

BIRTH THROUGH EIGHT STRATEGY FOR TULSA

Phase II Evaluation

2024 Annual Report

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The Birth through Eight Strategy for Tulsa Phase II Evaluation project (the BEST Study) is directed by Dr. Eboni C. Howard, with a team of contributing AIR staff. These staff are listed by the 2024 study component they substantially contributed to and authored, as follows:

- **Process Study:** Gaby Fain, Hans Bos, Rebecca Wang, Chelsea Qi Xing, Patrick Rich, Patrik Steele, Ashley Darang
- **Outcome Impact Study:** Eboni Howard, Patrick Rich, Stephanie D'Souza, Austin Gragson, Joanne Carminucci, Rebecca Wang, Cecilia Xuning Zhang, Jodie Jacobson Chernoff
- **Ethnography Study:** Paula Dias, Vivian Le, Stephanie McCarthy

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Section I: Birth through Eight Strategy for Tulsa Phase II Evaluation Overview—The BEST Study

The purpose of this annual report by the American Institutes for Research® (AIR®) is to summarize Birth through Eight Strategy for Tulsa (BEST) Study activities, challenges, findings, and expected next steps for the forthcoming year. The report covers the BEST Study from January 1 to December 31, 2024, and is based on the original BEST evaluation plan.¹ In this section, we summarize the purpose of the BEST Study, including the three study components, research questions, and timeline. In Section II, we provide an update of the process study. Section III summarizes the outcome/impact study component, and Section IV summarizes the ethnography study. For each study component, we provide an update of activities, findings, lessons learned, and next steps.

The primary objective of the BEST initiative is to break the cycle of intergenerational poverty. BEST provides coordinated supports in the earliest years of children’s lives to help make Tulsa, Oklahoma, a good place for all children and families to live, grow, and thrive. By convening a diverse network of more than 50 partners, consisting of public agencies, health care and women’s health organizations, child care providers, education institutions, and other local nonprofit organizations, BEST aims to develop a seamless, multisector continuum of high-quality programs and services for children from birth through age 8 and their families.

The BEST Study is taking place over a 7-year period to learn how and in what ways a comprehensive, continuous, and integrated system-change approach can build greater opportunities that will improve the lives of young children and their families in Tulsa. The central purpose of the BEST Study is to determine whether BEST creates change that leads toward four goals: (a) more children being born healthy, (b) more children on a positive developmental trajectory in the first 3 years of life, (c) more children prepared to enter kindergarten, and (d) more children achieving success by third grade. To measure the impact of BEST at the child level, it is valuable to track BEST processes, activities, and impacts at the system level and understand how the impact of BEST is actualized in the daily lives of children and families. Thus, the evaluation has three distinct but interrelated studies:

1. A **process study** that gathers information from BEST partners, community stakeholders, and George Kaiser Family Foundation (GKFF®)-BEST leadership about how the Tulsa’s preconception-to-age-8 service system is shifting.

¹ Howard, E., Bos, J., Caverly, S., Fain, G., & Dahlke, K. (2019). *Birth Through Eight Strategy for Tulsa (BEST) Phase II evaluation plan*. American Institutes for Research.

2. An **outcome/impact study** that provides information from administrative data about shifts in Tulsa community service outcome trends over time, before and after the BEST Initiative. It also gathers information directly from children, parents, and teachers in Tulsa to examine changes in child and family outcomes due to BEST. It includes four cohorts of children: two cohorts followed from birth and two cohorts followed from the start of kindergarten.
3. An **ethnography study** that describes the routines and experiences of a small subset of families participating in the outcome/impact study to understand what families experience raising young children in Tulsa.

Taken together, the three studies make up the comprehensive Phase II evaluation and will help answer all the BEST evaluation research questions.

A technical working group (TWG) has been advising the study team on the components of the study and the activities summarized in this report. TWG members include Dr. Greg Duncan (Distinguished Professor, University of California at Irvine), Dr. Iheoma Iruka (Research Professor of Public Policy and Director of the Equity Research Action Coalition, Frank Porter Graham Child Development Institute at the University of North Carolina-Chapel Hill), Dr. Marta Tienda (Maurice P. During '22 Professor in Demographic Studies, Professor of Sociology and Public Affairs, Princeton University), and Robert Goerge (Senior Research Fellow, Chapin Hall Center for Children at the University of Chicago).

Guiding Evaluation Research Questions

Five overarching research questions guide the BEST Study. The first four questions capture the effects of BEST on service infrastructure, service reach, parental outcomes, and child outcomes. The fifth question captures facilitators of and barriers to BEST implementation, service delivery, and the initiative's capacity to change the trajectory on child and family outcomes in positive ways. For all research questions, it is important specifically to probe the impact of BEST on equity in Tulsa as it relates to the implicit and explicit biases that differentially affect communities and people of color.

1. **How does BEST impact the implementing partners and the larger prenatal-to-age-8 service infrastructure in Tulsa?**
 - a. **Engagement.** To what extent, and in what ways, does BEST engage with prenatal-to-age-8 service providers in Tulsa?
 - b. **Structural Changes.** To what extent, and in what ways, does BEST structurally change the prenatal-to-age-8 service system infrastructure in Tulsa?

- c. **Collaboration.** To what extent, and in what ways, does BEST change the communication, coordination, and collaboration across providers in the prenatal-to-age-8 service infrastructure in Tulsa?
 - d. **Equity.** To what extent, and in what ways, does BEST change diversity, inclusion, and equity of prenatal-to-age-8 service provision in Tulsa, including engaging parents and community stakeholders as partners in service design and delivery?
2. **How does BEST impact participation in services among Tulsa’s children and families?**
- a. **Service Reach.** To what extent, and in what ways, does BEST increase access to prenatal-to-age-8 services in Tulsa?
 - b. **Service Awareness.** To what extent, and in what ways, does BEST change the awareness of parents and caregivers of the services available to them and the benefits those services could have for them?
 - c. **Service Participation.** To what extent, and in what ways, does BEST increase the use of services available to parents, caregivers, and children in Tulsa?
 - d. **Equity.** To what extent, and in what ways, has BEST changed the level of diversity, inclusion, and equity in service access to children and families in Tulsa?
3. **How does BEST impact multiple dimensions of parent well-being, child-rearing practices, family functioning, and the home environments of children birth to age 8?**
- a. **Parent Well-Being.** To what extent, and in what ways, does BEST change parent well-being, including parenting self-efficacy, role satisfaction, and psychosocial well-being?
 - b. **Child-Rearing Practices.** To what extent, and in what ways, does BEST change child-rearing practices, including the nature of parent–child interactions, behaviors to support children’s learning and health development (including home-learning activities, well-child visits, and preconception and prenatal care), and parent beliefs and attitudes about parenting and early learning experiences?
 - c. **Family Functioning.** To what extent, and in what ways, does BEST change family functioning, including resilience, mobilizing resources, and social supports?
 - d. **Home Environment.** To what extent, and in what ways, does BEST change the quality of the child’s home environment, including the safety, stability, and supportiveness of their household and neighborhood?
 - e. **Equity.** To what extent does BEST change the level of equity in these parent, family, and home outcomes across racial/ethnic groups, income groups, and neighborhoods?

4. **How does BEST impact the multiple domains of children’s health and development?**
 - a. **Health.** To what extent, and in what ways, does BEST change the birth outcomes and health of children in Tulsa?
 - b. **Development.** To what extent, and in what ways, does BEST change the developmental outcomes (i.e., cognitive/academic, language and literacy, and social-emotional skills) of Tulsa’s children?
 - c. **Equity.** To what extent does BEST change the level of equity in children’s outcomes across racial/ethnic groups, income groups, and neighborhoods?
5. **What are the most important facilitators for and challenges to the success and long-term potential of BEST? What changes to BEST are needed to increase its success?**
 - a. What made the biggest difference in establishing and strengthening the relationships between BEST and its partners and among the partners themselves? What barriers remain, and how could they be addressed?
 - b. What made the biggest difference in changing the trajectory on parents and the home environment? What aspects of children’s lives are more difficult to improve? What areas are ripe for additional investment and intervention?
 - c. What made the biggest difference in changing the trajectory on child outcomes? Which child outcomes are most difficult to change, and why? In which child and family developmental and functional areas do family background and neighborhood characteristics influence child outcomes?

Study Timeline Updates and Summary of 2024 Findings

The BEST evaluation began in January 2020 and is scheduled to be completed in December 2027. With the COVID-19 pandemic that started in February 2020, many study activities, such as sample recruitment and data collection, were delayed. Exhibit 1 provides an overview of key project milestones to date. Exhibit 2 lays out key study activities on a timeline to indicate when the study will have information to address each of the key research questions.

