'So, this will do for you guys': A closer look at Maine's Part C rural service delivery

Deborah L. Rooks-Ellis[1], Christine M. Spence[2]

Abstract: This study examines family-centered strategies used by Maine's Part C early intervention providers to support families residing in rural communities who may be experiencing vulnerabilities. Through focus groups, early intervention providers shared strategies and barriers when supporting families. Rurality-focused segments impacting early intervention services were identified in the following themes: (a) teaming and collaboration, (b) professional learning, (c) Part C implementation, and (d) resources and services. State funding and policies that focus on rurality may be an important contributing factor to strengthening structural inequities and increasing recruitment and retention of providers in rural areas.

Introduction

The Part C Early Intervention (EI) program of the Individuals with Disabilities Education Act (2004) in the United States is an EI program used by states to support families and their infants and toddlers who may be at risk for or diagnosed with a developmental delay or disability (U.S. Department of Education, 2023). The IDEA Part C program was designed to enhance the capacity of families to meet the developmental needs of their child, minimize the need for special education and related services when children enter school, and enhance children's long-term outcomes (IDEA Infant & Toddler Coordinators Association, 2024). Under the Part C grant, states implement a public awareness program and Child Find activities. Child Find mandates that states actively identify, locate and evaluate infants and toddlers who may have disabilities or suspected to have disabilities as early as possible (Early Childhood Technical Assistance Center, n.d.). A child must meet the state's definition of an infant or toddler with a disability or developmental delay to be considered for services under Part C.

Research in EI documents both the importance and difficulty of serving families raising children with disabilities (Bruder et al., 2021). However, less is known about the principles and practices used by EI service providers working with families who may experience vulnerabilities such as poverty, rurality, unhoused, and parent/caregiver disability (Spence et al., 2023). This current study, part of a larger phenomenological project (see Spence et al., 2023) aims to examine the family-centered principles and practices used by EI providers in one state working with families living in rural communities.

Theoretical Frameworks

Aligned with Bronfenbrenner's Bioecological Systems Theory (2005), Part C EI services occur within the child's everyday natural environment and are intended to be strengths-based, family-centered (e.g., dignity and respect), and family capacity-building (e.g., achieve family-set goals). The Council for Exceptional Children and the Division for Early Childhood Initial Practice-based Standards for Early Interventionists and Early Childhood Special Educators (2020) emphasized the need for professionals to implement family centered practice (FCP) and "…support families to achieve the goals they have for their family and their young child's development and learning; and promote families' competence and

---

[1] Coastal Carolina University, Teacher Education, Conway, USA, e-mail: drooksel@coastal.edu, ORCID: https://orcid.org/0000-0002-4317-1593

[2] Virginia Commonwealth University, Counseling and Special Education, Richmond, USA, e-mail: spencecm@vcu.edu, ORCID: https://orcid.org/0000-0002-6158-7082

confidence during…intervention." Specifically *Standard 2: Partnering with Families* focuses on provider application of strategies that build upon families' existing strengths, foster family competence and confidence, and develop trusting, respectful, affirming and culturally responsive partnerships with all families (2020). Additionally, the Division for Early Childhood (2014) Recommended Practices (RPs) provides guidance to professionals and families about FCPs that are specifically known to promote positive outcomes for young children who have or are at risk for developmental delays and disabilities and their families. FCPs have helped to fulfill children and families' goals (Kilmer et al., 2010; Xu et al., 2017) and increase families' satisfaction with services (Smith et al., 2015; Xu et al., 2020). Given the potential cost savings to the state, FCPs may also be beneficial to the community (Hajizadeh et al., 2017).

Likewise, the RPs (Division for Early Childhood, 2014) offer guidance to EI providers about specific behaviors they should use to support teaming and collaboration (TC) when working with young children with developmental delays and/or disabilities. The TC RPs (Division for Early Childhood, 2014) include professionals engaging in joint planning and implementing supporting/services with all team members (TC1), exchanging expertise, knowledge and information to build team capacity (TC2), using effective communication (TC3), discover and access community-based services (TC4) and identifying one primary provider to serve as the liaison between the family and other team members (TC5). Additionally, the *Mission and Key Principles for Providing Early Intervention Services in Natural Environments* accentuated the foundational values necessary to support the system of family-centered EI services (Workgroup on Principles and Practices in Natural Environments, 2008). Validated through research, model demonstration and outreach projects, these key principles guide EI professionals. For example, Key Principle 2 outlines that EI professionals provide families with resources and support that can enhance their child's learning and development. Additionally, Key Principle 6 calls attention to the families' priorities, needs and interests, which are addressed most appropriately by a primary provider who represents and receives team and community support. EI professionals may not be able to adequately implement EI services and family-centered strategies if professional standards and key principles and practices are not in place or system-supported. Despite the consensus of the importance of family-centered early intervention for *all* families (Bruder & Dunst, 2005), limited research exists about the FCPs used in Part C EI, specifically within rural communities.

