Chapter 8

Getting Off to a Good Start: Practices in Early Intervention

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Is the term ***family-centered early intervention*** (FCEI) familiar? What does it mean? How does this term apply to the services for infants and toddlers who are deaf or hard of hearing (D/HH)?

This chapter defines and describes FCEI. The reader will understand:

- The justification for ***early***.
- How ***intervention*** can promote optimal child development.
- Ways in which practitioners provide these services so they include the ***family***.

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Keep reading to learn more about the theoretical framework supporting early intervention as well as ways to put these concepts into practice in your future career.

Justifying an Early Start to Intervention

Early intervention programs aim to support families of children with developmental disabilities or delays and provide resources to maximize the child's abilities while honoring the family culture, influence, and capacity. The earlier children and families receive support to address the impact of childhood hearing loss the more positive the impact on developmental outcomes. Read on to better understand why early intervention is favored based on brain development, critical learning periods, and the research conducted on developing speech and language.

Developmental Synchrony

Developmental synchrony means a child develops certain skills and abilities at the precise moment the brain is "developmentally" ready to do so (Cole & Flexer, 2020). The goal is for the child's skills—in all developmental domains—to develop at the same time and at the same rate (Mellon, Ouellette, Greer, & Gates-Ulanet, 2009). For instance, the critical opportunity for language learning is from birth to approximately 3 years of age when brain neuroplasticity is the greatest (Sharma, Dorman, & Spahr, 2002). When a child learns language during this critical period, learning capitalizes on the flexible neuroplasticity of the growing brain. Family members and interventionists do not need to rely on a remedial approach. Rather early intervention services allow professionals and family members to capitalize on developmental synchrony as an infant or toddler learns new skills.

Developmental Hierarchy of Skills

It is important to acknowledge as well that skills are acquired in a general order. This applies to all developmental domains, including receptive and expressive language as well as speech, motor, self-help, feeding, social, and emotional skills. In a hierarchical approach, certain skills are prerequisites for other skills. For example, in the spoken language domain, babbling comes before first words, and single words occur before a child talks in phrases and sentences. In the gross motor domain, crawling comes before walking, and walking occurs before a child can ride a bike. The acquisition of skills is assigned to specific ages based on well-established norms for typically-developing children.

For speech production, the norms for typically-developing children suggest that a child's brain is ready to babble by 8 to 10 months, start producing single words by 1 year, and combine two words together closer to 2 years of age. Some children acquire these skills when they are older than these prescribed norms. But the established developmental order always serves as a guide—babbling before words and words before phrases. It is most efficient for a child to acquire skills at the time nature intended. With this in mind, the intervention follows a developmental hierarchy while maintaining an awareness of developmental synchrony.

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Critical Periods of Development

A child's brain is different from an adult brain. Much of the primary brain development occurs by age 2 or 3 years—though full development happens later. For example, the portions of the brain (e.g., the frontal lobe) in charge of executive function (organization, planning, and inhibition of impulses) continue to develop into one's mid-20s (Anderson, 2002). The critical window for language learning, however, is very early. Language learning occurs from birth to approximately 3 years of age when brain neuroplasticity is the greatest (Sharma et al., 2002). The early interventionist is given the task of helping a child who is D/HH to acquire language skills during these first 3 years of life in spite of any difficulties that may be introduced by a hearing loss.

Legislation & Policies Supporting Early Intervention

In the U.S., early intervention services are guided by federal legislation. State early intervention programs interpret federal laws and provide systems by which services are implemented and monitored. Read on to better understand the legislation and guidance which supports the provision of FCEI.

Part C of the Individuals with Disabilities Education Act (IDEA)

IDEA (1990, 1997, 2004, 2011) is federal legislation. It provides guidelines for services delivered to children with developmental delays or disabilities. Part C of IDEA addresses children whose ages range from birth to 36 months. According to Part C of IDEA, the purpose of early intervention is to lessen the effects of the disability or delay across five developmental domains:

1	Physical Development
2	Cognitive Development
3	Communication
4	Social or Emotional Development
5	Adaptive Development

IDEA also offers provisions to ensure family members play a central role in their child's care. Caregivers are seen as an integral part of the team, which determines eligibility, placement, and decisions about services.

The intervention and the qualifications of personnel providing the services is also established in this federal law. The needs of the child and supports for family members are individualized and documented in each child's Individualized Family Service Plan (IFSP). The IFSP includes statements defining:

- The child's present level of development.
- The family's resources.
- Family members' priorities and concerns.
- The major outcomes expected for the child and the family.
- Necessary early intervention services.

