Nurturing Little Bodies and Brains

Supporting Brain Development, Learning, and Health for Families

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The first years of a child's life are crucial for brain development—more so than any other time in their life. From the moment they enter this world, the clock starts on the critical period of cognitive, emotional, and physical development. The quantity and quality of experiences during this time have a lasting impact on a child's ability to learn and succeed in school and life. This is supported by decades of research that emphasize the significance of these positive learning experiences.[1]

During the years from birth to age five a child's brain goes through a significant amount of growth. All of this occurs before kindergarten, with a newborn's brain doubling in size within the first year and reaching 80 percent of its potential size by age three.[2] Time keeps ticking as the brain connects to long-term learning, adaptability, emotional intelligence, and school readiness. This is where the brain has the potential to create millions of synapses. While genes play a role in determining a brain's potential and processing capacity, a child's healthy development and the strength of their synaptic connections depend on healthy and caring relationships. However, an absence of caring relationships, limited access to quality healthcare, and a lack of early learning experiences can have a negative impact on a child's lifelong health and learning, resulting in long-term effects on their preparation for formal learning environments.[3]

The responsibility of ensuring a solid foundation for early learning, crucial for lifelong learning and development of a healthy brain, lies on the parents and caregivers in the home environment and on childcare centers during this critical time. Some parents and caregivers have the resources and understand how

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to support their young child's learning and development during these first few years of life, but many do not, which can lead to wide disparities for young children in terms of brain development, learning, and health that may persist throughout life.[4] Given that training parents and caregivers has been shown to have a positive impact on children's early brain development and early literacy progress,[5] it is possible that these disparities could be addressed through targeted parental education and support.

The disparities in levels of support that parents and caregivers can provide for their young children often exist along socioeconomic and educational attainment lines, with families who have low-income and lower education levels typically being less able to provide a variety of supports for their children than those with higher-income and education levels.[6] To address these disparities in early learning, development, and health and close these knowledge and health gaps, both early childhood and health scholars stress the importance of boosting the ability of parents and caregivers in underserved communities to support early brain development, learning, and health for their young children from day one.[7] Targeted parental education that focuses on early learning, health, and brain development is one way that these disparities could be addressed.

Public Libraries and the Whole Child: Connecting Learning, Health, and Development

Public libraries are valuable community resources that can help bridge health and early learning-related knowledge disparities for families with children aged 0–24 months from underserved communities.[8] Despite having several characteristics that indicate untapped potential to support community health, libraries are often underestimated in their capacity to do so, particularly related to early childhood.[9] At the same time, studies have shown that library programs provide numerous early learning benefits for young children, including supporting early literacy,[10] developing early math skills,[11] enhancing fine and gross motor skills,[12] and promoting social skills.[13]

By understanding the social determinants of health and early learning inequities, libraries can position themselves to better address the needs of families with children aged 0–24 months from underserved communities. Libraries have already demonstrated an understanding of the barriers faced by underserved communities and contributed to increasing education equity for underserved communities by working with a variety of community partners to take programs and services for children and families out into community locations to meet families where they are.[14] By including local healthcare organizations and other community organizations that offer healthcare-related services for families with young children in these partnerships, libraries can provide additional opportunities for families that may otherwise experience barriers to accessing these health-related services. This could also help libraries increase their reach and support of a more diverse range of underserved communities,

potentially making a greater impact in addressing health and learning disparities for young children and their families.

Some libraries have recognized the importance of healthcare partnerships and expanded their focus to include general health services, with a specific focus on underserved communities. These services include placing a nurse in library branches, hosting health fairs and screenings, and vaccine clinics, among others.[15] Furthermore, some libraries have collaborated with healthcare organizations and professionals to promote early learning in their communities. These partnerships have taken various forms, including storytimes in hospitals and WIC centers, partnering with Reach Out and Read to provide early literacy resources, book distributions in healthcare centers, and partnering with home-visiting nurses to deliver an early learning program for families.[16]

However, even with understanding the potential of libraries as key players in promoting community health and wellbeing, there is a lack of research that provides insight into how they are partnering with community care organizations to support families with early childhood health and learning during these early years, which underscores the need for further exploration and investment in this area.