Rural Context

No comprehensive or definitive definition of rural currently exists (Longhurst, 2022; Thier et al., 2021). Therefore, the generally accepted definition of rural is that of the U.S. Census Bureau (2023a). The U.S. Census Bureau defines rural as what is not urban—that is, after defining individual urban areas, rural is what is left (U.S. Census Bureau, 2023a). Young children in rural areas are more likely to be eligible for Part C services (Decker et al., 2020; Roberts et al., 2014), yet this population is underrepresented in rural education literature (Thier et al., 2021). Therefore, we emphasize the benefits of rural settings. For example, rural schools are often central to the identity of the rural communities, promoting stronger attachments for residents and stronger commitment to student achievement (Showalter et al., 2023). Community values may be a strong motivator for student success. In fact, students in rural settings experience a higher graduation rate than their peers in non-rural settings (Showalter, 2023). Likewise, rural schools often have smaller populations and class sizes which may increase the personalized attention students receive from teaching staff and administration (Showalter et al., 2023). It is important to capitalize on the culture of rural communities to enable families and young children to achieve the intended EI outcomes.

Yet families residing in rural communities have long reported barriers to accessing EI services including access to information, providers, and transportation (Cummings et al., 2017; Decker et al., 2022, 2020; Elpers et al., 2016, Singh et al., 2019). Likewise, EI agencies in rural areas report obstacles including recruitment and retention of Part C professionals, the ability to meet the basic needs of families experiencing vulnerability (e.g., homelessness, poverty, mental health), and access challenges that are characteristic of a rural state (e.g., transportation, geography) (Dwyer, 2019). Additionally, very few specialized providers (e.g., occupational therapists (OT), physical therapists (PT), speech language

pathologists (SLP), etc.) in rural areas have pediatric backgrounds (Haring & Lovett, 2001). These barriers, specifically access to services and highly trained professionals, may influence the strategies that Part C providers use when working with families in rural communities (Decker et al., 2022, 2020; Cummings et al., 2017).

This study occurred in Maine, one of the most rural states in the nation (U.S. Census Bureau, 2023b). The Rural-Urban Continuum Codes (RUCCs)(U.S. Department of Agriculture, 2024) distinguish between metropolitan and nonmetropolitan counties by population size. The RUCCs allow researchers to view county-level data when analyzing trends related to population density. Using the 2023 RUCCs, eleven of Maine's, sixteen counties are classified as rural. A disproportionate number of high need families reside in rural, remote, and sparsely populated areas (U.S. Census Bureau, 2023c). For example, 10.8% of [state] rural residents fall below the poverty line (U.S. Census Bureau, 2023b), and 11.2% of households identify as food insecure, meaning that they have trouble providing enough food due to a lack of money or resources (Rabbitt et al., 2023). Reportedly 61,018 children aged five and under reside in Maine and are the most likely age cohort to be poor, with 15% living below the poverty line (Kids Count Data Center, 2023; U.S. Census Bureau, 2023c). In the U.S., 57.8% of the population is White alone, not Hispanic or Latino. However, in Maine, over 93% of the population is White (U.S. Census Bureau, 2023c). In 2022, 1,476 infants and toddlers were receiving early intervention services, or 2.4% of the state's population (Frazier, 2024). The percentage of children served in Maine's early intervention system are represented by the following: 2.5% Asian, 3.4% Black/African American, 1.5% Hispanic/Latino, 2.4% White, and 2.3% two or more races. Data cannot be reported for American Indian/Alaskan Native and Native Hawaiian and Other Pacific Islanders due to suppression of data to avoid identification (U.S. Department of Education, 2023). Thus, the state is both over-representing and undeserving specific minoritized communities. These statistics highlight the percentage of Maine's children and families experiencing vulnerability.

In Maine, Child Development Services (CDS) is a quasi-governmental agency, supervised by the Department of Education, and responsible for the implementation of the IDEA Part C EI program (Frazier, 2024). One CDS state office and nine regional locations span this northeastern rural state. The CDS agency maintains system-wide policies and procedures, centralized fiscal services and data management system, and system-wide contracts for service providers (Frazier, 2024). Part C EI service providers contracted by this system adhere to the routines-based early intervention model (McWilliam, 2010) and provide family-centered services within natural environments (e.g., family/caregiver homes, childcare). EI providers use a transdisciplinary approach whereas the provider receives frequent support from other related service professionals, and in turn, serves as the family's coach to strengthen parenting competence and confidence and promote child learning. In this approach, each regional location has weekly team meetings to collaborate about child outcomes.

The purpose of this study was to examine the family-centered principles and practices used by EI providers in one state working with families living in rural communities. The study adds to the literature by documenting awareness of rural issues impacting providers and families. This is the first study to examine the family-centered strategies used by EI providers to support families residing in rural communities who may be experiencing vulnerabilities. The following questions guided the analysis: (1) What themes emerged from reported challenges and potential barriers to implementing EI services with families experiencing vulnerabilities and residing in rural communities? and (2) What solutions, if any, were offered by EI providers?