Each state's Part C agency, which can be housed in one of many different governmental departments (http://ectacenter.org/contact/ptccoord.asp), defines the eligibility requirements for infants and toddlers who are D/HH. These guidelines vary from state to state. Some state Part C guidelines are very broad and simply indicate that a sensory difference, such as chronic hearing loss, is an established condition that makes a child eligible for early intervention services. This broad definition often assumes the child has a bilateral hearing loss. The guidelines in some states are more restrictive and may specify that services are available only if developmental delays are co-occurring along with the hearing loss (Stredler-Brown, Hulstrom, & Ringwalt, 2008). Some state guidelines set limits on eligibility by specifying a set of criteria that may be used to document an infant or toddler's hearing loss (http://www.infanthearing.org/states/index.html). Infants and toddlers with minimal degrees of hearing loss, including single-sided deafness (SSD), qualify for Part C services in a limited number of states (Stredler-Brown et al., 2008). This practice is likely to continue until the evidence linking minimal degrees of hearing loss to developmental delays is more rigorously studied.

Legislation, Policies, & Guidelines for Children Who Are D/HH

The Newborn and Infant Hearing Screening and Intervention Act first passed in 1999—and reauthorized in 2017 as the Early Hearing Detection and Intervention (EHDI) Act (S.652-115th Congress, 2017-2018: Early Hearing Detection and Intervention Act of 2017, https://www.congress.gov/bill/115th-congress/senate-bill/652/text)—provides support and guidance to state personnel to plan, develop, and implement statewide programs for hearing screening, diagnosis, and an early start to intervention. The EHDI initiative supports the 1-3-6 rule (White, 2003). The 1-3-6 rule states that:

- Children should receive a newborn hearing screening by ***1*** month of age.
- Diagnosis should be confirmed by ***3*** months of age.
- Any necessary early intervention should start by ***6*** months of age.

According to the most recent JCIH Guidelines (2019), those states who meet the 1-3-6 guidelines are challenged to meet a 1-2-3 month timeline to achieve the earliest possible participation in EHDI services (Joint Committee on Infant Hearing, 2019).

- Screening by ***1*** month of age.
- Audiologic diagnosis by ***2*** months of age.
- Enrollment in early intervention by ***3*** months of age.

This legislation has changed the landscape for children nationwide—early diagnosis and early intervention are now standard. Early intervention is strongly associated with better outcomes for children.

A report from the Consensus Conference on Effective Educational and Health Care Interventions for Infants and Young Children with Hearing Loss (Marge & Marge, 2005) identifies evidence-based research that leads to high-quality early intervention. This report includes recommendations for effective programming, defines characteristics of qualified providers, and summarizes implications for professional practice. It is well documented that an early start to intervention is more successful than a late start. In addition, however, the quality of the providers also impacts a child's outcomes. This consensus document provides needed guidance on the preferred skills of early interventionists.

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The Joint Committee on Infant Hearing (JCIH) publishes documents that support newborn hearing systems, including early intervention. The JCIH 2007 Position Statement (JCIH, 2007) underscores the need for trained early intervention specialists. The 2013 Supplement, Principles, and Guidelines for Early Intervention after Confirmation That a Child is Deaf or Hard of Hearing (Muse et al., 2013; http://pediatrics.aappublications.org/content/131/4/e1324) focuses exclusively on early intervention and outlines best practices. These best practices are identified in a list of knowledge and skills for providers. This list provides assurance that providers with these competencies can facilitate optimal outcomes for children and their families. The list of competencies for early interventionists (Sass-Lehrer, Moeller, & Stredler-Brown, 2015; Stredler-Brown, Sass-Lehrer, Clark, & Moeller, 2012) is published in Appendix A of the 2013 JCIH document. In at least one state, the knowledge and skills document is driving professional development activities for all early interventionists working with infants and toddlers who are D/HH (Tiggs, Clark, Sass-Lehrer, & Stredler-Brown, 2017).

In 2013, a panel of experts developed an international consensus statement that identified ten foundational principles underlying the provision of early intervention (Moeller, Carr, Seaver, Stredler-Brown, & Holzinger, 2013). This document includes evidence-based recommendations to promote the development of infants and toddlers who are D/HH along with support to their family members.

Evidence Supporting Early Intervention

Traditional child-centered therapy focuses on the relationship between professional and child. The parent is an observer of the interaction. Direct instruction generally occurs for 1 to 2 hours each week. Family-centered practice is a very different model and has been demonstrated to be both efficient and effective. In FCEI, the early interventionist works with the parents of the child. This is an ecological model. as the parents are living with and interacting with the child during many hours in the course of a day. When a caregiver is able to utilize effective, responsive communicative strategies repeatedly, the child is exposed to many more language-learning opportunities.

Child outcomes. Research findings specifically related to very young children who are D/HH point out that family-centered early interventionists—those who focus on teaching parents new skills—see a benefit in the outcomes for the children. When FCEI strategies are used, children are more likely to have communication and language skills that are within normal limits for their chronological age (Calderon, 2000; Moeller, 2000; Nittrouer, 2010; Yoshinaga-Itano, 2003).