Exhibit 1. Project Timeline and Key Milestones to Date

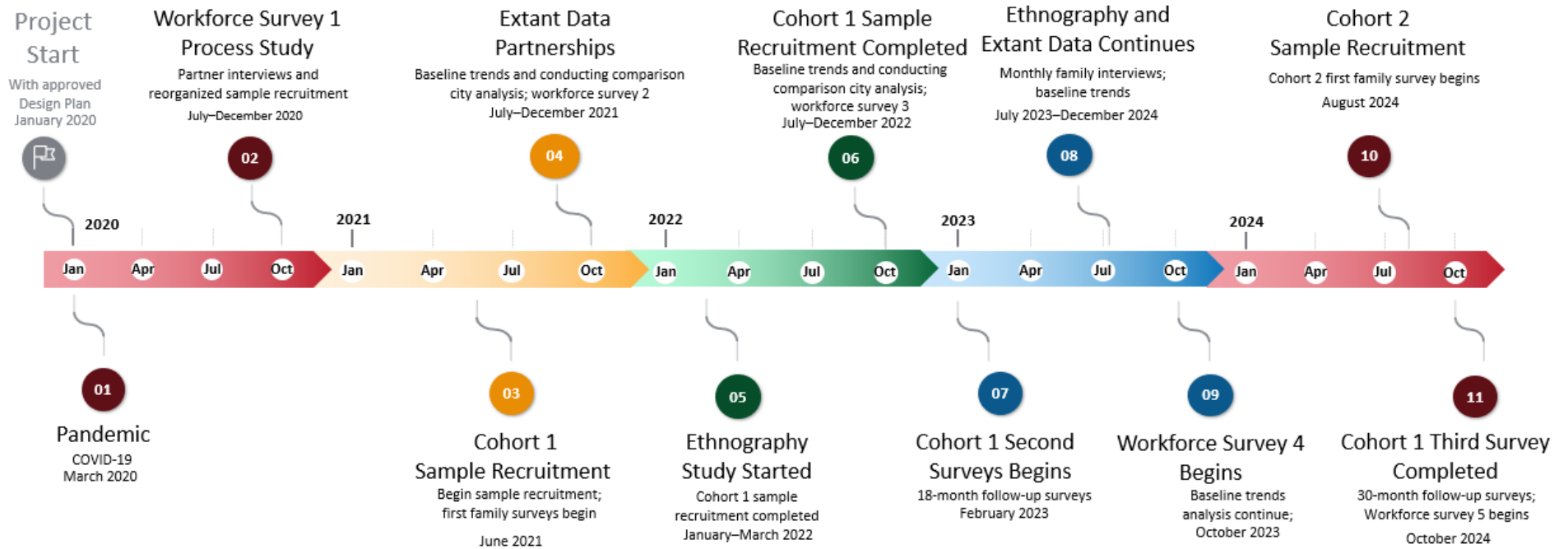
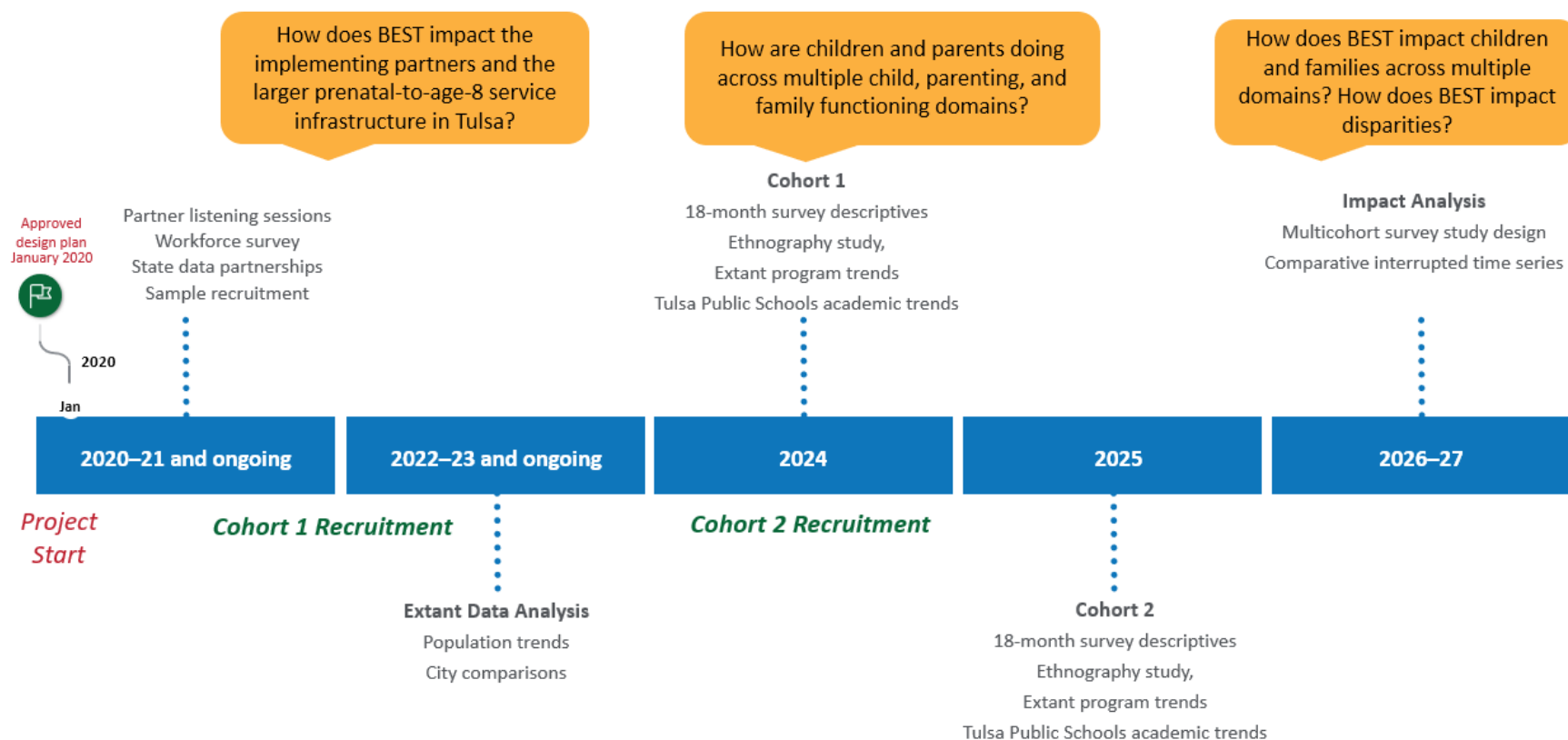


Exhibit 2. Timeline for Addressing Key Research Questions



What We Have Accomplished

	Gathered feedback from the GKFF-BEST leadership team on the use of the BEST System Assessment Tool (B-SAT).
	Conducted an annual workforce survey (administered to frontline staff and their managers in BEST partner organizations) for the fourth time, generating longitudinal data to track changes in the Tulsa service infrastructure.
	Administered a 30-month survey to families participating in the first cohorts of both the Birth and Kindergarten studies.
	Analyzed descriptive data from the 18-month birth and kindergarten surveys.
	Analyzed baseline trends using administrative data about infant and maternal mortality rates and health program appointments to describe historical patterns in Tulsa.
	Maintained contact with 18 of the 20 families participating in the ethnography study , completing 501 total interviews, 140 of which took place in 2024.
	Drafted family profiles for all 20 ethnography families in the kindergarten and birth cohorts, illuminating the complexities of families' lives in the dimensions of work and subsistence, social services, informal supports, and child development.

What We Have Learned

Process Study	
1	The BEST workforce sample is ethnically and racially diverse, and highly educated and experienced.
2	Except for staff in just a few programs, staff knowledge of BEST partners increased from 2020 to 2023.
3	Most staff make referrals as part of their jobs. As in past years, staff reported that they continued to use “warm handoffs” in 2023, personally helping a client connect with a service provider.
4	Between 2020 and 2023, the percentage of staff who reported making referrals to services gradually decreased.
5	Almost three quarters of the BEST partner staff communicated regularly about shared clients to other BEST partners—a significant increase from 2022 that continues a positive trend since 2020.
6	Engaging families in decision-making and leadership roles was a challenge for some BEST partners.
7	In 2023, staff reported high satisfaction with their jobs, and reported lower work stress than in past years.

8

BEST partners reported that increased coordination and collaboration among organizations in the initiative have led to a range of positive outcomes related to service access and quality.

Outcome/Impact Study

9

The Birth Cohort 1 respondents have, on average, higher socio-economic status (median household income of \$52,000) than the Kindergarten Cohort 1 respondents (median household income of \$35,000).²

10

Cohort 1 family survey respondents reported using mostly health and nutrition services.

11

Cohort 1 family survey respondents generally are satisfied with where they live and generally are employed, but most families are worried about living expenses.

12

Cohort 1 family survey respondents generally describe their child as healthy, though about half of the children do have a health condition.

13

Infant mortality rates are consistently higher for mothers who received inadequate prenatal care—as much as five times higher than for mothers who received adequate prenatal care.

14

Although most programs in the Tulsa Health Department experienced a drop in families using their services with the onset of COVID-19, Lactation Consulting did not experience a drop.

Ethnography Study

15

The family profiles highlight the diverse work arrangements and financial situations of families in Tulsa. Many families balance work and child care, with some having flexible jobs or relying on one caregiver to stay at home.

16

Solo mothers face greater financial challenges than married mothers, relying more heavily on social services and family support.

17

Financial stability varies among ethnography families, with five out of the 20 families reporting that they struggle to afford basic necessities, nine out of the 20 reporting that they can afford basic expenses but struggle with unexpected expenses, and the remaining six families reporting being in a more comfortable financial position.

18

Social services like the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), Supplemental Nutrition Assistance Program (SNAP), and SoonerCare are essential for many families, providing crucial support for food and health care. Although experiences with these services generally were positive, some families faced challenges with eligibility and coverage.

19

The reliance on informal support from relatives for child care and financial assistance is substantial in the lives of families in the ethnography study.

² AIR will employ survey weights to render the samples representative of their respective populations, as explained below.

Section II: Process Study Key Activities and Findings

Activities of the process study address Research Question 1, which focuses on describing how the BEST initiative engages with, supports, and interacts with the preconception-to-age-8 service infrastructure in Tulsa, how the initiative continues to evolve in response to feedback from partners and stakeholders, and changing priorities and needs in the community and in BEST partner agencies. The most important informants for the process study are members of the BEST Partner Network (BEST partners) and the GKFF-BEST team. The BEST partners are public, nonprofit, and private organizations working with children and communities in Tulsa. They receive funding and support from GKFF-BEST staff in coordination and alignment. The process study also is a source of formative feedback for the GKFF-BEST team. Key process study activities include monthly implementation updates meetings with the GKFF-BEST team focused on:

- organizing listening sessions with BEST partners;
- conducting interviews with BEST stakeholders;
- developing and administering an annual workforce survey and analyzing data from these surveys over time; and
- piloting a system assessment tool designed to assess the level of implementation for individual components of the overall BEST initiative.

What We Learned From the Process Study

In 2024, the process study gathered information about partners' experiences as participants in the BEST initiative. In addition, we solicited input from GKFF-BEST leadership team staff about their work and their use of the BEST System Assessment Tool (B-SAT). As described in more detail in the following sections, several key themes emerged. First, a major strength of the initiative, according to BEST partners, is that the initiative continues to be effective in promoting coordination and collaboration among participating organizations, leading to increased service access and quality for clients. Another strength identified through the study is the GKFF-BEST team's approach to working with BEST partner organizations. Partners reported that they strongly appreciated GKFF-BEST's focus on relationship-based collaboration and the trust and flexibility that GKFF-BEST has demonstrated to the BEST community.

In addition, AIR gathered feedback directly from GKFF-BEST leadership team staff regarding their use of the B-SAT, with staff reporting that the process of using the tool was valuable. Finally, AIR conducted an interview with the GKFF-BEST ConnectFirst director to learn more about her portfolio of programs and priorities for her work, which has included expansion of services and piloting of new programming.

In the subsequent sections, we provide more details about process study findings in 2024, concluding with lessons learned and next steps for the evaluation in 2025.

Organizing Listening Sessions With BEST Partners and Interviews With BEST Community Members

AIR organized two listening sessions (one with BEST partners and one with GKFF-BEST leadership team staff) and conducted an interview with the GKFF-BEST ConnectFirst director in 2024:

- The first round of listening sessions occurred in February 2024. Forty-four partners were invited to participate in one of four sessions; a total of 24 people joined these discussions, representing 25 partners (some people represented multiple partner programs that are operated by their organization). The purpose of these all-partner listening sessions was to gather feedback from BEST partners about the current implementation status of the BEST initiative.
- The second listening session was with the GKFF-BEST leadership team in April 2024. The purpose of this listening session was to learn about their experiences with the B-SAT.
- AIR interviewed the ConnectFirst director in October 2024. The purpose of this interview was to learn more about the director’s portfolio of programs, recent successes among these programs, and plans for the future.

Findings: February All-Partner Listening Sessions

The purpose of the February 2024 all-partner listening sessions was to gather feedback from BEST partners about the current implementation status of the BEST initiative. The listening sessions focused on partners’ successes and challenges, collaboration efforts, communication with GKFF-BEST, and related topics. Findings from the listening sessions echoed themes that emerged in previous partner discussions, described below.

“We can’t overstate the power of relationships when you’re doing community work. ... [It] is so important to the work that we do together ... building those relationships and coming in person-to-person contact and getting to know each other. I think that is tremendous.”

– BEST Partner

Partners reported that a key benefit of participation in the BEST initiative is increased coordination and collaboration among participating organizations. For example, through the BEST initiative, GKFF-BEST staff helped connect partners who share a common interest, facilitated focused discussions among groups of partners, hosted regular convenings for partners, and used other strategies to create an aligned system of services for children and families in Tulsa. Partners shared positive outcomes resulting from their collaboration, such as the following:

- more efficient distribution of surplus donations through the BEST network of partners;
- expanded services available to families resulting from embedding a service provider from one program into another program;
- enriched services made available by leveraging resources developed by one partner in another partner's program;
- increased access to services created by coordinating enrollment (or offering automatic enrollment) into multiple services for eligible clients and by hosting shared outreach events for clients;
- improved outreach to identify and engage families who may benefit the most from services as a result of data sharing between partners; and
- increased referral rates because of partner networking about available services.

In addition, partners were enthusiastic about the support they received from GKFF-BEST staff and praised their flexible, relationship-based approach to the work. Partners emphasized that GKFF-BEST staff are responsive to their needs. In addition, partners said they have clarity on their main point of contact at GKFF-BEST. This has been an area of improvement, particularly as the GKFF-BEST team has expanded: In the 2021 all-partner listening session, partners reported some challenges in understanding lines of communication with GKFF-BEST.

In terms of current challenges influencing their work as part of the BEST initiative, many partners discussed the difficulties of attracting and retaining a well-qualified workforce in Tulsa. In particular, partners underscored the need for bilingual staff and mental health professionals (including bilingual mental health staff). In addition, some partners spoke of their experiences

“We are seeing such a significant increase in mental health issues, domestic violence, substance abuse...caregivers [have] more cognitive challenges, a lot of postpartum depression.”