Method

The current study is a sub-study of a larger phenomenological study (see Spence et al., 2023). Maine was selected because both lead researchers represented EI personnel preparation programs at two institutes of higher education within the state and had specific interests in policy, personnel and professional development impacting EI services. While rurality was not a primary research question in the larger study, topics related to supporting families in rural communities were often discussed by focus group participants. The larger study was approved by the Institutional Review Boards at each of the lead

researcher's institutions and focused on family-centered strategies EI providers report using with families experiencing vulnerable circumstances. Representing the nine EI service regions across the state, nine focus groups were conducted that included EI providers and service coordinators. An additional focus group was held with regional managers, for a total of 10 focus groups. Data from the regional managers and seven of the nine EI service regions are reported in this current study. Using the RUCC (U.S. Department of Agriculture, 2024), the two EI service regions that did not contribute to the data in this study are in counties not designated as rural.

Procedures

The researchers gained permission from the state Part C Director to ask regional EI managers to pass information about the study to their staff. Managers assisted with identifying and reserving a room for the focus group, and shared information about the study time and location with their staff. Managers were not aware which EI providers participated in the study. The EI provider focus groups were held at a location within their region, generally a large conference room in the regional site, with options for remote participation. The focus group for regional managers was held at a regional office, centrally located in the state, with remote options for participation. Once all participants were present, they read and signed an informed consent form and completed a demographic survey. A semi-structured protocol was used to explore strategies used by participants to support families in EI and with another area of vulnerability. Vulnerabilities discussed during the focus groups included homelessness, poverty, parents with disabilities, and foster families, among others. Participants were encouraged to share their own experiences and expand on each other's responses. The focus groups were recorded, and research assistants transcribed the recordings following the completion of each focus group.

Participants

The 56 participants in this study represented 43% (49/114) of the state's Part C direct service providers and seven of the eight managers (88%), who supervise providers at the nine regional sites. The participants were primarily White, with graduate education (See Table 1). There was a range of experience working in EI, from less than a year to more than 30 years, with 33% of providers working in EI for less than 3 years. One direct service provider and two managers participated remotely. All seven program managers had been in that role for less than three years, although all had more experience working within the EI system.

Analysis

To address the guiding questions, the research team conducted a thematic qualitative analysis (Miles et al., 2014) with a multi-step, collaborative analysis process (Cornish et al., 2013). The transcriptions were utilized as primary sources of data. Seven themes were identified in the larger phenomenological project (family-centered strategies, Part C implementation, perceptions, professional experiences, professional learning, resources and services, and teaming and collaboration) and a codebook was developed using an iterative, collaborative consensus process across multiple stages (see Spence et al., 2023 for a complete description of the primary analysis procedure). While no specific focus group question specifically addressed rurality, providers often mentioned rurality in relation to information they shared about their experiences with families; therefore, when relevant to the current study, rurality was captured in this step. Once the primary analysis was completed, a research assistant reviewed all segments to identify the rurality-related segments. She created a spreadsheet with the segments in their originally coded categories, and the two lead researchers individually read each segment, determined the presence or absence of rurality in the segment, and discussed their findings. The lead researchers reached consensus for rurality-focused segments identified as having an impact on EI services (Cornish et al., 2013).

Reflexive Statement

As researchers, professional development providers, and early interventionists, we believe strongly in a high-quality Part C system. We recognize the critical importance for supporting families engaged in Part C services, as well as the need for supporting the professionals who work in the field. We also

acknowledge the real gaps in funding that impact Part C systems and how this may impact quality of services. We recognize the differences and inequities across regions and how resources may not be distributed evenly within the same state. We believe that hearing the experiences directly from those closely engaged in the system can help to shape and improve service delivery for all.

Table 1. Focus group participants

Participants' characteristics	n %
Gender (n=56)	
Male	1 (1.8%)
Female	55 (98.2%)
Current position in early intervention system (n=56)	
Service coordinator	10 (17.9%)
Early childhood special educator	10 (17.9%)
Occupational therapist	8 (14.3%)
Program manager	7 (12.5%)
Special educator, other than ECSE	8 (14.3%)
Speech language pathologist	4 (7.1%)
Physical therapist	2 (3.6%)
Educational technician	2 (3.6%)
Teacher of deaf/hard of hearing	2 (3.6%)
Licensed clinical social worker	1 (1.8%)
Other / no response	2 (3.6%)
Educational level attained (n=56)	
Associate degree	2 (3.6%)
Bachelor's degree	19 (33.9%)
Master's degree	33 (58.9%)
Doctoral degree	1 (1.8%)
No response	1 (1.8%)
Years worked in profession for which prepared (n=56)	
Less than 1 year	2 (3.6%)
1-3 years	4 (7.1%)
4-6 years	3 (5.4%)
7-12 years	12 (21.4%)
13-18 years	14 (25%)
19-24 years	9 (16.1%)
25-30 years	6 (10.7%)
30+ years	6 (10.7%)
Years worked in early intervention (providers; n=49)	
Less than 1 year	6 (12.2%)
1-3 years	10 (20.4%)
4-6 years	7 (14.3%)
7-12 years	8 (16.3%)
13-18 years	4 (8.2%%)
19-24 years	6 (12.2%)
25-30 years	4 (8.2%)
30+ years	3 (6.1%)
No response	1 (1.8%)
Years worked in early intervention (managers; n=7)	
Less than 1 year	0 (0%)
1-3 years	0 (0%)
4-6 years	1 (14.3%)
7-12 years	3 (42.9%)
13-18 years	2 (28.6%)
19-24 years	0 (0%)
25-30 years	0 (0%)
30+ years	1 (14.3%)
Years worked in current role in early intervention (managers; n=7)	
Less than 1 year	2 (28.6%)
1-3 years	5 (71.4%)