Moeller (2000) explored the relationship between age of enrollment in early intervention and language outcomes of children when they entered school. High levels of family involvement correlated with positive language outcomes. Moeller (2000) found that the children with highly-engaged caregivers—enrolled in early intervention prior to their first birthday—performed significantly better on vocabulary and verbal reasoning measures than children who were also receiving services but did not have engaged parents. This pivotal study suggests that early intervention can make a difference for many children. Equally important, the study shows that family involvement and communicative interactions between parent and child must remain a key priority to achieve the best outcomes.

Parent involvement. Game-changing work done in the early 1990s (Hart & Risley, 1995) revealed much about the language and communication patterns of caregivers of young children in their home environments. The study demonstrated the interaction that occurs between parents and babies in everyday family life during the time babies are learning to talk. The results illuminated significant disparities in the quantity and

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quality of talk conveyed to children in homes of varying socioeconomic backgrounds. Children from high-income families experienced 30 million more words than children from low-income families. This research supports the benefits achieved when teaching parents effective ways to interact with their children.

Nittrouer (2010) studied parents with typical hearing and the characteristics of their communication both with children who are D/HH and children with typical hearing. Nittrouer observed significant differences in the frequency with which parents responded verbally to their children's communicative attempts. Parents of children with hearing loss responded to their children less frequently than parents of children with typical hearing. The difference in frequency of verbal responsiveness can be especially problematic for children who are D/HH, because language acquisition is more sensitive to parents' responsiveness for children with hearing loss than it is for children with typical hearing. Interaction styles that encourage children to communicate more—paired with parents' responses—served children who are D/HH best. Nittrouer stated, "Any intervention that we may develop will only be as effective as the parents' abilities to implement it" (p. 258).

Calderon (2000) also emphasized the influence of family members on the development of their young children with hearing loss in school-based settings. Calderon's study explored maternal communication skills and the influence on the language development of children who are D/HH. Findings suggest that parental involvement in school-based educational programs is a positive contributor to improved language outcomes. The parental communication skills are the best predictor of positive child development in the areas of academics and language. Calderon encourages educators to intentionally plan for and implement parental involvement to promote communication with their children who are D/HH. Suggestions to facilitate these improvements in parental communication include the use of parent educators in school programs and explicit invitations for parents to volunteer in the classroom where they might observe the teacher's communication strategies.

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The research presented here reinforces the importance of using FCEI strategies wherein the primary goal is for professionals to build a collaborative partnership with family members and caregivers. The professional provides information, guidance, and support. This in turn equips parents with specific skills and empowers them to be actively involved in their child's development and education.

Providers serve families best when they put into practice these tenets of family-centered early intervention:

- Provide parents with information about hearing loss.
- Support the parents' emotions that are associated with the diagnosis of hearing loss.
- Engage parents in participatory activities that help them use strategies and techniques to support their child's development (Stredler-Brown, 2009; Zaidman-Zait, 2007).

The early interventionist provides information on an array of topics. such as:

- Stages of auditory development
- Language development
- Play skills
- Speech

The early interventionist's guidance can promote the parents' emotional comfort through the use of active listening. Simultaneously, the professional teaches family members to use specific developmental and communication strategies to support the child's skills.

Theoretical Frameworks Supporting Family-Centered Early Intervention

Children acquire their knowledge and skills from family members. Early experiences with family members shape a child's expectation about the ways in which others will interact with them (Nieto, 2004). These early-acquired skills are later used by the child in their interactions at school, with friends in the neighborhood, and eventually in their work place as adults. This is referred to as an ecological model of child development (Bronfenbrenner, 1992). FCEI also considers the diversity of families and the use of culturally-responsive practices while honoring the systemic influences of all family members and supporting the family (Harry, 2002).

Family systems theory explores patterns of communication and interaction, separateness and connectedness, loyalty and independence, and adaptation to stress in the context of the whole family (Christian, 2006). When professionals gain an understanding of family system patterns, they can better serve children who are D/HH and their caregivers. Coaching theory capitalizes on the ecological model and each family's system.

An Ecological Model

Urie Bronfenbrenner (1974, p. 3) states . . .

"The family seems to be the most effective and economical system for fostering and sustaining the child's development. Without family involvement, intervention is likely to be unsuccessful, and what few effects are achieved are likely to disappear once the intervention is discontinued."

According to ecological systems theory, children develop within the context of environmental influences that have both direct and indirect effects on them (Bronfenbrenner, 1974, 1992). Each child's experiences vary greatly, and since there are plenty of successful grown adults, one can assume that there are many combinations of experiences that will promote successful development (Dunst, Trivette, & Hamby, 2007).