The Study

Project SHIELD (Supporting Healthy Infant Early Learning and Development) was an IMLS planning grant that used surveys, interviews, and design workshops to explore the ways public library practitioners can partner with community care organizations to provide more effective support for children 0–24 months and their families from underserved communities around early brain development, learning, and health. This article focuses in on smaller pieces of the study dataset—parent/caregiver interviews and focus groups and library practitioner interviews[17]—to provide insight into the needs families face with supporting their child(ren) during the early years of their child's life, how libraries are currently serving families with children 0–24 months, and how other organizations fit into these efforts.

The following research questions were used to guide the research activities:

RQ1: What needs do families in underserved communities face with being able to support early brain development, learning, and health during the first few years of their children's lives?

RQ2: What are some types of programs and services libraries are offering for families of children 0–24 months? How, if at all, do care organizations fit into these efforts?

Participants

The participants in the study consisted of two groups: parents/caregivers of babies and toddlers and library practitioners offering programs for families of babies and toddlers. The parent/caregiver

group consisted of forty parents and caregivers from underserved groups in a Midwestern city. Recruitment was done through three different organizations that were providing existing services for parents of babies and toddlers from underserved groups: a pregnancy organization, a housing development with robust wraparound services, and community health agency. The only criteria for parents and caregivers to participate was that they had to have a baby or toddler. The parents and caregivers represented diverse racial, cultural, and ethnic groups, but all fit into a low-income classification.

The library group consisted of sixteen library practitioners from ten different states across the nation who were offering programs and services for families of babies and toddlers. The libraries were recruited through calls for participants on national and state-level youth services-focused library discussion lists. The library practitioner participants represented libraries of different sizes, including two small libraries (service population (SP) of 0–24,999), six medium (SP of 50,000–249,999), and eight large libraries (SP of more than 250,000). The libraries were in different types of locales:[18] one in a rural area, two in towns, three in suburban areas, four in cities with a population less than 100,000, and five in cities with a population more than 250,000.[19] Finally, the libraries were spread across the nation with the most located in the Midwest, then the Northeast, followed by the South, and the West (see table 1).

Data Collection and Analysis

Virtual research activities were used with the participants since most of the study occurred during the pandemic. The parents/caregivers participated in either a virtual focus group or an interview. Three two-and-a-half-hour focus groups were held in which a majority of parents/caregivers (36) participated. Four additional caregivers could not attend the focus groups due to scheduling issues, so they were able to participate individually via a one-hour interview. Similar questions were used in the focus groups and interviews. Parents and caregivers were asked to share about their experiences with parenting, goals for their children, questions they had about parenting, their experiences with the library as a parent, and more. The library practitioners participated in a one-hour virtual interview. In the library practitioner interviews, they were asked about the programs and services they offer for families of babies and toddlers, their perceptions of the needs and barriers these families face, partnerships for this work, future plans, and more. The interviews and focus groups were all recorded and transcribed and the transcripts were analyzed using thematic analysis. One coder completed all of the coding but engaged in discussions with the rest of the research team around the codes and the application of them to avoid any bias or misinterpretation of the data.

Results from Family Data

In the study, we wanted to understand families' experiences, successes, challenges, and needs because having a more holistic understanding of these families can lead to organizations being

Table 1. Geographic Makeup of Participating Libraries

Region	No. of Libraries	No. of Participating States
Midwest	8	4
Northeast	4	2
South	3	3
West	1	1

able to develop more meaningful and relevant programs and services that meet the desires and needs of these families. To set the stage for understanding their needs and what they want from the library, we asked the parents and caregivers about their hopes, dreams, and goals for their children. The parents and caregivers shared a variety of goals that they had for their children but most related to wanting the best for their children. The most frequent response related to wanting their child to excel at whatever they choose to do in the future, such as one participant who shared, *"I want my children to be mentally healthy and successful in whatever they pursue, no matter what it is."* Other common responses included wanting the following for their children:

1. to be good, decent human beings, as one participant shared: *I just want my children to be decent human beings. I want to raise people that when they get out into this world, don't nobody got to worry about them because they know that they are good in the world.*

2. to be happy, strong, resilient, and independent, as seen in the following quote: *I do affirmations with my children where I say, "you are protected, you are strong, you are brave, you are resilient, and you will be a leader."*

3. to have healthy relationships, as demonstrated in this participant's response: *I want them to be successful and have stable and healthy relationships with people as well as a healthy relationship with themselves.*

4. to have things they themselves didn't have, as one participant shared: *I had such a rough life since I was born, I don't want that for them. I want my kids to have a life that I didn't have growing up.*

Family Needs

The families in the study identified numerous needs that they had in learning and working to raise healthy and happy children. Some common types of needs included learning more about children's development and health, wanting information on supporting learning for their child, opportunities for informal learning support, and information on community resources. Table 2 provides more information on the different types of needs caregivers had related to raising their children.

While sharing these needs around parenting and raising their child(ren), the parents/caregivers also shared extensively about needs that they themselves had to help them be a better caregiver for their child. Some of the more common needs included informal and formal learning opportunities for themselves, strategies

Table 2. Caregivers' Needs Related to Their Children

Caregivers' Needs Related to Children	Detailed Information
Information on children's development and health	Parents/caregivers talked about needing information on the following: ■ health-related topics: vaccines; nutrition (e.g., breastfeeding, formula, solids); teething; potty-training; illnesses; and more ■ development-related topics: if their child's behavior is normal; if their child is meeting developmental milestones; how to identify developmental delays, speech issues, and mental health issues; and more
Information on supporting learning for children	Caregivers talked about wanting the following information on early childhood learning: ■ what their child needs to learn and be able to do in early childhood so that they can be successful in school ■ how they, as the caregiver, can best support topics and skills at home
Opportunities for informal learning support	Caregivers discussed the scarcity of affordable, high-quality daycare and as a result wanted more community-based early learning activities to supplement their child's daycare. As a result, they mentioned wanting early learning activities with the following attributes: ■ late-day schedules to accommodate working parents ■ more baby-focused offerings ■ located in community locations they can access
Information on community resources	Caregivers spoke about the challenges with finding information about community resources. They spoke about the importance having one organization that could pull some of this information together. Some of the community information and resources they mentioned are: ■ lists of high-quality childcare ■ lists of organizations that provided resources related to early childhood ■ promoting early childhood community events through social media

Table 3. Caregivers' Needs Related to Themselves

Caregivers' Needs Related to Themselves	Detailed Information
Self-care	Caregivers mentioned wanting to find time for themselves, to find things they could do to better themselves, and to understand how to set boundaries with their children to maintain a healthy balance for themselves.
Mental health care	Caregivers discussed having mental health struggles and mentioned wanting the following types of support to help them deal with them: ■ non-drug treatment strategies (e.g., mindfulness, yoga) ■ caregiver support groups ■ information on and connections with mental health agencies and services
Community with other caregivers	Caregivers frequently mentioned wanting to find or create community with other caregivers in a similar stage of parenthood. They talked about wanting this community to provide opportunities for their child to socialize but also for themselves to have a place to turn for understanding, empathy, and advice.
Managing and/or improving financial challenges	Caregivers discussed wanting to understand how to better manage their finances (e.g., financial literacy) as well as improving their financial situations (e.g., finding jobs or education).

and opportunities for self-care, mental health resources, and community with other caregivers. Table 3 provides additional information on these needs related to the caregivers themselves. Even though there were no planned interview/focus group questions on the caregivers' needs related to themselves, discussions around these needs arose in every focus group and interview. This suggests that these needs are significant, and that possibly caregivers are having a harder time with getting these needs met.