– BEST Partner Lead

with the Unite Us system, a “closed loop” referral system that some BEST partners are using to enter and track referrals to other partners using the platform. Partners described Unite Us as useful, helping them receive and act upon referrals more efficiently. However, some partners described the limitations of Unite Us. Because only a subset of partners are using Unite Us, partners still must maintain multiple referral systems. Finally, partners from different service sectors

described a notable increase in the needs among their clients (and noted more families experiencing challenges on multiple fronts). Several partners reported that these increased needs led to higher stress for their staff.

“There’s still a lot of anxiety, a lot of depression that has lingered, and it’s not getting any better. Kids are having more significant social and emotional challenges. A pretty significant group are Spanish-speaking caregivers, and [there are] additional challenges they’re facing trying to get support and access to resources in a language that they understand. This is for both English- and Spanish-speaking [parents]—as they’re trying to seek out services, there’s wait lists. So then it’s at best [a] 3-month, 4-month wait list to get into whatever appropriate treatment ... when you’re in crisis, that’s a long time.”

– *BEST Partner Lead*

In addition to these perspectives about the impacts, strengths, and challenges for the BEST initiative, partners identified strategies for how GKFF-BEST might better support their programs or the initiative in general. These recommendations fell into five categories: improving information sharing to disseminate information about BEST and the progress of the initiative, supporting partner collaboration, creating workforce investments, building partner capacity (for example, in regard to collecting and using data), and continuing investments for families in crisis and those with language translation needs.

ALL-PARTNER 2024 LISTENING SESSIONS: KEY FINDINGS

1. Increased coordination and collaboration among BEST partners have led to a range of positive outcomes related to service access and quality.
2. Partners praised the BEST convenings, noting that they have fostered stronger connections between participating organizations.
3. Partners described GKFF-BEST staff as responsive and supportive thought partners.
4. BEST partners struggle with continuing workforce challenges in Tulsa.
5. Partners reported a significant increase in the level and complexity of needs among families.
6. Unite Us, the closed-loop referral system, has worked well for some partners.
7. Partners offered recommendations to improve the BEST initiative.

Findings: April B-SAT Listening Session

AIR conducted a listening session with the GKFF-BEST leadership team about their use of the B-SAT to reflect on the implementation and status of the BEST initiative. Participating members of the leadership team, which consists of staff who oversee the core functions and operations of the BEST initiative, included the managing director, director of operations, director of research partnerships, director of data systems and technology, director of shared leadership, director of ConnectFirst senior associate director of partner and external operations, and associate director of partner supports. The listening session focused on the team's use of the tool during the 2024 leadership team retreat, the strengths of the tool, factors that facilitated its use, and recommendations for the tool's improvement.

The GKFF-BEST leadership team members reported that using the B-SAT was valuable, helping them generate a shared understanding of their collective work to support the BEST initiative. In particular, the team's approach to the tool—a focus on process and knowledge sharing, rather than reaching consensus on “solutions”—was helpful.

The B-SAT includes a set of indicators to measure the progress of the BEST initiative, on a 4-point scale from “not developed/not met” to “well-developed/above and beyond met.” The scale also includes an option for respondents to indicate “I don't know” for any indicator, in cases in which they feel they lack the knowledge to make an informed rating. During the listening session, members of the BEST leadership team emphasized the importance of the “I don't know” option as part of the rating scale, as it shed light on knowledge gaps about what other BEST leaders were doing to support the BEST initiative.

The leadership team reported that they are looking forward to continued use of the B-SAT and tracking how ratings may change over time.

“The way that we engaged with it really created space for rich discussion and understanding among the group of where we were both individually and then holistically as a group when it comes to the topics covered in the B-SAT.”

– GKFF-BEST Leadership Team Member

“It was just interesting to see how, even within a cohesive team, there is still pretty big variance in perspectives around the degree to which we're progressing or meeting some of the pieces of it.”

– GKFF-BEST Leadership Team Member

B-SAT LISTENING SESSIONS: KEY FINDINGS

1. Overall, the GKFF-BEST leadership team emphasized that the B-SAT was an effective tool to facilitate discussion about the status of the BEST initiative.
2. An important outcome of using the B-SAT was the identification of gaps in GKFF-BEST staff knowledge about various aspects of the work to support the initiative.
3. The GKFF-BEST leadership team emphasized the benefits of using a two-step process to complete the B-SAT.
4. The team's focus on promoting discussion of B-SAT ratings, rather than reaching consensus, had several benefits.

Findings: ConnectFirst Director Interview

In October 2024, AIR conducted an interview with the director of the ConnectFirst programs, which include programs such as Bright Beginnings, HealthySteps, and Family Connects. These programs within ConnectFirst are closely connected to the administration of the Tulsa Health Department. In general, the purpose of the interview was to learn about recent priorities for ConnectFirst, successes, challenges, and plans for the future. The ConnectFirst director described leadership changes within several programs, as well as how several programs have expanded to new clinics or hospital settings. In addition, ConnectFirst is piloting several new efforts to support families, including emergency cash aid to families in crisis and career counseling. The director also touched on GKFF-BEST's engagement with community efforts to address pressing issues, such as early childhood mental health services and chronic absenteeism in schools. Finally, the director emphasized the same themes that many BEST partners did in listening sessions—that much of the success of their work has been driven by a commitment to collaboration among partners within Tulsa to improve the lives of children and families.

Lessons Learned and Next Steps

The 2024 all-partner listening sessions generated rich information from partners about their experiences participating in the BEST initiative. In addition, in 2024, AIR gathered more feedback from GKFF-BEST leadership staff, as compared to previous years. Context from GKFF-BEST has been useful in understanding the priorities for BEST and how GKFF-BEST staff are working to continually support the initiative. GKFF-BEST leadership described the shift from expansion of the initiative over the last several years—funding new partners and services in Phases I and II of BEST—to maintenance in Phase III. GKFF-BEST leaders discussed their efforts to identify and secure stable funding, such as from federal sources and through cost sharing with BEST partners, to sustain services over time.

In 2025, AIR will continue to work with the GKFF-BEST team to identify key areas of interest to explore through the process study, including sustainability of the progress accomplished through BEST and priorities for the initiative moving forward.

BEST Partner Workforce Survey

The purpose of the BEST partner workforce survey is to gather information from staff at BEST partner organizations about a range of topics, including staff knowledge of BEST partner services, referral practices, service access barriers and facilitators, communication and coordination among service providers, the role of families in BEST partner agencies, staff professional development needs, and staff perceptions regarding racial equity issues. We conducted the first survey in 2020, administering it to 21 programs and 297 staff. We have

Main Survey Topics

1. Demographic information about respondents
2. Staff knowledge of BEST and BEST partner services
3. Referral practices
4. Communication and coordination among BEST partners
5. Role of families in BEST partner agencies
6. Staff job satisfaction
7. Racial equity issues
8. Reflection on services and systems in Tulsa

conducted it annually to an expanding partner group (in 2023, the survey was administered to 35 BEST partner organizations). The full report can be found on the [BEST Study website](#).

Analysis and Findings From the 2023 Workforce Survey

In 2023, we made changes to the survey tool to reduce its length, minimize burden on respondents, and boost the survey response rate. The annual survey was sent to 401 BEST frontline staff and their managers in 35 BEST partner organizations. Fifty-one percent of the respondents ($n = 165$) also completed the survey in one of the previous years: 17% of respondents ($n = 56$) completed the survey in all years, while 34% ($n = 109$) completed the survey in one or more of the previous years, but not in all of them. Twenty-four percent of the 2023 survey sample also participated in the first workforce survey in 2020. The large share of new respondents in the 2023 sample (48%) reflects the continued growth of BEST through 2023.

Using an online survey software platform, we launched the survey on November 8, 2023, and closed it on January 31, 2024. The representation of respondents across agencies reflects the size of the agency workforces; larger partner agencies were more heavily represented than smaller ones. Most respondents were direct service staff working with children and families (71%), and the remaining portion (29%) were managers and supervisors. The largest service sector with respondents is from Family Supports (51%, $n = 163$), followed by Early Learning and Care (32%, $n = 103$) and Health-Related Services (17%, $n = 55$).

Highlights from the 2023 survey include the following:



Frontline staff and their managers working in BEST partner organizations continue to reflect a diverse, well-educated, and highly experienced workforce.

Approximately one third of 2023 survey respondents (38%) identified as White, a quarter (26%) as Hispanic, and almost a fifth (18%) as Black or African American in 2023, similar to 2020. In 2023, 72% of respondents had a bachelor's degree or higher, slightly higher than in 2020. In addition, the experience of the BEST partner workforce has increased over time. In 2023, nearly half of respondents reported they had more than 10 years of experience in relevant fields—an increase from 37% in 2020.



Knowledge of the BEST initiative among partner agency staff has grown consistently during the 4 years of the workforce survey.

Seventy-seven percent of first-time survey respondents reported that they had heard of the BEST initiative, compared to 71% in 2022, 66% in 2021, and 63% in 2020.



Except for just a few programs, staff knowledge of BEST partners increased from 2020 to 2023.

In some cases, the percentage of staff who reported they know a lot about individual BEST partner organizations increased by 20% or more between 2020 and 2023. Over the 4 years of the survey, staff identified WIC, Emergency Infant Services (EIS), Community Action Project of Tulsa (CAP Tulsa), and Educare as the most well-known partner agencies in the BEST network.



Between 2020 and 2023, the percentage of staff who reported making referrals to services gradually decreased.

The most pronounced drops in the percentage of staff who reported making referrals occurred between 2021 and 2022. Over the 4 years of the survey, the largest drops in the percentage of staff who reported making referrals occurred in the areas of domestic violence (a 25% drop between 2020 and 2023) and child care and preschool (20% and 28% reductions, respectively). Reductions in the percentage of staff who reported making referrals between 2022 and 2023 were much smaller than compared to the pandemic years, but the trend of declining referrals continued from 2022 to 2023.



Most staff make referrals as part of their jobs. As in past years, staff reported that they continued to use “warm handoffs” in 2023, personally helping a client connect with a service provider.

Referral staff reported using warm handoffs most frequently when referring to mental health, family support, and health services. Other common referral strategies included providing clients with a list of resources and referring them to 211. After a drop in 2022, the percentage of staff who used warm handoffs increased for most services in 2023.



Almost three quarters of the BEST partner staff communicated regularly with other BEST agencies about shared clients—a significant increase from 2022 that continues a positive trend seen since 2020. In 2023, 51% of respondents were satisfied with this communication with other agencies. Staff reported that the most common challenge to service coordination was a lack of time.



Engaging families in decision making and leadership roles remains a challenge for some BEST partners. Most staff (88%) agreed with the statement, “The opinions of families are heard regardless of their race, culture, or language spoken.” However, fewer staff indicated that staff regularly get ideas from families on how to improve services (79%) or that opportunities exist for family members to serve in leadership roles (54%). Rates of family engagement were lower overall than in 2020 but have been trending upward since 2021, especially in the area of leadership opportunities.



In 2023, staff reported high satisfaction with their jobs, and reported that work stress is lower than in past years. Almost all staff reported that their work makes a meaningful contribution, and the large majority reported that they have the support and resources they need from their respective workplaces and that it would take a lot for them to leave their jobs (99%, 87%, and 84%, respectively—all improvements compared to 2022). At the same time, work stress appears to be declining. In 2023, only 50% of respondents reported that their job was very stressful (an 11-point reduction from 2022 and the lowest level in all 4 years of the survey).



Staff feedback about most racial equity issues in Tulsa stayed relatively constant between 2020 and 2023. In 2023, 72% of respondents said their clients reported that their race/ethnicity was the reason they received poor- or low-quality services occasionally or a great deal of the time. Other issues related to race/ethnicity include being stopped by the police or another official (66%) and challenges in their job (64%). In general, staff responses in 2023 were like those in 2020, with one exception: in 2023, fewer staff indicated that their adult clients talk about being paid less in their job because of their race/ethnicity compared to 2020 (a statistically significant decrease of 16%).