Adults who spend more time with their child have a greater influence on the child's development than those adults who spend small portions of time with the child. Parents often have the opportunity to spend hours and hours each day with their child. Conversely, the early intervention provider spends approximately 1 hour each week with the child. The ecological model then focuses on the influence of family members. The early intervention provider serves as a consultant. In FCEI, the early interventionist has the responsibility to explore specific environmental influences and experiences within the family that have a positive impact on the child's development (McWilliam, 2010). These experiences include the family members' values, beliefs, supports, resources, and activities of daily living.

Consider the impact on all family members when one person has a disability, such as a child with a hearing loss. Some parents report that having a child with a disability is an overwhelming burden to the family system. Alternatively, Friend and Cook (2016) state that, "In spite of the challenges, many families believe that the child with a disability strengthens their families" (p. 199). Friend and Cook (2012) go on to say, "…a child with a disability requires more of a family's physical, emotional, temporal, and fiscal resources than do other children" (p. 199). It stands to reason then that educational interventions that promote family well being will serve to promote positive child outcomes.

Family Systems Theory

How do we define ***family*** (see *Table 1*). According to Turnbull, Turnbull, Erwin, and Soodak (2006, p. 7), family is defined as "two or more people who regard themselves as a family and who perform some of the functions that families typically perform. These people may or may not be related by blood or marriage and may or may not usually live together."

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By identifying each family's behavioral style, the professional is able to understand a family member's priorities and better serve them.

Family Systems Theory explains how individual members fit within the entire unit of interconnected members. According to Family Systems Theory, each member of a family influences the others in predictable and recurring ways (Van Velsor & Cox, 2000). Much of our understanding of Family Systems Theory is grounded in the work of Bowen (1978) and Satir (1972)—both of whom emphasize the emotional interconnectedness between individual members of a family as a critical element to understanding the family system.

Satir (1972) used a metaphor of a child's mobile—the kind that hangs over an infant's crib—to illustrate the emotional interconnectedness among individual members of a family. This metaphor can illustrate characteristics of an emotionally unhealthy family system by envisioning the strings on one piece of a mobile becoming twisted. If this happens, the entire mobile might spin improperly. If a mobile becomes imbalanced, many pieces could

Table 1
Definitions & Characteristics of a Family

Definitions of a family . . .

The early interventionist assumes the responsibility for accepting the definition of family that is used by the parents. To learn more about the definition of each family, the interventionist can ask several questions:

- Who makes up the family?
- What supports and resources does the family have?
- How do family members spend time at work? How do they enjoy their free time together? How do individuals spend their time apart?
- What do family members enjoy?

Characteristics of a family . . .

Christian (2006) defined six characteristics inherent in a family system:

1. Boundaries
2. Roles
3. Rules
4. Hierarchy
5. Climate
6. Equilibrium

The early interventionist can observe family members to learn about these characteristics. To learn more about the characteristics of each family, the interventionist can ask several questions:

- Do family members seem to have well-defined roles?
- Does each person have clearly-identified responsibilities that define their roles?
- Does each family member seem to have shifting roles and responsibilities on any given day?

Regarding rules:

- Does the family have clearly-defined rules?
- Are these rules implemented consistently?
- Do family members demonstrate inconsistent rules with variable consequences?

become entangled. On the other hand, a well-balanced mobile—representing an emotionally healthy family system—would swing and turn even in strong winds.

Family Systems Theory is often discussed in disciplines, such as family counseling and therapy. However, family-centered early interventionists can use the same information to inform their intervention. An effective family-centered early interventionist appreciates the diversity of each family. Family diversity is expressed through culture, sexual orientation, economic status, work, and religious beliefs. For example, early interventionists serve children living in:

- Single-parent families
- Families of divorce
- Blended families
- Extended families
- Homeless families
- Migrant families
- Gay and lesbian families

Once the early interventionist is aware of the characteristics of family members, she can engage the caregivers in ways that will promote favorable child outcomes. FCEI is a model of service delivery that is sensitive to family differences.

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Coaching

Friedman, Woods, and Salisbury (2012) describe coaching as the method by which providers partner with caregivers to share knowledge and skills to improve caregiver competence and confidence. In FCEI, professionals and caregivers develop a partnership. Through this partnership, professionals support and strengthen each caregivers' ability to enhance their child's well being.

The caregiver-provider relationship is built on mutual trust, respect, and effective communication (Rush & Shelden, 2019). "At the core of the provision of family-centered care lies the premise that practitioners believe that all families are capable and competent" (Rush & Shelden, 2011, p. 25). The coach supports the caregivers using a variety of direct and indirect teaching strategies. Some of these strategies are:

- Modeling
- Observing
- Asking questions
- Brainstorming
- Engaging in reflective listening

As mentioned previously, legislation and policy guidance have shifted practice from child-centered services—wherein an expert directly teaches a child—to a family-centered model. The family-centered model puts the responsibility on the professional to support and enhance each caregiver's capacity to interact with their child. Research findings validate the effectiveness of this approach. In addition to assessing child outcomes on a regular basis, a family-centered approach evaluates the skill development and learning outcomes of each parent and/or caregiver. Professionals apply principles of adult learning in addition to their knowledge about the child with hearing loss.