Current Library Programs and Services for Supporting Families of Children 0–24 Months

In addition to talking with families of very young children, we also talked with library practitioners to understand some of the programs and services they were offering that had aspects specifically focused on supporting young children 0–24 months, and their caregivers. In these interviews we heard about five broad types of programs and services that went beyond baby storytime to address some of the needs related to the children and the caregivers themselves that the caregivers had shared with us. The five main types included four types of programs: parent support groups, pregnancy and new parent classes, parenting classes for after the newborn stage, and expanded baby/toddler storytimes. The fifth category was focused on the baby/toddler services libraries were offering for these families.

Parent Support Groups

The first type of programs that we learned about were parent support groups. These programs often had aspects of information sharing, knowledge building, emotional support and community cultivation built into them. These programs were sometimes developed solely by the library and then the library would bring in guest speakers from different care organizations. In other places these programs were offered in partnership by a library and a care organization where they played an equal role in the development and delivery of the program. As a part of the partnership, the library and care organization would often work to bring in other types of care organizations as guest speakers. The programs were often structured so that there was a presentation or more structured

information sharing involving the library and care organizations at the beginning, followed by questions from the caregivers, and then open sharing and discussion among the caregivers about where they were at with parenting and their current experiences. And while we did not hear about a lot of these parent support groups during the library interviews, they were one of the main programs that caregivers mentioned wanting. And for the support groups we did hear about, the library practitioners reported an incredibly positive reception from the families who participated.

Example of a Parent Support Group

One library participant told us about a weekly new parent support group where they would have a presenter talk for a few minutes about a topic at the beginning. The topics were mostly centered on physical and mental care of both the baby and the caregiver and included things like postpartum yoga, nutrition (e.g., breastfeeding, formula, starting solid foods), baby CPR, and more. After the presentation, the presenter would lead about thirty minutes of discussion with the caregivers. The presenter would then typically leave and for the next thirty to forty-five minutes, the librarian and the caregivers would have a larger discussion based on where they were at with parenting and what they were experiencing. While much of the program series was held via zoom, the librarian did occasionally bring the families together for stroller walks and yoga. The librarian shared that through the program they were able to build a tight-knit community with the caregivers. She talked about how the program supported the caregivers' wellbeing, both mental and physical, by providing a support system of people who are in similar situations to them and by incorporating opportunities for in-person physical activity meetups.

Pregnancy and New Parent Classes

The second type of programs that emerged were pregnancy and new parent classes. These programs differed from the parent support group as they were more specifically focused on increasing the caregiver's health knowledge and wellbeing. These programs were often offered as a series of a few classes and were typically done in partnership with a healthcare organization. Many hospitals, health systems, pregnancy organizations, and even doulas offer classes focused on pregnancy and caring for newborns, but the classes are often not as accessible to underserved communities and may not include as much or any information on literacy, brain development, and bonding. Partnering on a program like this is a way to provide this information to more of your community, particularly underserved groups, and bring in the library's expertise around literacy, brain development, and bonding to increase caregiver knowledge.

Example of a Pregnancy and New Parent Class

A library practitioner shared about a program they partner on with a public health organization. The program is for expecting or recently delivered families, and for families who have adopted or are caring for very recently delivered babies within the first three months of life. Through the partnership, they have offered the program both virtually and in-person at the library. The program consists of three sessions where the first session covers early

pregnancy health issues. Then in the second session, they go into deliveries, delivery methods, and making sure that parents know their rights with childbirth. Then in the third session, they talk about infant and newborn care. In that session, they discuss how caregivers can interact with their baby based on how they are developing, the importance of early literacy, and how to incorporate early literacy practices in their day-to-day interactions with their baby. The public health department delivers the content in the first two sessions and the library does the final session along with providing the space and helping with program publicity.

