDI programs and a model of service delivery that includes in-person and virtual modes. Currently much of what providers are doing is hidden work 'off the side of their desk' that is not recognized in the current evaluation process used by MCFD. Addressing ECDI inequities – requires that the stat system is aligned with current practice in a post-COVID world:

> **ECD 1-11:** *When they look at your direct hours for service provision, your hours look low when you're doing this and that goes against our program… And so it's like I also think it's helpful to have some of that money to pay someone to do it . . so that we don't have to . . .like to be like, okay, this is what we want, can you make that happen [laughing] but it's not always like yet again another thing off the side of the desk.*

Providers noted that texting or emailing a client, or setting up or doing a Zoom session with a client etc were not recognized in their stats as direct service which may risk these strategies not being taken-up:

> **ECD 1-11:** *I have lots of families, they can't come to the centre because they don't have a ride or their car is not working, and lots of times I'll say why don't we just check in on the phone and see where things are at. I stat it as direct time even though it's technically not.*

> **ECD 1-11:** *They [The provincial ministry] need to broaden their definition of what direct service is if we're embracing technology as part of a hybrid model.*

This leadership group also highlighted the importance of recognizing texting as a way of building and maintaining relationships with families and a direct form of service delivery that is vital for families with fewer tech resources and/or easy access to local in-person services:

> **ECD27-31:** *We still often have families that have no data or have no data, have no phone minutes, don't check voice mail but they'll text and so that's the least barrier… [Texting] is definitely an advantage and as soon as it's recognized as direct service that will be a really great thing.*

At the time of this research there was variability and some confusion within the ECDI sector about whether videoconferencing, texting, or emailing families counted as direct time on their stats. This finding may reflect differences in contracts but raises the question how the current stat system is going to be adapted in line with a hybrid model of service delivery.

Pause & Ponder

- What are your organizational/program strengths and weakness in providing services and supports that are relationship focused and technology enhanced?
- What policy and practice shifts need to happen in your organization/program to enhance your capacity to provide ECDI that is relationship focused, and technology enhanced?
- How is your organization protecting families' privacy whilst maintaining low-barrier access and respecting families' choices/preferences in how they use technology to engage with providers?
- How are your current policies benefiting families?
- How can your service users inform this work?

Concluding Comments

The findings of this participatory action research provide evidence of the potential for a relationship focused and technology-enhanced approach to improve northern and rural communities and families' access to ECDI. This approach is implicitly equity-oriented as it attends to issues of power, flexibility, and tailoring programs and services in response to communities and families' self-identified circumstances, preferences, and priorities.

However, the benefits of a technology-enhanced and hybrid ECDI system are only afforded to parents who have this option. The long-term shift to a hybrid model will be insufficient to address access inequities for northern and rural families who are living on limited household incomes and/or have no/limited access to the internet or technology. In addition to a hybrid model, these findings highlights the need for additional service model components as part of a comprehensive system to address entrenched inequities. It is also concerning to note the compounding inequities that can result from families/communities that do not have access to technology; further raising awareness of the importance of affordable, equitable digital access as a determinant of the early health and development of children with disabilities and medical complexity.

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