Numerous researchers (Bruder, 2000; Dunst, 2002; Dunst et al., 2002; Espe-Sherwindt, 2008) have identified key components of FCEI. Trivette and Dunst (2000) list these roles for the professional:

- Work collaboratively by sharing responsibility with family members.
- Use practices that strengthen family functioning.
- Use practices that are individualized.
- Use practices that capitalize on family strengths and assets.

The caregiver must desire new knowledge and enter into the coaching relationship willingly. Friedman, Woods, and Salisbury (2012) described coaching as the method by which providers partner with caregivers—sharing knowledge and skills to improve caregiver competence and confidence. It is crucial that the caregiver-provider relationship is built on mutual trust, respect, and effective communication in order to optimize learning (Rush & Sheldon, 2019).

Through coaching, the early interventionist supports the learner using a variety of direct and indirect teaching strategies. The literature suggests the coach model a technique, strategy, or skill; observe the caregiver; ask questions; facilitate brainstorming; and engage in reflective listening. The early interventionist helps the caregiver to analyze his or her performance. This develops each caregiver's self-awareness about the ways s/he interacts with the child. The early interventionist offers feedback to each caregiver to promote self-evaluation of their performance.

FCEI differs from direct child therapy, because its purpose is to educate and support family members and the family system through a coaching model. Professionals:

- Assess family needs.
- Connect families to needed resources, including other caregivers and children with hearing loss.
- Provide information on hearing loss to families.
- Help families gain comfort with hearing devices, such as hearing aids and cochlear implants.
- Explain audiology testing.
- Collect data on child and family outcomes. Through joint planning, families prioritize goals.

It has been suggested the "coach must ask the right questions at the right time and in the right way" (Rush et al., 2003, p. 41). But how does a practitioner determine what those questions are, what the right timing should be, and what approaches might best fit the situation? Delivering FCEI is very different from working directly with the child, and it can be puzzling for many early interventionists. It can be challenging for a provider to focus primarily on the parents.

Delivering FCEI

The role of the early interventionist has many facets. Consider these three roles of engagement and three primary responsibilities (see *Table 2*).

Now imagine the possibilities when the provider can juggle the three roles of engagement with the three responsibilities. Herein lies the challenge—and the reward—when delivering FCEI. The Early Intervention Illustrated Series (Stredler-Brown & Moeller, 2003; Stredler-Brown, Moeller, Gallegos, & Corwin, 2007; Stredler-Brown, Moeller, Gallegos, Corwin, & Pittman, 2004)—a three-part DVD tutorial—demonstrates how this can be accomplished.

Rubric of a FCEI Session

There are five components in each FCEI session. Each of these elements has a specific purpose. These components are illustrated in *Table 3*.

1	Reconnect & Review
2	Address Priorities
3	Show the Craft
4	Assess & Evaluate
5	Reflect on the Visit

Table 2
Early Interventionist Roles of Engagement & Primary Responsibilities

Three Roles of Engagement	Three Primary Responsibilities
The three roles of engagement can be illustrated by imagining a three-legged stool. One must sit squarely on all three legs or risk tipping over. Each leg has a critical role in accomplishing the task—sitting. How does this relate to FCEI? The early interventionist is actually assuming three roles at the same time.	In addition to the three roles of engagement, the family-centered early interventionist has three primary responsibilities. As mentioned previously, these responsibilities are:
Role 1. Focuses the early interventionist's attention on the relationship between interventionist and child.	***Responsibility 1.*** To provide parents with information (i.e., hearing evaluation, hearing technology, language development, communication approaches).
Role 2. Focuses on the relationship between the early interventionist and parents.	***Responsibility 2.*** To support the parents' emotional reactions that are often associated with the diagnosis of hearing loss.
Role 3. Requires the early interventionist to focus on the interaction occurring between parent and child.	***Responsibility 3.*** To teach the parents strategies and techniques to support their child's development.

Table 3
Rubric for a Home Visit

1. Reconnect & Review

The FCEI session starts when the early interventionist connects with the family. This connection sets the tone for the entire session. It assures parents that the professional is listening to their questions, is comfortable with their issues and concerns, and is available to support them.