Findings

Based on the qualitative analysis (Miles et al., 2014), rurality-focused segments reported by EI's as impacting EI service delivery were identified in four of the seven themes identified in the original phenomenological study: (a) teaming and collaboration, (b) professional learning, (c) Part C implementation, and (d) resources and services. Regional focus groups are represented in the findings using names of trees to protect the anonymity of EI regional sites. Participant quotes are provided throughout the results and brackets are used to provide clarifying information and/or to omit information to protect participants' confidentiality.

Teaming and Collaboration

Maine uses the primary service provider (PSP) model, including Individualized Family Service Plan (IFSP)--based teaming once per week (McWilliam, 2010). All team members attend regular team meetings for the purpose of colleague-to-colleague coaching around IFSP outcomes. Participants *reported* using technology, including web-based conferencing and text messages, to facilitate *teaming and collaboration.*

Facilitator summarizing previous comments: "So the travel is an issue getting everyone together?"

Maple A: Oh yea, I see [PSP name] maybe only once a week for 5 or 10 minutes and I bring up my caseload and I am like 'okay tell me about that kid quick. What about that kid, anything with that kid?' And she has always got something to tell me. I mean parents separating and then back together and then this family's house burnt down, I mean it is just crazy. But no, I mean technology, we just text each other all the time.

While technology supported teaming and decreased some barriers, others indicated that they preferred in-person meetings. A participant from Linden stated, "It is a challenge for you because you are by yourself…Sometimes it is hard when we only see each other once a week so it is hard to have that interaction." Another participant commented "We do see at least one Zoomer, but yeah, it is easier certainly when we are face to face." The isolation participants felt was shared across multiple groups.

Professional Learning

Maine requires EI providers to participate in ongoing professional development (PD) related to their work for recertification. EI providers and managers reported that in-person PD was difficult to access for those working and living in rural areas of the state, reporting that they were often responsible for covering the cost to attend the professional development opportunity.

Birch A: We have lots of opportunities. But not very many are local.

Birch B: Oftentimes we can go but we eat the milage and eat the cost.

Additionally, a participant in Willow shared that the PD available to them does not center the issues families and providers in rural areas experience, stating: "…they're geared for cities."

The role of who provides PD opportunities and who pays for these opportunities was a topic discussed across several groups. During the discussion between managers, one manager mentioned that another region offered PD. The second manager replied that they had to "seek it out" and "It's not like someone is doing this for us" (Redwood), emphasizing the lack of equitable opportunities across the rural state.

Part C Implementation

EI providers work within the policies and procedures set within the state Part C office and regional offices. Service delivery is affected by these policies, and EI providers discussed the impact due to rurality. Policies related to staffing, efficiency, and supervision were discussed across the focus groups as impacting EI providers' daily work.

Rurality impacted participant's perceived ability to support families. The PSP model in use for the state (McWilliam, 2010) indicates that the PSP should be decided based on who is most appropriate to support the identified IFSP outcomes. However, geography and provider availability often played a larger role in that determination. When asked how the PSP was determined for families facing vulnerable

circumstances, many responded with logistical concerns like, "Geography. Unfortunately, that's right now how it is." (Birch). Participants in Ash, Linden, and Maple discussed lack of discipline-specific providers (e.g., OT, PT, SW). One area of the state described the impact of a shortage of providers, sharing that discipline-specific providers may only do evaluations or consults due to availability.

> I'm the only SLP so I go from.. I go wherever anybody needs me in [area]… I'm the only one and all I can do really is evaluations and joint visits or consults because I'm going everywhere… and you know we don't have an OT on our team. (Maple)

Besides having only one SLP and no OT, this area also does not have a PT. Therefore, all PSPs are developmental service providers, even if the family and IFSP outcome would be best supported by a domain-specific provider,

> Well, we already mentioned it, but we don't have enough providers. We don't have enough contracts, so we don't have OT/PT (Maple).

A participant in another region also mentioned the conflict between supporting the IFSP and logistics,

> Our only other occupational therapist…only does consults. So, I feel so geographically stretched and honestly for the [this area], I typically, even if OT is the best fit, I cannot work it into my schedule. But even now, I see kids from [three geographically distant cities] if that is where a child is. So, it is such a long stretch and sometimes I will see 3 kids in one day and I will drive like 6 hours. So how is that an effective use of our time? And scheduling is hard. I know some of that is the nature of the job but… (Linden)

A manager discussed that when families move, even within the same region, it can cause logistical difficulty to have continual EI services due to distance and staffing.