Staff reported that Tulsa is becoming a better place to raise children. Almost three quarters of a small subset of respondents ($n = 36$) who participated in all four workforce surveys (in 2020, 2021, 2022 and 2023) agreed with the statement, “Tulsa is becoming a better place to raise children.” In addition, 94% of respondents agreed or strongly agreed that their organization is paying more attention to ensuring all clients, regardless of race, ethnicity, or income, have access to services. They also were very positive about their organization being better able to identify and address problems (91%). Notably, most of these

experienced respondents agreed that bureaucracy and red tape were less of a problem than they had been before (75%).

Lessons Learned and Next Steps for the Workforce Survey

The 2023 workforce survey highlighted several strengths of the BEST initiative, including increased awareness among staff about the BEST initiative and increased regular communication among BEST partners about shared clients. In addition, staff working in BEST partner agencies reported that they enjoy their work and believe that they are making a meaningful contribution in their jobs. The survey data also suggested areas that may inform continuous quality improvement efforts for the BEST initiative, including awareness of some BEST partners and community services (especially of the newer partners), family engagement, referral practices, barriers to service access, and the lack of change regarding barriers faced by adult clients due to their race/ethnicity, over the years of the survey.

AIR launched the fifth BEST workforce survey on November 11, 2024, and we will keep it open until early 2025. The survey was administered to 453 frontline staff and their managers within 42 BEST partner organizations; only BEST partners who directly deliver services to children, parents, or other adults are included in these surveys. At the end of December 2024, the response rate for the fifth BEST workforce survey was 55% ($n = 249$).³ To date, 62% ($n = 155$) of the 2024 respondents are repeat respondents, meaning they also completed the survey in 2020, 2021, 2022, and/or 2023; and 38% ($n = 94$) are new respondents, meaning they had never completed a survey in a previous year or they began working in a BEST partner organization in 2024. AIR will present the 2024 workforce survey findings in 2025. Planning for the next workforce survey will begin in summer 2025.

³ For context, the 2020 survey response rate was 67% ($n = 206$), the 2021 survey response rate was 70% ($n = 250$), the 2022 survey response rate was 70% ($n = 287$), and the 2023 survey response rate was 80% ($n = 321$).

Section III: Outcome/Impact Study Key Activities and Findings

The outcome/impact study uses a multicohort parent survey and child development observations as the optimal method to directly address how well BEST is meeting the impact objective of breaking the cycle of intergenerational poverty.

The design consists of two cohorts: Cohort 1, a sample of children born in 2021 (Birth Cohort 1) or entering kindergarten at Tulsa Public Schools in the 2021–22 school year (Kindergarten Cohort 1); and Cohort 2, a sample of children born in 2024 (Birth Cohort 2) or entering kindergarten at Tulsa Public Schools in the 2024–25 school year (Kindergarten Cohort 2). The two cohorts complete surveys at three different points of time. **The differences in the outcomes and experiences gathered from the survey data between the 2021 and the 2024 cohorts are the primary source of inference about the impact of the BEST initiative.**

By comparing the two cohorts, AIR will be able to describe how the circumstances and outcomes for these children and families change over time. The process study will be

supportive of this understanding, as the BEST initiative itself has changed since 2019 (e.g., the number of BEST partners has expanded), and likely will continue to transform over time. In addition to the multicohort design using survey and child observational data, the impacts of BEST at the population level also may be evident in a comparison of deidentified administrative outcomes between Tulsa and comparison communities, like Oklahoma City. This design element is specified as a “comparative interrupted time series” (CITS) design.

Together, these two design elements form the outcome/impact study activities to address Research Questions 2, 3, and 4, listed in the sidebar. The key activities for the outcome/impact study in 2024 for implementing the design and answering the main research questions included the following:

- examining Cohort 1 sample representativeness;
- recruiting the sample for Cohort 2;
- completing 30-month survey data collection for Cohort 1;
- completing the 18-month survey descriptive analysis for Birth and Kindergarten Cohort 1; and
- examining Tulsa Health Department program appointment data trends.

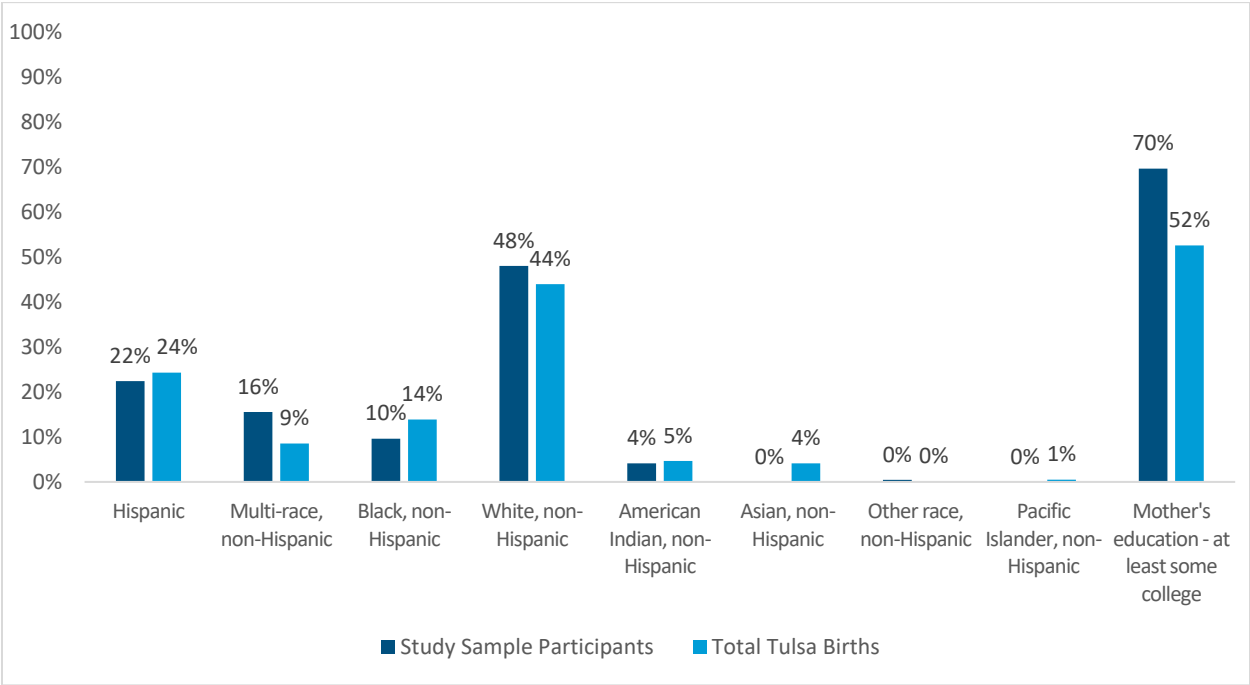
OUTCOME/IMPACT STUDY RESEARCH QUESTIONS

2. How does BEST impact participation in services among Tulsa’s children and families?
3. How does BEST impact multiple dimensions of parent well-being, child-rearing practices, family functioning, and the home environments of children birth to age 8?
4. How does BEST impact the multiple domains of children’s health and development?

Examining Cohort 1 Sample Representativeness

The multicohort survey design is intended to include parents across two cohorts from two distinct groups: families with a baby born in 2021 or 2024 or those whose child entered kindergarten in Tulsa Public Schools in fall 2021 or 2024. We will survey all four samples (Birth and Kindergarten Cohorts 1 and 2) at three points after recruitment: 1 month, 18 months, and 30 months. As a result of the COVID-19 pandemic, recruitment efforts for the 2020 survey Cohort 1 took longer, and we achieved a lower sample size than originally planned. The final analytic sample was 220 participants in Birth Cohort 1 and 253 in Kindergarten Cohort 1. In 2024, we analyzed data from the Cohort 1 sample to understand the sample’s representativeness and assess its ability to meet the survey’s original analytical objectives despite the smaller sample. For the representativeness analysis, we analyzed the extent to which the cohort sample was representative of the population, based on the 1-month survey data. For the birth cohort, the population of reference is all Tulsa births. Exhibit 3 compares the sample and population in terms of race/ethnicity and mother’s education. One imbalance we noted is for mother’s education, with the participants in the study being more likely than the population to have attended some college. Our next steps are to explore whether establishing weights to create neighborhood balance (i.e., sample will mirror population in terms of geographic distribution) will create greater balance for mother’s education.

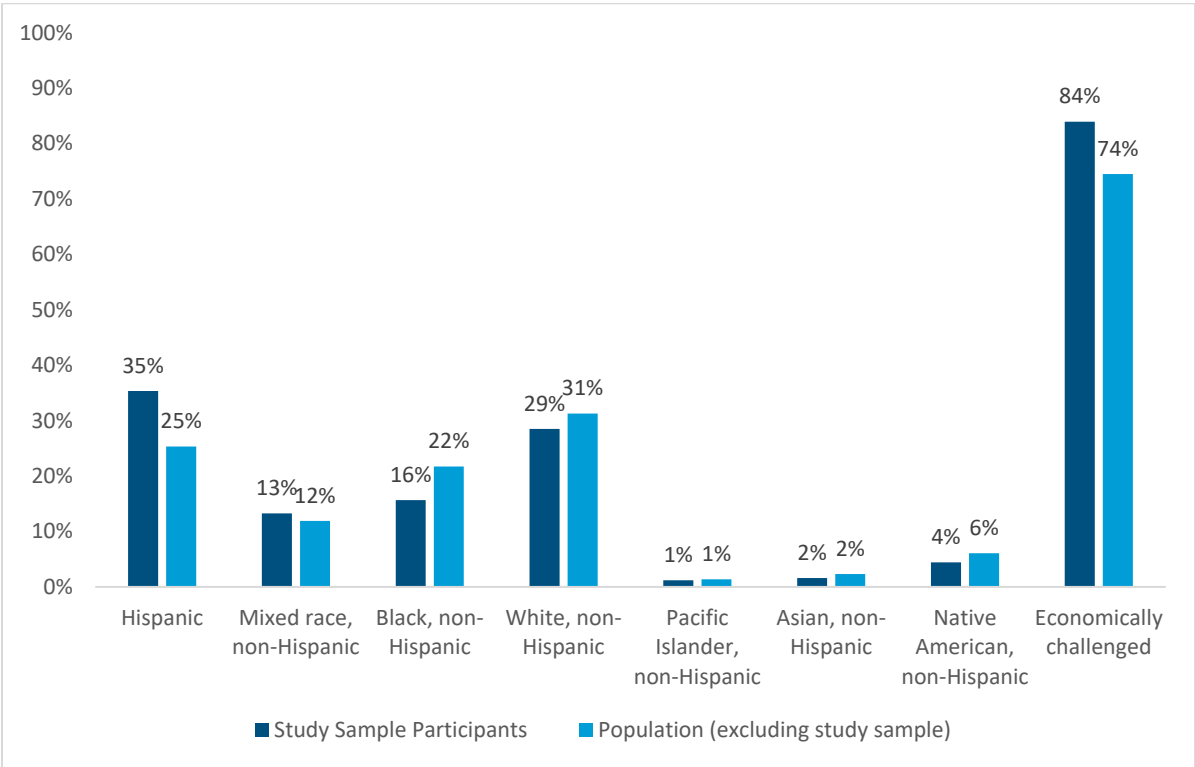
Exhibit 3. Characteristics of Birth Cohort Sample and Population (1 Month)



Note. N = 219.