Parenting Classes for after the Newborn Stage

Another type of programs that emerged are parenting programs that focused on building caregiver knowledge around the stages of child development/parenting that come after the early newborn stage. In some ways these are similar to the previous type of program with how they provide information to build caregiver knowledge. The one difference is that they are often a bit more informal and include the child in the program, providing time for caregiver-child interaction. These programs often use a more informal, play-based structure, where there are toys and open spaces for the children and caregivers to interact and play together. The libraries typically brought in a variety of care, early childhood, and early intervention professionals to the program, where they would float around and interact with the children and caregivers. During the interactions the professionals are having conversations with the caregivers, sharing more individualized information, guidance, and feedback, which ultimately helps to build the caregivers' knowledge.

Example of a Parenting Program for after the Newborn Stage

An example of this type of program that was shared with us is a program a library offers for families of older babies and toddlers. The library sets up a wide variety of toys and other play materials such as dolls, blocks, pattern toys, dramatic play materials, gross motor toys, and soft play toys. The families are encouraged to play together and with each other. Different specialists are brought to each session to talk to the caregivers about topics like speech, nutrition, literacy, and gross motor development. While the families play, the specialist goes around and talks individually to each family about their child's particular development. The librarian talked about this individual time with specialists being particularly important for the communities who live in health resource deserts and may not have access to these specialists and the opportunities to get individualized information related to their child.

Expanded Baby/Toddler Storytimes

The fourth type of program we heard about involved baby/toddler storytimes. It was where libraries were adding additional pieces to baby/toddler storytimes to specifically support the caregivers. Most often this was done by adding a playtime to the storytime, but libraries were using the playtimes in different ways. One library talked about using it to give caregivers a little break and allow them to have side conversations and talk with a person that's going through the same thing or just really talk

Table 4. Three Types of Partners in Library Programs and Services for Families with Children 0–24 Months

Type of Organization	Specific Examples
Healthcare organizations	■ public health organizations (e.g., WIC, health department) ■ nutritionists ■ gross motor specialists (e.g., OT, PT, pediatric yoga) ■ NICUs (neonatal intensive care unit) ■ pediatricians ■ home visiting nurses ■ OB/GYN (obstetrics & gynecologists) ■ speech/hearing specialists ■ pediatric dentists ■ hospitals ■ community health workers
Broader care/family services organizations	■ social workers ■ child development/intervention organizations (e.g., Help Me Grow, YMCA, Lena) ■ parenting organizations ■ pregnancy organizations ■ organizations focused on both fatherhood and motherhood ■ family services government agencies
Education organizations	■ daycares/preschools ■ school districts ■ organizations supporting children with disabilities ■ literacy and learning campaigns ■ early childhood initiatives/coalitions ■ museums ■ organizations that distribute free books to families (e.g. Reach Out and Read and the Imagination Library)

with another adult. The librarian discussed how she plays with the children for about ten minutes to get them engaged and then mingles and plays what she calls "baby matchmaker" and tries to introduce and pair up caregivers so they can build community and have support. Another example is where libraries offer the playtime after storytime but bring in care professionals to mingle and provide informal guidance and information to the caregivers. Through these additions to storytimes, libraries are supporting caregiver knowledge, mental well-being, and community.

Example of an Expanded Baby/Toddler Storytime

A library participant told us about a storytime-playgroup that they offer in partnership with their local early childhood coalition. The program is open to families with babies to about three-year-olds (depending on older sibling ages). The partnership began during COVID as a virtual storytime/playgroup to give families a chance to connect with each other since they were so isolated. Since then, they moved the program to a local park. The librarian offers a storytime and then the early childhood coalition usually brings some supplies for an open-ended creative activity (e.g., making things with play dough or clay, painting, coloring). A playground is also located at the park so the kids can play. According to the librarian, they "try to make it an opportunity where the parents can talk about what they've been through and what they're dealing with and a parent educator [from the early childhood coalition] is there, so she can talk to them about any concerns that they have."

Services for Families of Babies and Toddlers

In addition to the programs that libraries were offering for families with children 0–24 months, they were also offering a variety of services to address these families' needs. Some libraries were

serving as community connectors and working to connect these families to other needed resources in the community. They did this by providing contacts for social services, offering service fairs at the library so families had easy access to a variety of social service organizations, developing and sharing lists of high-quality childcares, and referring the families to early intervention organizations and specialists.