> We have a kid that lives in central [region]. It is two hours from our office north and it is two hours from our office south so with our site we have, we basically have one of each provider so it's not like a special educator is seeing this child down in southern [region] and then moves all the way up the northern half of our [region]. We don't have a special educator up there…so it's not like we can even change providers that easy up here. (Redwood)

In addition to sharing their experiences with provider shortages, some of the participants also discussed daily logistics,

> I mean I do work on the side of the road sometimes because I must be somewhere in that region next, and I can't go back to this other family. Efficiency can get tricky that way. (Linden).

Through the discussion, there were mentions of potential solutions and alternative ways of approaching caseloads and travel responsibilities,

> But sometimes it seems like if we had a little bit more strategic planning, it seems like things that appear to be costing more money actually save some. Hiring a person might really cost less because I am tracking and logging like a million miles a week. (Linden)

EI providers need to know the local communities and services they provide, and an important aspect of Part C service delivery is to be a resource to their families to support these connections. By spreading EI providers across a large region, it can be more difficult to learn about services in each community they visit,

> And I think it is a disservice, it's stressful, not economically wise to send people all over [county] and not keep them regionalized. It cuts down on the numbers of children you can see, but it also prevents you from gaining that experience that would help the vulnerable family with some kind of resource. (Pine)

State and regional policies are written to cover all families in the state. EI providers hold a strong commitment and will do what they need to support the families eligible for Part C services, however the implementation of policies often leaves the burden to the individual EI,

> I picked up a child that I have no way how I am going to get to them. I am going to have to reconfigure all my families to try to figure out how to do it, and I will. (Linden)

Resources and Services

Participants emphasized the lack of resources (e.g., transportation, related services) and the negative impact for families attempting to access EI services in rural communities. This lack of resources also extends

into additional services that a family may need, such as medical care or therapies outside of the EI system. As one EI shared,

> There are those families up and down east [state] that have to drive, whether or not they have a vehicle, two hours plus to get a diagnosis and then there are no services available for after diagnosis (Pine).

An EI in another area of the state discussed not only the considerable distance but the funding required to access the services,

> And even specialty clinics, everything's in [town]. Well, when you don't have money and you can access [medical appointment funding source], you still must have money to go. (Birch)

Transportation for families to access medical services is available throughout the state; however, EI providers reported that these services are unreliable. EI providers shared that parents often had to choose between priorities because transportation schedules did not align,

> Palm A: I have a family in [town], which is in the middle of nowhere, and [bus service] cancels on them more times than they don't. And then mom is choosing, okay do I get the older brother to preschool or do I get younger brother at home to meet with [EI].

> Palm B: I have kiddos that have those speech services, and they miss those visits, and we have a waiting list of 200 kids, you are done. The parents are like, 'I do not know what to do' and we have had several kids have [therapy clinic] drop them because all of them were [bus service] related.

The lack of public transportation in rural communities was also noted as a barrier for families,

> There is no public transportation available whatsoever and these families do not have money for a taxi (Maple).

The discussion then expanded to potential solutions so that families could access resources, however barriers were noted as well,

> Maple A: In the more rural areas where I am there's churches, that provide, not only food, but general assistance, or other things like household needs. But you have to know who to call at what church and they have to kind of like the person you are calling about and then they will decide how much they are going to give them.

> Maple C: "I live in the (county name) area and there is not a lot down there for food pantries we have one in (town name) but you have to live in (town name) in order to access it. There is one on each reservation but those are the only three that I know of in the (county name) area."

A manager summarized feelings about how her rural region might be perceived,

> We might have the service up here but is it like the appropriate service? It is like piecemealed together because 'oh it is [region] so this will do for you guys. (Redwood)

Discussion

The purpose of this study was to (1) identify the themes that emerged from reported challenges and potential barriers to implementing EI services with families experiencing vulnerabilities and residing in rural communities, and (2) determine what solutions, if any, were offered by EI providers. Providers supporting rural families perceived hardships related to the following themes: (1) implementation of services, (2) access to resources and services, (3) teaming and collaboration, and (4) professional development. Teaming and collaboration are an essential, and required, component of high-quality EI service delivery (Division for Early Childhood, 2014). EI providers in rural areas of the state indicated that teaming with colleagues was difficult when they were not able to see each other regularly. Many regional sites relied on Zoom technology for collaboration opportunities and attendance at team meetings, at a time when other regional areas were primarily meeting in person or had the opportunity to talk while being in a shared office. While technology can provide opportunities for collaboration, effective processes must be considered to increase EI teaming and collaboration and facilitate implementation in rural settings specifically (Decker et al., 2020).

Access to ongoing professional learning opportunities is critical for maintaining current knowledge of best practices. EI providers in rural areas reported that they had to travel, often at their own expense, to attend professional learning activities. Like collaboration, technology was also a factor when EI providers

were discussing access to professional learning opportunities. This could be one strategy utilized to increase access to professional learning while minimizing the hardship for providers in rural locations. Because of their training to work with diverse populations, EI providers can be leaders for changing policy for inclusive practices (Collins et al., 2017); however, ongoing professional development is a necessity to support new ideas, knowledge and practices (Dunst, 2015).