The reference population for the kindergarten cohort is the students who were in kindergarten in Tulsa Public Schools. Exhibit 4 compares the sample and population, and shows some imbalance, in particular for Hispanic students (over-represented in the sample), Black students (under-represented in the sample), and economically challenged students (over-represented in the sample). To render the sample representative of the population (so that the sample and population are balanced on key variables), we recommend using non-response weights, which will create a more balanced sample.⁴ The larger the sample we are able to recruit for Cohort 2, the more statistical power we will have to detect differences between cohorts.

Exhibit 4. Characteristics of Kindergarten Cohort Sample and Population (1 Month)



Note. *N* = 249. The population data exclude those students who are in the sample.

We have an informative analytic sample with Cohort 1 Kindergarten, which we hope to strengthen by Cohort 2 recruitment; essentially, the larger the total sample of Cohort 1 and Cohort 2, the greater our statistical power will be to detect changes between cohorts. We do

⁴ All of our proposed weights are less than an established standard for trimming weights; therefore, the use of these weights will minimize the loss of statistical power to detect differences between Cohort 1 and Cohort 2. Large-scale assessments like the National Assessment of Educational Progress (NAEP) and the Program for International Student Assessment (PISA) trim extreme weights to increase precision. PISA has employed a process that trims weights to four times the median for student-level weights. The non-response weights for the kindergarten cohort are all less than four times the median.

acknowledge that recruitment in this post-pandemic world still is a greater challenge than it was in the years before the pandemic. In the sections that follow, we describe our recruitment efforts for Cohort 2 and our status as of the end of 2024. Although we have experienced (and continue to experience) recruitment challenges for birth and kindergarten families, the survey data still will play a central role in the overall impact evaluation of BEST. In the sections that follow, we will provide updates for the Cohort 2 recruitment that started in 2024 as well as descriptive findings from the 18-month Cohort 1 survey.

Recruiting Sample for Cohort 2

We would like to recruit a larger Cohort 2 sample than what we were able to secure during the pandemic with Cohort 1. However, recruitment in the post-pandemic era is still challenging. This section describes our efforts to date to recruit families of both newborns and kindergartners for Cohort 2. The sampling frame included representative samples of English-speaking and Spanish-speaking mothers who are residents of Tulsa, whose babies are born in Tulsa city hospitals (birth cohorts) or whose children enter Tulsa Public Schools (kindergarten cohorts).

Recruitment of the second cohort of children and families into the outcome/impact study began in August 2024 and is ongoing. The current recruited sample includes 106 families in the birth cohort and 103 families in the kindergarten cohort. Exhibit 5 summarizes recruitment and 1-month survey completion rates to date.

Exhibit 5. Cohort 2 Recruitment Update

	Recruitment numbers and 1-month survey
Birth Cohort 2	As of December 19, 2024, data collection for the 1-month survey: • 104 families have consented to participate in the study. • 91 families have completed the 1-month survey.
Kindergarten Cohort 2	As of December 19, 2024, data collection for the 1-month survey: • 103 families have agreed to participate in the study. • The 1-month survey data collection will begin in 2025.

Birth Recruitment Strategies and Summary

We started to recruit families with newborns to be part of Birth Cohort 2 in June 2024. Our main recruitment strategy has been to work with the BEST partner, the Bright Beginnings program, which visits all new mothers in the hospital in the days after giving birth. The Bright Beginnings nurses provide information about available services to new mothers. The nurses have been distributing study flyers and postcards during their in-hospital visits and home visits. The nurses also were given a recruitment script and a QR code they can give families so that

families can provide their contact information and the AIR team can follow up. AIR also has participated in several community information sessions conducted by BEST partner programs and has provided study recruitment flyers to a range of organizations for distribution to families, including Children First, the Tulsa Health Department WIC office, Hearts for Hearing, and El Centro. We have found that recruitment is still slower than anticipated. In 2025, we plan to reconnect directly with hospitals and pediatricians' offices to determine how we can expand efforts to share the study information and further explore direct, in-person recruitment by the study team.

Kindergarten Recruitment Strategies and Summary

In July 2024, we reconnected with the 29 Tulsa Public Schools that were involved in the recruitment of Kindergarten Cohort 1. We asked schools whether they could share the dates of back-to-school events and display study information materials in high-traffic areas of the school. DIR staff attended 10 in-person events hosted by our sample of recruitment schools for kindergarten families. The DIR staff provided study information and helped parents complete a study interest form at these events. In August 2024, schools posted study materials on message boards, displayed posters and postcards, and asked kindergarten teachers to distribute study flyers at meet-the-teacher events. Direct recruitment strategies were implemented in November 2024 once the kindergarten class rosters were finalized.

As of December 1, 2024, the AIR team had distributed paper consent forms to parents and study information to kindergarten families with the support of their classroom teachers. Teachers were asked to collect and return completed consent forms to AIR. After the paper consent forms were distributed to parents in schools, AIR sent follow-up email messages directly to parents notifying them of the study opportunity and explaining that they had received information about it from their child's teacher. We will continue to recruit participants for the Kindergarten Cohort 1 into 2025.

Completing 30-Month Survey Data Collection for Cohort 1

There will be three parent surveys for each of the birth and kindergarten cohorts: 1–2 months (1-month survey), 18–20 months (18-month survey), and 29–31 months (30-month survey) after recruitment. In 2024, we completed the 30-month survey for Cohort 1. The 1-month survey focuses primarily on gathering basic demographic information about the child and the family. Key outcome constructs are gathered in the 18-month and 30-month surveys.

Birth Cohort 1: The 30-month parent survey gathered data on key constructs listed in Exhibit 6; many topics were continued from the 18-month interview along with newly introduced topics at 30 months. We completed the 30-month data collection for Birth Cohort 1 in December 2024

with a total of 149 parent interviews (of the 220 families who completed the 1-month survey, for a response rate of 68%).

Exhibit 6. Birth Cohort Parent Interview Constructs, by Follow-Up Period

Construct	18-month parent interview	30-month parent interview
Service use and access	•	•
Child health and health insurance	•	•
Parent health and well-being	•	•
Parenting and protective factors	•	•
Parent perspectives on racism and discrimination	•	•
Family and household characteristics	•	•
Neighborhood satisfaction	•	•
Child care	•	•
Child self-help and social-emotional skills		•
Early learning activities with children		•
Parent attitudes about early learning		•
Adverse childhood experiences		•

Kindergarten Cohort 1. Data collection for participants in the kindergarten cohort at 30 months consisted of a survey of second-grade teachers and a parent telephone survey. The teacher survey gathered information about study children’s social-emotional, literacy and language, and mathematics skills and development. The 30-month parent survey gathered data on the key constructs listed in Exhibit 7, again compared with the topics included at 18 months. Data collection for the 30-month parent survey concluded in May 2024. A total of 198 parent telephone surveys were completed (of the 253 families who completed the 1-month survey), meeting the target response rate of 70%. Data collection for the second-grade teacher survey concluded in June 2024.

Exhibit 7. Kindergarten Cohort Parent Survey Constructs by Follow-Up Period

Construct	18-month parent survey	30-month parent survey
Service use and access	•	•
Child health and health insurance	•	•
Child development	•	•
Parenting and protective factors	•	•
Parent perspectives on racism and discrimination	•	
Family and household characteristics	•	•
Neighborhood satisfaction	•	•
Before- or after-school care	•	•
Out-of-school activities	•	•
Early learning activities with children		•
Parent satisfaction with education experiences		•
Parent expectations for future schooling		•
Adverse childhood experiences		•

Completing 18-Month Survey Descriptive Analysis for Cohort 1

This section shares descriptive information about Cohort 1 families at the 18-month point.⁵ The focus of this descriptive data analysis is to address the following questions:⁶

⁵ Because we have not finalized our weighting approach for the birth cohort, we report raw descriptives. We are currently analyzing and discussing the strategy for survey weights that can be used to render the sample representative. If such weights are deemed necessary, the impact analysis will include them.

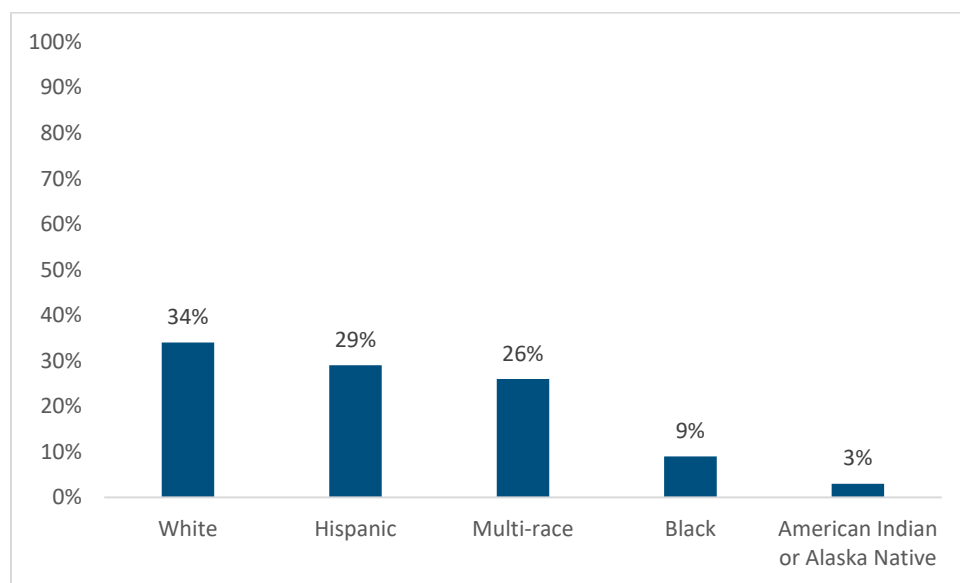
⁶ Given that the impact analysis is not the focus at this time, the research questions guiding this Cohort 1 analysis have been adapted accordingly from Research Questions 2, 3, and 4 for the evaluation.

- To what extent do Cohort 1 families participate in services?
- What do parent well-being, child-rearing practices, family functioning, and the home environments of children in Cohort 1 look like?
- What is the status of children’s health insurance, health, and development among the Cohort 1 sample?

Birth Cohort 18-Month Survey

This section presents descriptive findings from analyzing the 18-month Birth Cohort 1 survey ($n = 162$). The children in Birth Cohort 1 were racially and ethnically diverse. White children made up the largest proportion of the 18-month sample, followed by a slightly lower proportion of Hispanic and multi-race students. There were relatively few Black and American Indian or Alaskan Native children. There were no Asian or Pacific Islander children in this sample.

Exhibit 8. Race/Ethnicity of 18-Month Children

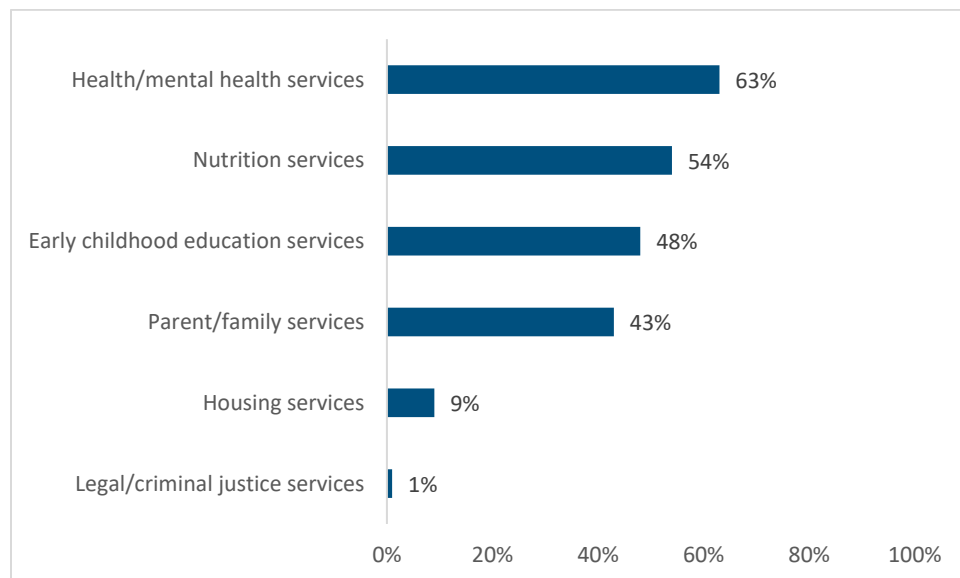


Note. $n = 160$.