One way to start the session is to ask each family member what has transpired since the last session. Right away, this conversation starter puts the caregivers "in the driver's seat." During this part of the session, interventionists often need to set aside their professional agenda to address the current events in the family's life. The value here is to honor each family member, listen to his or her needs, and tailor the session to meet these needs. In addition to hearing from the parents, the interventionist provides information—often revisiting and reviewing topics discussed in previous sessions. Emotional support is also offered.

These questions illustrate the way in which the early interventionist connects with family members.

- How have things been going over the past week? Is there anything concerning you or on your mind today?
- What new behaviors is your child doing? Tell me, what is your child doing this week that wasn't happening last week?
- How did last week's audiology visit go for you? Are you comfortable with the information you were given? Can I explain anything that was said?

2. Address Priorities

Preparing for each session takes into account strategies that are appropriate to meet the needs of the child. Strategies may address communication, language (including sign or spoken language based on family choice), speech, cognition or play skills, listening skills, and/or behavior. While the interventionist brings a well-developed plan to the session, including two or three strategies that can be taught, the family's perspective needs to also be embraced. Consider this a joint process between family members and the interventionist.

Together the parents and the early interventionist identify the topics to be addressed that will support the family members' goals for their child. When family members prioritize their needs and can relate the strategies to those needs, it is more likely that good follow-up will occur after the session is over.

These questions and comments illustrate the ways in which the early interventionist may interact with the family members.

- Last week I heard you express concern about _____. So this week I would like to show you _____.
- It seems like you're challenged by _____. To support you in gaining more confidence at _____, I've prepared _____.
- It sounds like you want information on _____, and you are feeling unsure about _____. Which of these would you like us to address first?
- What's your biggest priority today? I'd like to focus our conversation and practice on that.

Table 3
(continued)

3. Show the Craft

During this part of the FCEI session, the interventionist, parent, and child practice specific strategies or techniques that are in line with the priorities that were identified. The interventionist may observe the parent and child interacting to identify which strategy or technique to explore first. Or the parents may select the strategy that is most important or appealing to them.

Once the technique is identified, it is briefly discussed. Then the play begins. First the early interventionist demonstrates the technique while actively engaging the parents in the discovery process. This is when all attention is focused on the child—discovering the appropriateness and effectiveness of the technique being explored. However, there is more to showing the craft than simply a provider demonstration. There are actually five steps included in this part of the session:

Step 1. The provider describes the technique.

Step 2. The provider models the strategy while the parent observes.

Step 3. The provider ***and*** the parent(s) discuss the child's behavior while using the new strategy.

Step 4. The parent tries the same strategy while the provider observes the parent-child interaction.

Step 5. The provider ***and*** the parent discuss the parent's comfort using the new strategy.

This is a perfect time to use coaching techniques (Rush & Shelden, 2005, 2011; Rush, Shelden, & Hanft, 2003). The parent and provider explore which aspects of the strategy worked well. Together the parent and interventionist can investigate changes that can extend the duration of the activity and the child's success with it. They can discuss other routines that could incorporate this strategy. Thought can be given to other places in the home and outside of the home where the strategy might be used. By being an active participant in this process, family members gain competence and confidence.

Once a specific strategy is taught, a second strategy is implemented with the same structure in mind. Time allowing, a third strategy may be taught during one session.

These comments illustrate the dialogue that may occur between the early interventionist and the parents:

- You've expressed that [ ] is really a challenge. Can you show me how you'd play with that toy? I'd like to watch, and then I can take a turn demonstrating a technique that you might find useful.
- I see that your child is really interested in her toy. I'm going to try to engage with her while demonstrating [ ]. While you observe, try to see how many times I [ ].
- After I demonstrate how to use this strategy while interacting with your child, I'd like to watch you give it a try. We can both reflect and think about how it worked for you afterwards.

Table 3
(continued)

4. Assess & Evaluate

In an informal way, the child's skills that were observed before, during, and after the use of a specific strategy have been discussed, and a discussion about family members' comfort using each strategy has been ongoing.

In addition to these informal assessments, formal assessment of the child's progress provides important information about the effectiveness of the strategies being used. Formal assessment is typically conducted at regular intervals in order to support the development of the IFSP. While some programs choose to use interventionist-administered tests, there are many protocols and checklists that can be completed by parents.

In whatever way assessments are done—informally during the session or more formally—the evaluation process can be beneficial for the parents as well as the interventionist. By learning to critically observe their child's behavior, parents become more invested in their child's development. Eventually family members learn to identify the needs of their child, barriers to meeting those needs, and strategies to address them.

These questions and comments illustrate the way in which the early interventionist can talk to the parents about assessments:

- Did you notice your child's reaction when you used the strategy? Did that surprise you? Is that how she typically reacts? What do you make of that?
- I've been reviewing the developmental checklist I use to keep track of your child's progress. I am curious if you see her [ ]. While I haven't observed that in a session recently, I'm wondering if you see her doing that at other times of the day.