Workforce shortage impacts service delivery (IDEA Infant & Toddler Coordinators Association, 2024). This is particularly true in rural areas and several EI providers discussed not having discipline-specific providers (e.g., occupational therapists) as part of the EI teams. This can negatively impact service delivery as the families' main concerns may not be able to be fully addressed, and best practices are not able to be utilized. For example, DEC RPs state "Practitioners representing multiple disciplines and families work together as a team to plan and implement supports and services to meet the unique needs of each child and family." (Division for Early Childhood, 2014). This is not able to be carried out as intended if there are not multiple disciplines, knowledgeable about Part C, available to serve specific rural areas.

Although EI providers primary focus is on developmental supports and services, taking a holistic approach to support includes discussion of resources available within the community, such as food cupboards and church supports, particularly if these topics have been captured in the family-focused outcomes on the IFSP (Division for Early Childhood, 2014). This includes knowing how access, or lack thereof, to one resource may impact access to another resource (e.g., transportation to a food pantry). Knowing the resources available in rural communities that can be used to meet families' critical needs will support the family, and as those needs are met, services can shift to supporting the child's developmental skills (Decker et al., 2020).

During the focus group discussions, providers did not suggest solutions to the barriers they mentioned, and we propose potential solutions within the implications outlined below.

Implications for Systems Change

The Division for Early Childhood's (2022) Position Statement on Ethical Practice advances equity and inclusion and advocates for "…the field to remove structural inequities so all professionals, families, and children can contribute, benefit, be valued, and have a sense of belonging." State funding and policies that focus on rurality may be an important contributing factor to strengthening "structural inequities" and increasing recruitment and retention of providers in rural areas. For example, a PD system designed and delivered to promote equity and access by all providers, with limited travel requirements, would acknowledge providers' concerns. Implementing policies that acknowledge regional differences (e.g., access to resources, productivity measures that consider long drive time between appointments) with funding structures to support these differences will improve service delivery and provide equitable options for providers and families. For example, recruitment efforts such as "grow your own" programs that are tailored to individuals who reside in rural communities would provide opportunities for providers to live where they serve. Additionally, salary differences are a known barrier for retention in EI settings (McLean et al., 2021). Policies and funding structures that account for time and travel could be used as a retention strategy and would support a more equitable pay structure.

Implications for Professional Learning Systems

As emphasized in the professional standards, principles, and practices, EI providers are expected to develop and sustain family partnerships while delivering a variety of intervention practices to a diverse population of children and families, including families experiencing vulnerabilities (Bruder et al., 2021; Council for Exceptional Children, 2020; Workgroup on Principles and Practices in Natural Environments, 2008). However, EI providers report difficulties in sustaining meaningful partnerships when the demographic and sociocultural characteristics of the families they serve are different from their own (Fleming et al., 2011). Providers report valuing parental involvement, but they may not fully understand or receive training on how to facilitate family-centered and family capacity-building interactions (Fleming, et al., 2011). Based on the findings of this study and others (Campbell et al., 2009; Fleming et al., 2011), EI

providers may need support and specialized training to feel comfortable engaging with families experiencing vulnerabilities. System-wide professional learning opportunities focused on diverse families and offered through various modalities to support the needs of providers living and working in a rural state (e.g., in-person, remote, asynchronous) are needed to increase providers' competence and confidence to implement family-centered intervention. Likewise, partnerships between Institutes of Higher Education preparing personnel and state's in-service professional learning system, working together to design and implement targeted training, would strengthen the preservice to in-service pipeline.

Limitations

The qualitative nature of this study allowed for an in-depth understanding of providers' challenges when implementing services in rural communities but is not generalizable to a larger population. Furthermore, the participants of this study were primarily female and White, mirroring the state's EI workforce, and were recruited through a state's Part C system, limiting the broadness with which the results can be attributed. Also, we were not able to determine solutions, if any, offered by EI providers. The second question did not result in specific solutions offered by providers, most likely because the focus of the larger phenomenological study was family-centered practices used by providers and not rurality. As researchers, we did not specifically ask providers about potential solutions to the barriers faced when implementing intervention in rural settings; therefore, there were missed opportunities to learn more about how providers may overcome the issues they face offering services to families who live in rural settings.

Implications for Future Research

The themes that emerged from this study could inform future research of a larger and more diverse sample. Future qualitative research should investigate how to "address the social, political, and individual implications" of our findings and conclusions (Division for Early Childhood, 2022). Further investigation into the specific needs of EI providers and families receiving EI support in rural areas can help inform differentiated policies to meet unique needs related to rurality. Future research may also explore the impact of workforce shortages on rural EI service provision.

Conclusion

Research focused on rural settings contributes to a broader understanding of how best to provide early intervention services, especially to young children and families who may be experiencing vulnerabilities. We call for changes in policy that provide funding and resources to focus on community-engaged solutions. These solutions must support those in traditionally underserved communities, especially children and families living in rural areas. As the findings of the current study suggest, the EI field must address the realities of serving rural families, ensuring that professional learning opportunities are available, and systems must consider issues relevant to rural families.