To what extent do Birth Cohort 1 families participate in services?

In this section, we present initial survey results on service use and access for survey participants (Exhibit 9). The most common type of service that families reported using was health or mental health services; 64% of respondents indicated that they have used these services. The second most frequently accessed services were nutrition services, with 54% of respondents reporting having used these. The least frequently accessed services were legal/criminal justice services and housing services; only 1% of respondents reported using these services.

Exhibit 9. Percentage of Respondents Who Accessed Various Community-Based Services, Birth Cohort 1, 18 Months



Note. $n = 162$.

Among parents who had concerns about their child’s learning, development, or behavior problem, 80% said they had sought help. Of those respondents who sought help for their child’s learning, development, or behavior problem, 100% reported that they were able to access the help they needed. Finally, of those respondents who accessed help for their child’s learning, development, or behavior problem, 77% were satisfied with the services received.

We asked respondents if their child was receiving any early intervention services through an Individualized Family Service Plan (IFSP). Only 5% of the children in the sample were receiving such services. All respondents who indicated their children were receiving early intervention services through an IFSP reported that they were “very satisfied” with those services.

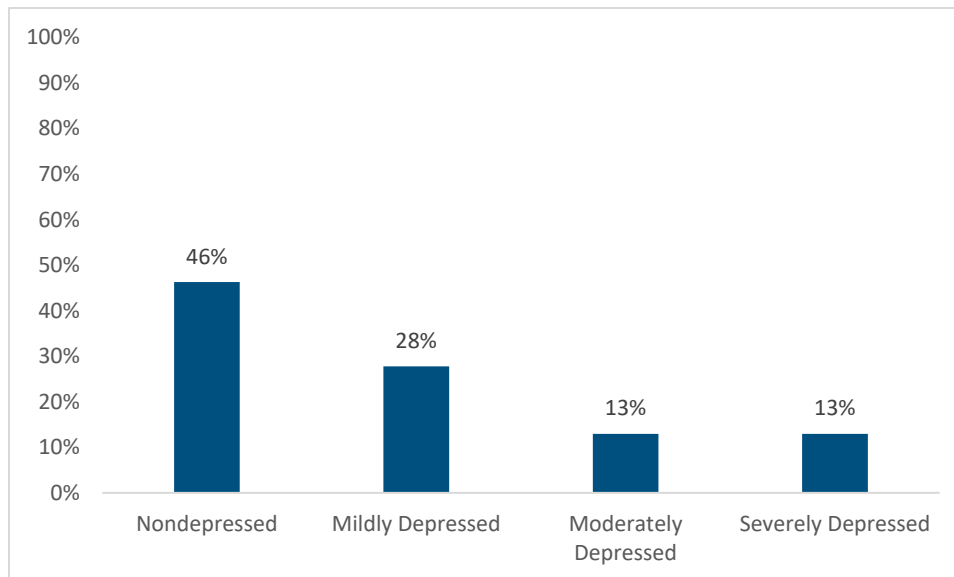
What do parent well-being, child-rearing practices, family functioning, and the home environments of children in Birth Cohort 1 look like?

In this section, we present initial survey results on indicators for parent well-being, child-rearing practices, family functioning, and the home environments of children in the birth cohort survey.

Parent well-being

Parent well-being was assessed using a scale⁷ that asked parents how often in the past week they had felt or behaved in ways that were symptomatic of depression. More than half of the sample had scores that indicated parental depression. More than half of parents are at least mildly depressed (Exhibit 10). About one quarter of respondents were classified as moderately or severely depressed.

Exhibit 10. Distribution of Parental Depression Scores, Birth Cohort 1, 18 Months



Note. $n = 162$.

Child-rearing practices

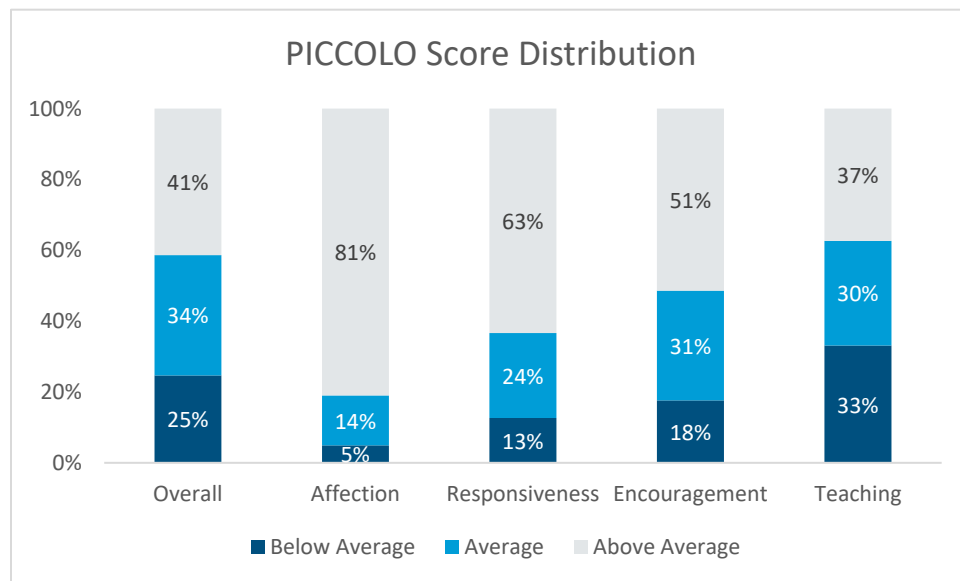
Respondents' child-rearing practices were assessed using an observational tool⁸ to identify developmentally supportive parenting behaviors. Most parents engaged in developmentally supportive parenting behaviors across all domains, with about 75% of respondents classified as average or above average overall (Exhibit 11). Parents scored best on the Affection domain, with 95% being classified as average or above average. For the dimensions of Responsiveness and Encouragement, 87% and 72% of respondents, respectively, were classified as average or

⁷ A modified version of the Center for Epidemiological Studies-Depression Scale (CES-D). Lewinshon, P. M., John R. Seeley, Robert E. Roberts, and Nicholas B. Allen. "Center for Epidemiological Studies-Depression scale (CES-D) as a screening instrument for depression among community-residing older adults." *Psychol Aging* 12, no. 2 (1997): 277-287. Harvard University.

⁸ The tool is called the Parenting Interactions with Children: Checklist of Observations Linked to Outcomes (PICCOLO). The PICCOLO consists of 29 items or behaviors organized into four parent behavior domains: Affection, Responsiveness, Encouragement, and Teaching. Roggman, Lori A. 2013. *Parenting interactions with children: Checklist of observations linked to outcomes*. Paul H. Brookes Publishing Company, Incorporated.

above average. Parents show the most opportunity for growth in the Teaching domain, with 33% of respondents being classified as below average.

Exhibit 11. Distribution of Parent Ratings on Developmentally Supportive Parenting Behaviors, Overall and by Domain, Birth Cohort 1, 18 Months

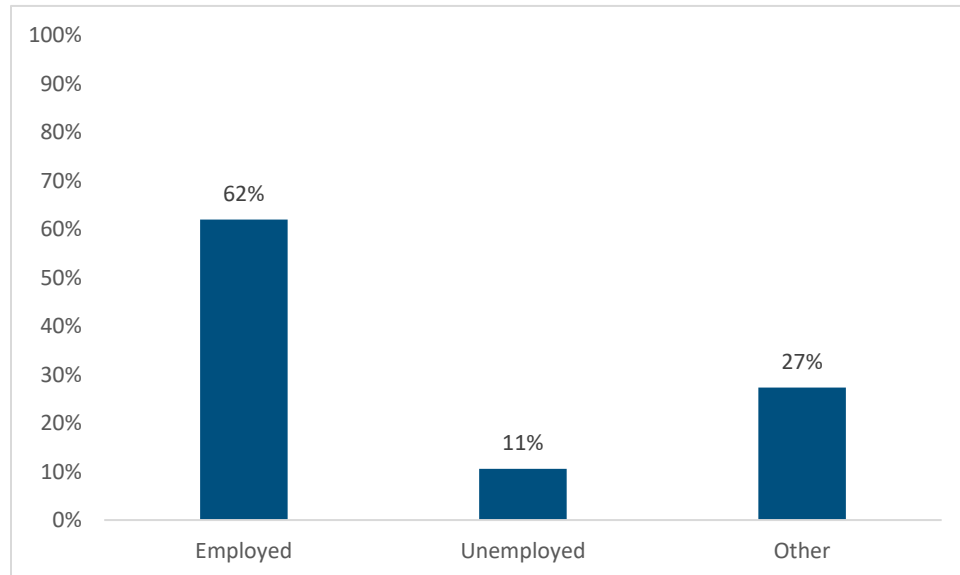


Note. $n = 162$.

Home environment and family functioning

We asked survey respondents about their employment status and their household income. Sixty-two percent of respondents indicated they were employed or self-employed, and 11% indicated they were unemployed (Exhibit 12). The percentage unemployed does not include participants who indicated they were a full-time student (4%), a stay-at-home caregiver (22%), or receiving disability payments (1%).

Exhibit 12. Respondent Employment Status, Birth Cohort 1, 18 Months



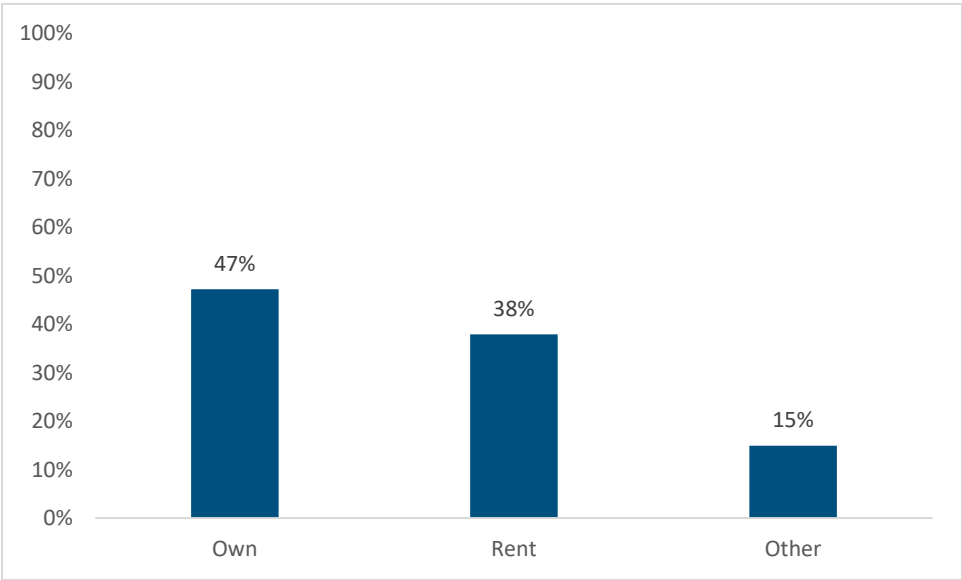
Note. $n = 161$.

Fifty-seven percent of respondents indicated that they live with a partner, and the median household size was five people. Sixty-one percent of the respondents are currently married, 27% have never been married, 11% are separated or divorced, and 1% are widowed. The median household income was \$52,000 per year, with a range from \$0 to \$500,000. Using reported household income and household size, we calculated the percentage of survey respondents whose children would qualify for the federal free or reduced-price lunch program; 51% of families qualify for this program.

We also asked parents how often they worry about meeting living expenses. Fifty-two percent of survey respondents reported that they worry occasionally, frequently, or all the time about meeting their living expenses. In addition, in the past year, 6% of respondents were threatened with eviction, and 15% reported having had a utility disconnected.