The libraries were also trying to address early learning needs by providing ideas for free resources and items parents/caregivers can use to support brain development and early learning at home. One library mentioned that they offer a drop-in service where they show parents/caregivers how to make something that they can then use to support learning at home, such as a book out of Ziploc baggies or a shaving cream bag for practicing fine motor skills. Other libraries talked about trying to lessen caregiver stress by partnering with corporations to be able to provide necessary baby resources for free such as diapers, formula, and pack and plays. Libraries also mentioned providing permanent or temporary baby play spaces to give caregivers of very young children a safe place where they can go to get out of the house with their baby and see other people since being a new caregiver can be so isolating and there are not many community places for babies and toddlers.

Partners for Supporting Families of Children 0–24 Months

In the conversations with library practitioners, we did hear about many different community organizations who were partnering with their local library in these efforts. While we were looking more specifically at the care partners, a wide variety of other types of partners emerged as having a role in these efforts. Our initial analysis of the data revealed four broad types of partners in these efforts:

healthcare partners, broader care and family service partners, educational partners, and then the catchall of "other" organizations, which mainly ended up consisting of the Lions and the Rotary clubs. Table 4 provides specific examples of partners from the data across the three main types: healthcare partners, broader care and family service partners, and educational partners.

Recommendations

The library participant data revealed that the libraries who participated in the study are providing a variety of services for families of children 0–24 months that address some of the needs caregivers from underserved communities had related to parenting their children. However, work is still needed to address some of the needs that emerged during the study. In addition, because the family participants represented only one state, there are likely some needs related to raising very young children that were not represented in the dataset. Furthermore, apart from some parent support groups, we did not see as many library programs and services that were addressing the needs caregivers from underserved communities had identified for themselves. This could be addressed by going directly to the families of children 0–24 months in your communities to see what they want and need from the library. Reach out to organizations that already have relationships with families of children 0–24 months from underserved communities—such as housing developments, pregnancy and parenting groups, child and family service organizations, and public health departments—to connect with and begin to build relationships with these families. Explore how you can enhance your current baby/toddler programs to also support health and development by incorporating specialists in these areas. Think about how you could also use these programs to better support the caregivers with community building, open discussions around their experiences, and increasing their knowledge during these early years.

Community partners also play an important role in these efforts. As we learned from our library participants, a wide variety of community organizations are available to partner with in these efforts. Reaching out to and partnering with these different organizations can help you and the library gain greater recognition in the community for what you can do and provide for young children and families in your community. Partnering can also help all organizations involved to increase their reach in the community while potentially conserving resources, since multiple organizations are contributing resources to the efforts. Finally, partnering with these different organizations can help to supplement the expertise that you may lack, such as early intervention and early childhood health topics.

Conclusion

The data from Project SHIELD has demonstrated that libraries can provide valuable early childhood health, development, and learning assistance to parents and caregivers who face barriers in accessing quality care and support services for children aged 0–24 months by offering tailored family engagement and early learning programs that support early brain development and health. Libraries have a vital role to play in these efforts so we encourage you to reach out to the families of children 0–24 months and the care organizations in your community that serve these families to identify and understand how you can all work together to support these families during the early and formative years of their child's life. There is a lasting value with providing rich early experiences, and interventions that support healthy development in early childhood as they can lead to lifelong positive impacts. Such interventions are prudent investments that can reduce disparities and provide opportunities to help underserved communities, ultimately benefiting our society as a whole. **&**

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17. Throughout the article we use "parents and caregivers" and "caregivers" interchangeably. Where we use "caregivers" alone, we are using a broad definition that encompasses parents and other types of caregivers.

18. For more information about the locale classifications, please visit the following resource: https://nces.ed.gov/programs /edge/Geographic/LocaleBoundaries#:~:text=A%20locale% 20is%20a%20general,or%20proximity%20to%20 populated%20areas.

19. The library locale classifications were pulled from the IMLS data catalog: https://www.imls.gov/research-tools/data -collection.