Declarations

References

Bronfenbrenner, U. (2005). The bioecological theory of human development (2001). In U. Bronfenbrenner (Ed.), *Making human beings human: Bioecological perspectives on human development* (pp. 3–15). Sage Publications Ltd.

Bruder, M. B., & Dunst, C. J. (2005). Personnel preparation in recommended early intervention practices: Degree of emphasis across disciplines. *Topics in Early Childhood Special Education, 25*(1), 25-33. https://doi.org/10.1177/02711214050250010301

Bruder, M. B., Gundler, D., Stayton, V., & Kemp, P. (2021). The Early Childhood Personnel Center: Building capacity to improve outcomes for infants and young children with disabilities and their families. *Infants & Young Children, 34*(2), 69–82. https://doi.org/10.1097/IYC.0000000000000191

Campbell, P. H., Chiarello, L., Wilcox, M. J., & Milbourne, S. (2009). Preparing therapists as effective practitioners in early intervention. *Infants & Young Children, 22*(1), 21–31. https://doi.org/10.1097/01.IYC.0000343334.26904.92

Collins, B. C., Leahy, M. M., & Ault, M. J. (2017). Guidelines for becoming a teacher leader in rural special education. *Rural Special Education Quarterly, 36*(4), 204-213. https://doi.org/10.1177/87568705177320

Cornish, F., Gillespie, A., & Zittoun, T. (2013). Collaborative analysis of qualitative data. In Flick, U. (Ed.). *The Sage Handbook of Qualitative Data Analysis* (pp. 79-93). Sage Publications Ltd. https://doi.org/10.4135/9781446282243.n6

Council for Exceptional Children of The Division for Early Childhood. (2020). Initial practice-based professional preparation standards for early interventionists/early childhood special educators (EI/ECSE) (initial birth through age 8). https://www.dec-sped.org/_files/ugd/95f212_4d9c51a4b6e54e67a2ba1df3541903da.pdf?index=true

Cummings, K. P., Hardin, B. J., & Meadan, H. (2017). Understanding parental engagement in early learning opportunities for families in rural communities. *Rural Special Education Quarterly, 36*(3), 116–127. https://doi.org/10.1177/8756870517717951

Decker, K. B., Feigel, A. J., Foster, T. D., & Kepl, R. L. (2022). "Press on, continue on": Rural parents' experiences of transitions within early intervention. *Rural Special Education Quarterly, 41*(4), 197-210. https://doi.org/10.1177/87568705221097080

Decker, K. B., Meldrum, J., Vaterlaus, J. M., & Foster, T. D. (2020). Parents' Part C experiences in rural areas: Alignment with recommended practices. *Journal of Early Intervention, 43*(2), 155–175. https://doi.org/10.1177/10538 15120 953484

Division for Early Childhood. (2014). *DEC Recommended Practices.* https://www.dec-sped.org/dec-recommended-practices

Division for Early Childhood. (2022). *Position Statement on Ethical Practice. https://divisionearlychildhood.egnyte.com/dl/KAh4cOFBZ8*

Dunst, C. J. (2015). Improving the design and implementation of in-service professional development in early childhood intervention. *Infants and Young Children, 28*(3), 210-219. https://doi.org/10.1097/IYC.0000000000000042

Dwyer, M. C. (2019). *State of Maine needs assessment: Vulnerable children birth to age 5 and their families.* https://www.maine.gov/doe/sites/maine.gov.doe/files/2021-03/FINAL%20Needs%20Assessment%201-6-20.pdf

Early Childhood Technical Assistance Center. (n.d.). *Child find for young children with disabilities.* https://ectacenter.org/topics/earlyid/earlyid.asp

Elpers, J., Lester, C., Shinn, J. B., & Bush, M. K. (2016). Rural family perspectives and experiences with early infant hearing detection and intervention: A qualitative study. *Journal of Community Health, 41*, 226–233. https://doi.org/10.1007/s10900-015-0086-1

Fleming, J. L., Sawyer, L. B., & Campbell, P. H. (2011). Early intervention providers' perspectives about implementing participation-based practices. *Topics in Early Childhood Special Education, 30*(4), 233-244. https://doi.org/10.1177/0271121410371986

Frazier, E. (2024). *State Performance Plan/Annual Performance Report: Part C FFY 2021.* https://legislature.maine.gov/doc/10772

Hajizadeh, N., Stevens, E. R., Applegate, M., Huang, K. Y., Kamboukos, D., Braithwaite, R. S., & Brotman, L. M. (2017). Potential return on investment of a family-centered early childhood intervention: a cost-effectiveness analysis. *BMC public health, 17*, 1-14. https://doi.org/10.1186/s12889-017-4805-7

Haring, K. A., & Lovett, D. L. (2001). Early intervention and early childhood services for families in rural settings. *Rural Special Education Quarterly, 20*(3), 3-11. https://doi.org/10.1177/875687050102000302