Slightly less than half (47%) of respondents own their current residence, and 38% rent their current residence (Exhibit 13). Most respondents (73%) are satisfied or very satisfied with their current living situation.

Exhibit 13. Respondent Current Housing Arrangements, Birth Cohort 1, 18 Months



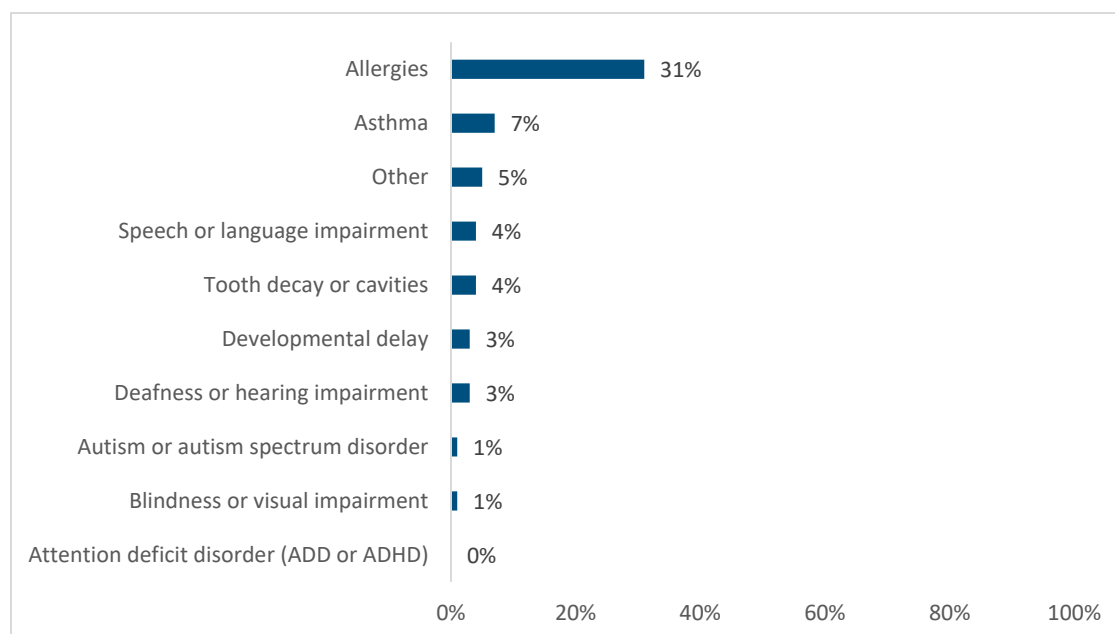
Note. n = 161.

What is the status of children’s health insurance, health, and development among the Cohort 1 sample?

Survey participants were asked whether the child in the study had health insurance coverage and, if so, what type of coverage the child had. Almost all (98%) of respondents said the child had health insurance coverage. The most common type of health insurance coverage was SoonerCare/Medicaid/Children’s Health Insurance Program (CHIP) or another type of government assistance plan, at 58%. Forty percent of survey participants reported that their child’s insurance coverage was through a current or former employer or union.

Eighty-five percent of survey respondents described their child’s health as very good or excellent. In addition, most survey respondents (70%) said they did not have any concerns about their child’s learning, development, or behavior over the past 12 months. Forty-three percent of respondents indicated the child in the study had been diagnosed with a health condition. The most common health condition was allergies, with 31% of children diagnosed. Asthma was the next most diagnosed health condition, at 7%, and all other conditions had a prevalence of 5% or less.

Exhibit 14. Prevalence of Children’s Health Conditions, Birth Cohort 1, 18 Months



Note. $n = 162$.

Summary: What We Learned From the 18-Month Survey for Birth Cohort 1

Most families who responded to the 18-month survey use health and nutrition services, and those who have concerns about their child’s development indicated that they are able to access resources. Most families are employed and satisfied with where they live. Nevertheless, about half of families live below the poverty line, and most families worry about living expenses, which could explain in part why more than half of parents reported that they are at least mildly depressed. Most families engage in developmentally supportive parenting practices. Almost all children have health insurance coverage, and most are reported by parents to be in very good health, with allergies being the most common health condition for children.

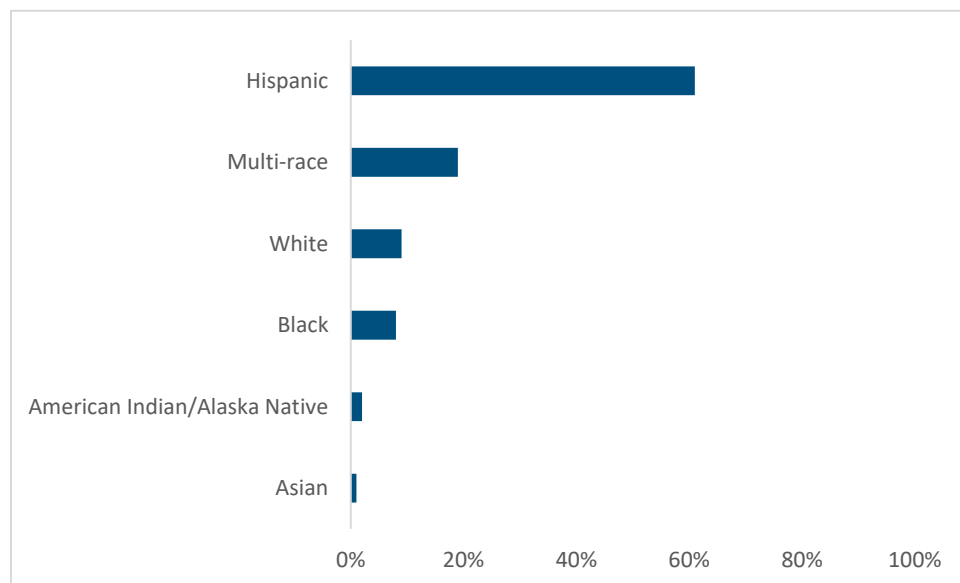
Kindergarten 18-Month Survey for Cohort 1

This section presents initial findings from the 18-month Kindergarten Cohort 1 survey ($n = 177$). The initial results given are based on raw descriptives.⁹ The children in the sample were racially and ethnically diverse. Most students identify as Hispanic, followed by more than one race

⁹ For the kindergarten cohort, after analysis and discussion, including feedback from GKFF Advisor Greg Duncan, we recently finalized the approach for 18-month survey weights; these weights will be employed in the impact analysis. The weights are based on non-response and will render neighborhoods, and thus the city as a whole, as representative of the Tulsa Public Schools kindergarten population in terms of race/ethnicity. To improve precision of the impact estimates, we also will trim the weights following an established approach (*PISA 2018 technical report, 2018*).
<https://www.oecd.org/pisa/data/pisa2018technicalreport/PISA2018%20TecReport-Ch-08-Survey-Weights.pdf>.

(Exhibit 15). The sample includes a similar proportion of White and Black students, and relatively few American Indian/Alaska Native and Asian children.

Exhibit 15. Racial Demographics of Children, Kindergarten Cohort 1, 18 Months



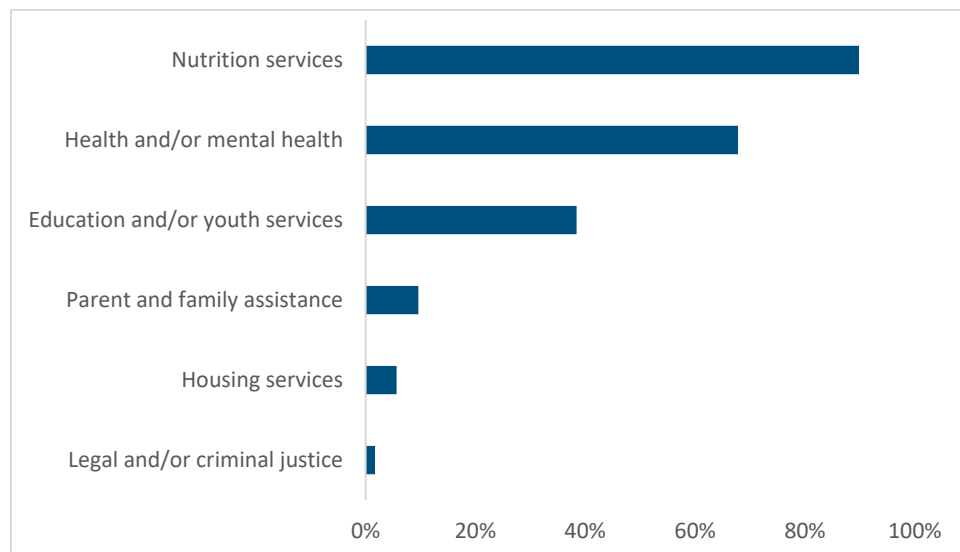
Note. $n = 177$. Based on survey data.¹⁰

What do parent well-being, child-rearing practices, family functioning, and the home environments of children in Kindergarten Cohort 1 look like?

We asked survey participants if they accessed the services shown in Exhibit 16. Most survey respondents said that since their child started kindergarten, they have accessed nutrition services (90%) and health/mental health services (68%). The services least commonly accessed by survey respondents were housing services (6%) and legal/criminal justice services (2%).

¹⁰ This exhibit is based on survey data. For purposes of weights and impact analysis, however, Tulsa Public Schools race/ethnicity administrative records will be used. The data from Tulsa Public Schools will enable us to compare our survey demographic data to Tulsa Public Schools using same data source.

Exhibit 16. Percentage of Respondents Who Accessed Various Services, Kindergarten Cohort 1, 18 Months



Note. $n = 177$.

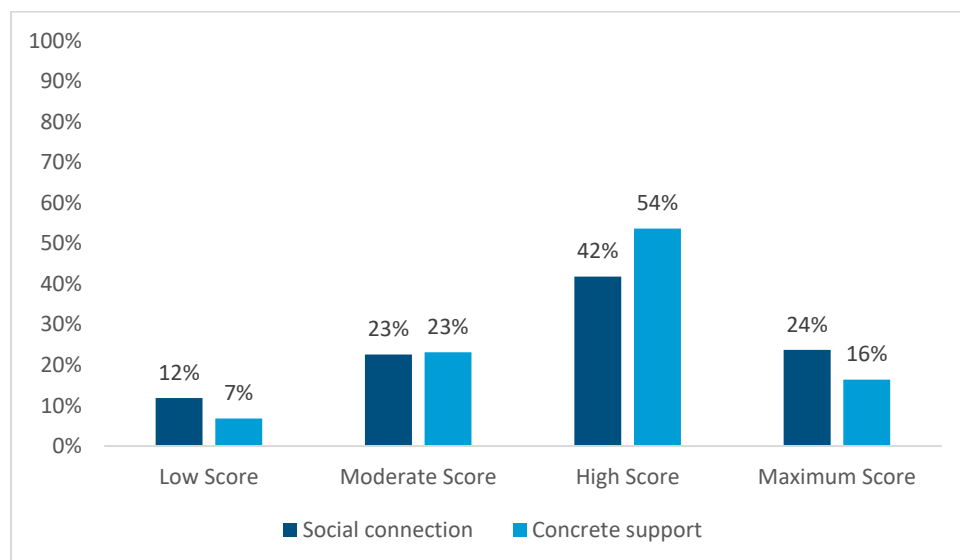
Of those respondents who expressed a concern about their child's learning, development, or behavior, 83% sought help. Of those who sought help, 80% ultimately were able to access help. Finally, of those who accessed help, 80% were satisfied with the services received. When looking at school-based services, 7% of children were identified by the survey respondents as having an individualized education program (IEP) at school. One hundred percent of their caregivers were satisfied or very satisfied with the services received under that IEP.

We also asked survey respondents about before- and after-school care services for their children. Twenty-three percent of participants reported using some form of before- or after-school care. Of those who reported using either of these services for their children, the majority (61%) of participants used the services 5 days per week. Furthermore, 100% of those who used before- or after-school care were satisfied or very satisfied with the care received.