5. Reflect on the Visit

Toward the conclusion of the session, the interventionist and family members reflect on the activities and discussions that took place. This is an opportunity to evaluate a number of aspects of the session, including:

- The parent and professional satisfaction with the present session.
- Making plans for future sessions.
- Identifying additional information that may support the child and family members.

For instance, if family members generated some questions, now is a time to be sure these questions were answered satisfactorily. Perhaps there is some additional information that can be brought to the next session. There may be websites, videos, or books that can supply additional information. Or the interventionist can ask the parents if they are ready to use the newly-learned strategies in their daily routines. This may require some discussion about places in the home where the technique can be used, and routines during the day when the technique can be practiced.

The following questions and comments are examples of the way the early interventionist may wrap up a session:

- You really seemed to have a nice handle on [ ] while I observed you. Do you think this is something that you could apply in a different part of the day? What questions do you have?
- Does it seem realistic that you might implement this [ ] during mealtimes too? Or is there a different routine that you think might lend itself more readily to use of this [ ]?
- How do you think your spouse/child's sibling/childcare provider will react when [ ]? Do you think this is something they will be able to try too?

Service Delivery Locations

Service Delivery in Natural Environments

The traditional way to deliver FCEI is in person. Sessions typically take place in the home or another natural environment according to the guidance of Part C of IDEA (2011). According to federal legislation, natural environments are those "settings that are ***natural*** or typical for a same-aged infant or toddler without a disability, may include the home or community settings, and must be consistent with the provisions of §303.126." Services can be delivered at home, at grandma's house, in a neighborhood park, or in another community setting.

The frequency of sessions are prescribed on each child's IFSP. Sometimes professionals see families weekly, semi-monthly, or monthly. These decisions are made during the IFSP team meeting and are intended to honor the family's preferences while meeting each family's needs.

When services are delivered in a family's home or other natural environment (e.g., childcare center, park, grocery store, public library), the early interventionist has an opportunity to observe family members interacting with their child in their real-world settings. The professional can observe any environmental challenges that exist. For example, background noise (i.e., a noisy air conditioning unit or fan) may create a challenging listening environment for children who are D/HH. The early interventionist may also notice the toys and books and other educational materials that are readily accessible. Most importantly, the early interventionist can observe the interaction style between parent and child. For example, when the interventionist observes the child sitting on her mother's lap during story time, the interventionist can identify strategies and techniques that might enhance the communicative interactions. Or when the professional observes preparations for lunch while standing in a family's kitchen, the interventionist can note ways to enhance the vocabulary used during the routine.

Service delivery in the home or other natural environment also allows siblings, grandparents, neighbors, and/or other caregivers (i.e,, a daycare provider) to participate in the session. Many parents feel most comfortable in their home. This comfort may promote their ease in talking about their concerns and needs.

While a natural environment is preferred—according to Part C of IDEA—service delivery in the natural environment does not occur without some challenges. Natural environments are not acoustically-treated settings. They may not be stocked with shelves of stimulating, developmentally-appropriate materials. Oftentimes the home or natural environment brings with it many distractions. During a session, visitors can appear at the family's door, the phone can ring, or other children and family members can demand the attention of the primary caregiver. Some professionals might characterize these interruptions as important learning opportunities; others as distractors from important work to be done.

Many parents feel most comfortable in their home. This comfort may promote their ease in talking about their concerns and needs.

Programs that utilize home visits also have to be concerned about the time it takes for the early interventionist to travel from natural environment to natural environment. This can be fiscally demanding based on the amount of travel time. Also, access to other families, parents, and professionals are more limited when sessions are conducted in natural environments. Practically speaking, there is increased liability and risk when early interventionists drive their own vehicles to a variety of community settings. While these concerns are not in and of themselves reasons to opt out of service delivery in natural environments, they are worth considering in a cost-benefit comparison.

Clinic-Based Service Delivery

While oftentimes the term FCEI is immediately associated with service delivery in a natural environment, it is important to note that FCEI can also be provided in the clinical setting. Not all clinic-based therapy is strictly child-centered. FCEI can be conducted with ease in a clinic environment. The type of therapy—child-centered or family-centered—does not depend on the location. Rather, the choice to conduct FCEI depends on the skills and willingness of the interventionist.

If an early interventionist were to provide Part C-funded services in a clinic or other environment that is not considered "natural," the members of the IFSP team must include a statement of justification in the IFSP. For example, the team members must include a statement of justification if audiology services and related assistive technology are authorized by an IFSP team. This justification can mention that the audiology sound suite is necessary for assessment and fitting of devices. Also, because these resources are not portable, authorization allows for the provision of the service in a clinic.

Clinic settings often host group class for toddlers or parent-child classes. Parent-to-parent connections also occur when receiving services in a clinic. The waiting room or lobby provide opportunities for parents and caregivers to make informal connections. Clinic settings can provide a physical space for parent workshops, meetings, and/or support groups.