IDEA Infant & Toddler Coordinators Association. (2024). *2023 Tipping Points Survey: System Challenges and Opportunities.* https://www.ideainfanttoddler.org/pdf/2023-Tipping-Points-Survey.pdf

Individuals with Disabilities Education Act. Public Law 108-446. (2004). 20 U.S.C. § 1400. https://sites.ed.gov/idea/statute-chapter-33/subchapter-iii

Kids Count Data Center. (2023). *Kids Count data profile: [state].* https://www.aecf.org/interactive/databook?l=23

Kilmer, R. P., Cook, J. R., & Palamaro Munsell, E. (2010). Moving from principles to practice: Recommended policy changes to promote family-centered care. *American Journal of Community, 46*(3-4), 332-341. https://doi.org/10.1007/s10464-010-9350-9

Longhurst, J. (2022). Developing, utilizing, and critiquing definitions of "rural" in rural education research. In Azano, A. P., Eppley, K., & Biddle, C. (Eds.), *The Bloomsbury handbook of rural education in the United States* (pp. 1–18). Bloomsbury Academic. https://doi.org/10.5040/9781350172036.0008

McLean, C., Austin, L. J. E., Whitebook, M., & Olson, K. L. (2021). *Early childhood workforce index 2020.* Center for the Study of Childcare Employment. https://cscce.berkeley.edu/workforce-index-2020/report-pdf

McWilliam, R. A. (2010). *Routines-based early intervention: Supporting young children and their families.* Brookes Publishing.

Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Sage.

Rabbitt, M. P., Hales, L. J., Burke, M. P., & Coleman-Jensen, A. (2023). *Household food security in the United States in 2022* (Report No. ERR-325). U.S. Department of Agriculture, Economic Research Service. https://doi.org/10.32747/2023.8134351.ers

Roberts, H., Needelman, H., Jackson, B., McMorris, C., & Munyon, A. (2014). Effect of community size on eligibility for early intervention for infants with a neonatal intensive care experience. *The Journal of Rural Health, 30*(3), 259– 264. https://doi.org/10.1111/jrh.12055

Showalter, D., Hartman, S., Eppley, S., Johnson, J., & Klein, B. (2023). Why rural matters 2023: Centering equity and opportunity. *National Rural Education Association.* https://www.nrea.net/why-rural-matters

Singh, R. L., Moody, E. J., Rigles, B., & Smith, E. B. (2019). What it takes to raise children with autism in a rural state. *Advances in Neurodevelopmental Disorders, 3,* 17–28. https://doi.org/10.1007/s41252-018-0082-4

Smith, J., Swallow, V., & Coyne, I. (2015). Involving parents in managing their child's long-term condition—A concept synthesis of family-centered care and partnership-in-care. *Journal of Pediatric Nursing, 30*(1), 143–159. https://doi.org/10.1016/j.pedn.2014.10.014

Spence, C. M., Rooks-Ellis, D. L., Brown Ruiz, A., Fish, L. A., Jones-Banahan, B., O'Grady C. E., & Sulinski, E. (2023). How early interventionists support families experiencing vulnerable circumstances: A closer look at family-centered practice. *Children and Youth Services Review, 144,* 106752. https://doi.org/10.1016/j.childyouth.2022.106752

Thier, M., Longhurst, J. M., Grant, P. D., & Hocking, J. E. (2021). Research deserts: A systematic mapping review of U.S. rural education definitions and geographies. *Journal of Research in Rural Education, 37*(2). https://doi.org/10.26209/JRRE3702

U.S. Census Bureau (2023a). *Urban and rural.* https://www.test.census.gov/programs-surveys/geography/guidance/geo-areas/urban-rural.html

U.S. Census Bureau, (2023b). *American Community Survey 5-Year Data (2009-2022).* https://www.census.gov/data/developers/data-sets/acs-5year.html

U.S. Census Bureau, (2023c). *2020 Census Demographic Profile.* https://maps.geo.census.gov/ddmv/map.html

U.S. Department of Agriculture. (2024). *Rural-Urban Continuum Codes.* https://www.ers.usda.gov/data-products/rural-urban-continuum-codes/documentation/

U.S. Department of Education. (2023). *44th Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act, 2022.* Washington, D.C. https://sites.ed.gov/idea/2022-individuals-with-disabilities-education-act-annual-report-to-congress/

Workgroup on Principles and Practices in Natural Environments. (2008, March). *Agreed upon mission and key principles for providing early intervention services in natural environments.* http://ectacenter.org/~pdfs/topics/families/Finalmissionandprinciples3_11_08.pdf

Xu, Y., Ahn, H., & Bright, C. L. (2017). Family involvement meetings: Engagement, facilitation, and child and family goals. *Children and Youth Services Review, 79,* 37–43. https://doi.org/10.1016/j.childyouth.2017.05.026

Xu, Y., Ahn, H., & Keyser, D. (2020). Measuring family-centered practice in child welfare. *Families in Society, 101*(2), 148–166. https://doi.org/10.1177/1044389420907742