Telehealth Service Delivery

Telehealth (also known as teleintervention or telepractice) connects an early interventionist in one location to a family in another location via interactive video. This approach has been evolving, slowly, over the past several years. Telehealth has been successful in offering many young children and their families access to quality early intervention services from a distance. In rapid response to the COVID-19 pandemic, telehealth became a standard of care within weeks. Many barriers, such as payment for telehealth services, were waived. It seems fair to say that access to family-centered early intervention services has been revolutionized with worldwide adoption of telehealth. As of April 2020, telehealth has become an expected vehicle for services.

Telehealth (also known as teleintervention or telepractice) connects an early interventionist in one location to a family in another location via interactive video.

In the past decade, there have been some concerns about the delivery of early intervention via telehealth. These concerns have fueled the reluctance of some providers and administrators to try and support telehealth. Some concerns were raised about hardware, software, and access to bandwidth. Other concerns focused on access to and use of materials. Some providers, especially those not comfortable using coaching strategies, were cautious about telehealth. Administrators often looked for data to support the effectiveness and efficacy of telehealth. A survey conducted by Colorado's Part C agency (Cole, Pickard, & Stredler-Brown, 2019) identified these themes that described the wariness of Part C service coordinators and early intervention providers about telehealth:

- It is not family friendly.
- It is impersonal.
- It is not as good as in-person visits.

Research has shown that telehealth supports family-centered practices and is effective. A study by Brown (2015) evaluated providers' use of family-centered early intervention (FCEI) behaviors. Three of these behaviors were used more frequently in the telehealth condition than in other studies conducted in which therapy was conducted in the in-person condition. Three provider behaviors—all good coaching techniques—were used more in the telehealth condition:

1. Observing.
2. Offering feedback to the parent about the child's skills.
3. Providing input to the parent about his or her use of a strategy during an interaction with the child.

Some providers acknowledge that telehealth provides more opportunities for parents to improve their skills. Because a telehealth session focuses on the parents—typically the people who interact most frequently with the child—parents learn strategies to facilitate their child's communication and language (Hamren & Quigley, 2012).

Emerging evidence from a telehealth study conducted in Colorado

An early interventionist stated . . .

"I saw a whole new side of the family. I was able to observe more details than when I have been present [in the home]. I have also had the pleasure of having both parents together in many of my remote visits."

—Tiggs, personal communication, March 25, 2020

One parent stated . . .

"As his mom, I'm doing all of the activities with him—not the early interventionist. During the traditional home visits, I usually sat and watched her [the interventionist] do everything."

—Behl, personal communication, September 16, 2013

with young children who are deaf or hard of hearing (D/HH) is encouraging. Preliminary data demonstrated that young children who were D/HH benefitted equally when receiving weekly speech-language-listening intervention through in-person or telehealth delivery methods (Falcone, Harris, Glick, Stredler-Brown, & Sharma, 2018; Harris et al., 2019). Child language, as measured by the Preschool Language Scale (PLS-5; Zimmerman, Steiner, & Pond, 2011), was the outcome measure for both studies. These findings corroborated an earlier study with children who are D/HH conducted by Blaiser, Behl, Callow-Heusser, and White (2013). The children in this study demonstrated that telehealth services were more efficacious than services delivered in-person, and that telehealth services resulted in significantly greater parent engagement in therapy sessions.

While the best scenario for the adoption of telehealth is careful planning and structured implementation, the pandemic of 2020 has propelled providers to adopt telehealth, often with little preparation. One of the biggest challenges—and a perceived benefit as well—is the utilization of coaching techniques to teach parents strategies to support their child's development. Coaching is a critical component of family-centered early intervention. Telehealth requires providers to implement coaching techniques as they prepare parents for their journey. Fortunately, numerous resources to facilitate good telehealth sessions are readily available. Several resources are listed here.

Resources

- https://auditoryverbaltherapy.net/2020/03/19/teletherapy-101-webinar-recording/
- https://ectacenter.org/topics/disaster/ti-service.asp#vcskills
- https://learn.hearingfirst.org/telepractice
- https://shortcourses.ridbc.org.au/events/guiding-principles-for-practice-ridbc-teleschool/
- https://www.asha.org/About/Telepractice-Resources-During-COVID-19/
- http://www.infanthearing.org/ti101/

Photo courtesy of NCHAM

Selected Resources

- Alexander Graham Bell Association for the Deaf and Hard of Hearing, www.agbell.org
- Boy's Town National Research Hospital, *My Baby's Hearing*, https://www.babyhearing.org/
- Families for Hands & Voices, www.handsandvoices.org
- National Center for Hearing Assessment and Management, www.infanthearing.org

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