What do parent well-being, child-rearing practices, family functioning, and the home environments of children in Kindergarten Cohort 1 look like?

Parent well-being includes survey items in which respondents were asked about their social connection with other individuals and concrete support in their life.¹¹ Overall, survey respondents reported high levels of social connection and concrete support, with 66% reporting a high or maximum score for social connection and 70% reporting a high or maximum score for concrete support (Exhibit 17).

Exhibit 17. Percentage of Respondents Categorized as Low, Moderate, High, or Maximum in Social Connection and Concrete Support, Kindergarten Cohort 1, 18 Months



Note. *n* = 177.

In addition, we asked participants about their experiences with racism and discrimination and about their concerns about their child's experiences with racism and discrimination.¹² For respondents' experiences with racism and discrimination, most (81%) reported rarely, never, or only some of the time feeling discriminated against because of their race. When asked about

¹¹ These items were adapted from the Parent Assessment of Protective Factors (PAPF) instrument. Questions about social connection capture a respondent's healthy, sustained relationships with people, institutions, and their community to foster a sense of belonging and feeling that one matters. Items related to concrete support capture a respondent's ability to identify, seek, access, advocate for, and receive necessary adult, child, and family services that are of good quality and that preserve a caregiver's dignity and healthy development. Kiplinger, Vonda L., and Charlyn Harper Browne. 2014. "Parents' assessment of protective factors." User's Guide and Technical Report.

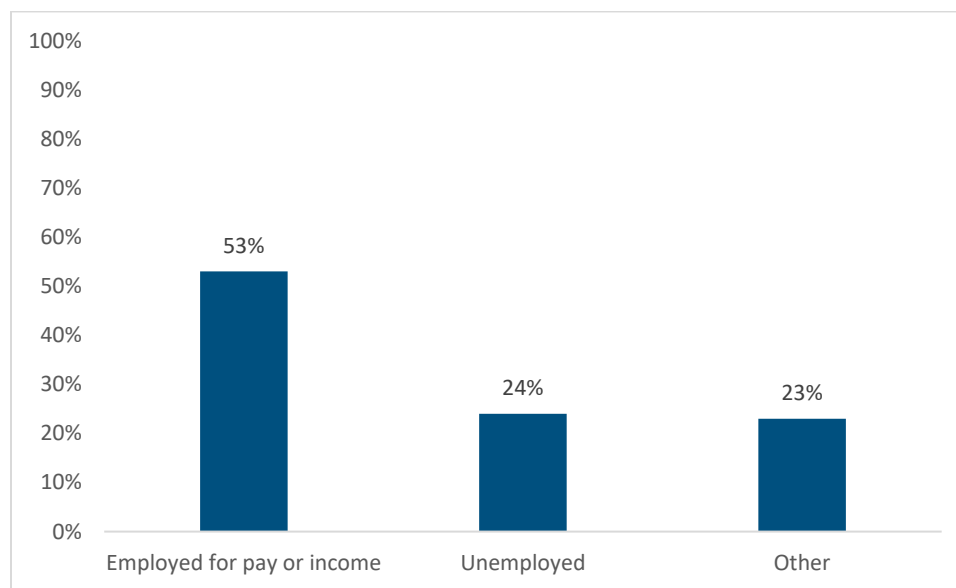
¹² These survey items came from the RAPID scale.

concerns for their children, respondents generally reported a low level of concern, though it was higher than their self-reported concerns for experiences with racism and discrimination.¹³

Home environment and family functioning

We asked participants about their employment status and their household income. Sixty-two percent of respondents indicated they were employed or self-employed, and 24% indicated they were unemployed (Exhibit 18). The percentage of unemployed participants does not include those who indicated they were a student (2%), a stay-at-home caregiver (8%), retired (1%), or on disability (3%).

Exhibit 18. Percentage of Respondents by Employment, Kindergarten Cohort 1, 18 Months



Note. $n = 177$.

The median household income reported by survey participants was \$35,000 per year. Reported levels of household income ranged from \$0 to \$300,000. Based on the reported household income and household sizes of the respondents, we estimate that around 68% of respondents would qualify for free or reduced-price lunch. We also asked survey respondents how often they worry about meeting living expenses; 61% reported worrying occasionally, frequently, or

¹³ Caregivers' experiences with racism and discrimination were scored between 0 and 1, and the average reported level of concern was 0.03, suggesting that caregivers reported rarely, never, or only some of the time feeling discriminated against because of their race. When asked about concerns for their children, caregivers had an average score of 0.16, suggesting a higher level of concern about their child's experiences with racism and discrimination than caregivers themselves may be experiencing.

all the time about covering their living expenses. In the past year, 7% of respondents reported having been threatened with eviction, and 18% reported having had a utility disconnected.

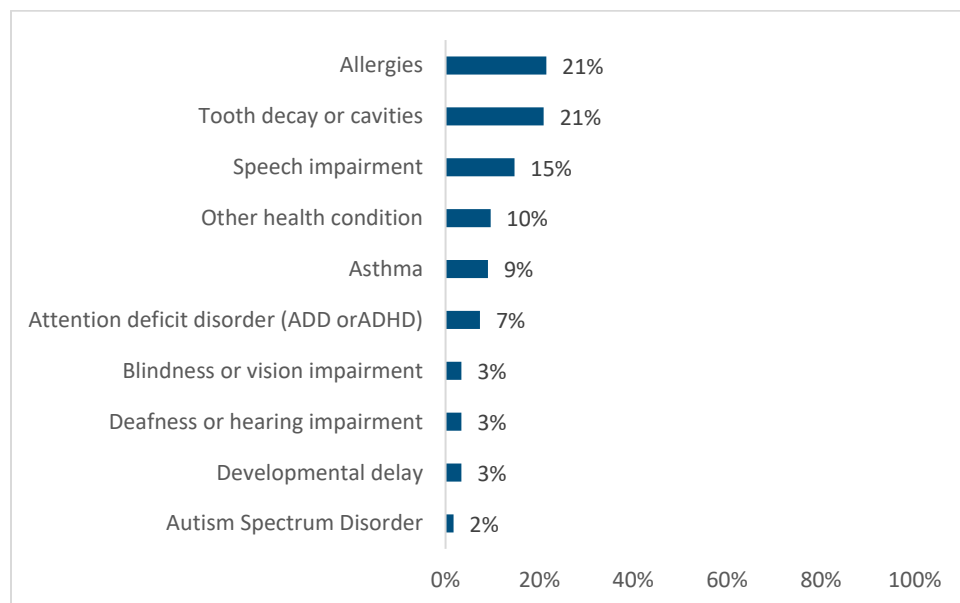
Most survey respondents rent their residence (53%), and 33% own their residence. In addition, most respondents are satisfied or very satisfied with their current living situation (76%). When asked if they live with a partner, 41% of our respondents indicated they live with a partner. Fifty-six percent of our respondents are currently married, 29% have never been married, 13% are separated or divorced, and 2% are widowed. Across all respondents, the median household size was four people.

What is the status of children’s health insurance, health, and development among the Cohort 1 Kindergarten sample?

Eighty-five percent of respondents stated that their child had health insurance, with government-provided plans listed as the most common type of insurance coverage (83%). Survey participants also were asked to describe the health of their children. Eighty-one percent of respondents described their children’s health as very good or excellent.

When asked about specific health conditions, 54% of children were reported to have some type of health condition. The two most common, reported by about one fifth of the sample for each condition, were allergies and tooth decay/cavities (Exhibit 19). The least common health conditions were autism spectrum disorder (2% of reported health conditions) and developmental delays (3% of reported health conditions).

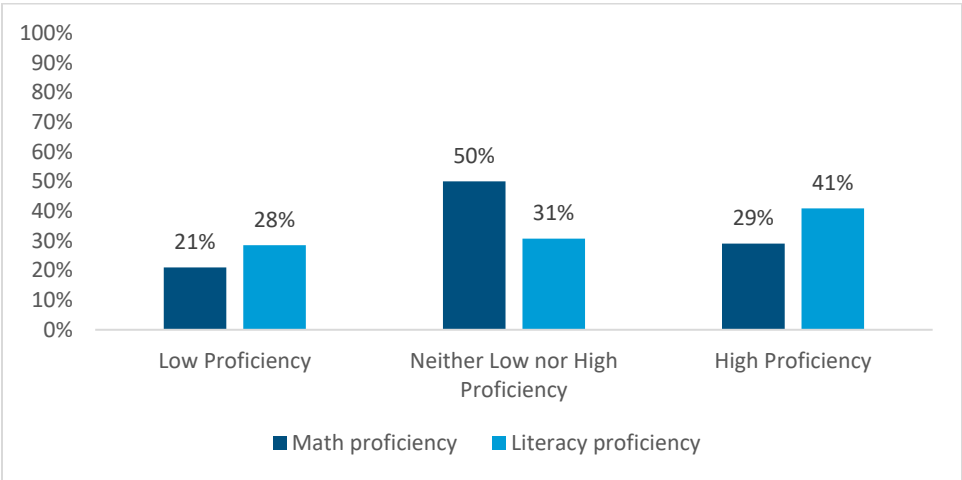
Exhibit 19. Percentage of Reported Child Health Diagnoses, Kindergarten Cohort 1, 18 Months



Note. $n = 177$. ADHD is attention deficit hyperactivity disorder.

For the kindergarten survey, we asked teachers to provide their perspectives on the development and progress of the children in the study. Teachers reported that 28% of the Kindergarten Cohort 1 sample was low in literacy proficiency. In addition, teachers reported that 21% of the children in the study were low in math proficiency. The average beginning of kindergarten reading level for the cohort sample is the same as for Tulsa Public Schools as a whole (135).¹⁴

Exhibit 20. Teacher-Rated Math and Literacy Proficiency, Kindergarten Cohort 1, 18 Months



Note. $n = 138$ for math, $n = 137$ for literacy.

We also asked teachers to report on the progress of social-emotional development in children. The average scores for social-emotional development of children across five different domains all were rated above 3.0 on a 4-point scale, suggesting, on average, high proficiency across all social-emotional development domains assessed by the teachers.

Summary: What We Learned From the 18-Month Survey for Kindergarten Cohort 1

Most families use nutrition and health services and generally are satisfied with various services. Those who have concerns about their child’s development indicate they are able to access resources. About one quarter of parents are unemployed, and the majority have some financial hardship. However, most families have social connections and concrete support and report low levels of racial discrimination. The relatively high rate of uninsured children (15%) is concerning, as is the fact that tooth decay is a relatively common issue (21%).

¹⁴ As measured by the NWEA Measures of Academic Progress (MAP) Assessment.

TOPICAL AREAS OF BASELINE POPULATION TRENDS ANALYZED THUS FAR

- Prenatal care
- Smoking during pregnancy
- Gestational diabetes
- Gestational hypertension
- Eclampsia
- Low-birthweight births
- Preterm births
- Abuse and neglect
- Infant mortality
- Maternal mortality
- Out-of-home placements
- Child care availability
- Child care quality
- Health program appointments
- Housing affordability
- Preschool enrollment
- Supplemental Nutrition Assistance Program (SNAP) benefits
- Child care subsidies
- Low-income home energy assistance benefits
- Residential instability
- Housing affordability

Lessons Learned and Next Steps

This descriptive analysis can inform us how we conceptualize impact. For instance, some of the parent direct-report items based on general perception (e.g., health of child, on which almost all parents reported their child's health as good or excellent) may not provide as much variation as measures that detail specifics (such as items on which parents indicate specific health conditions) or on which teachers evaluate the student's academic performance; measures that do have greater variation in response generally will make for better impact measures. The team is currently engaging in a series of meetings to develop an impact analysis plan, which will define the focal outcomes and analyses.

These samples as reported are not representative of Tulsa as a whole. For the impact analysis, we will employ survey weights to render each sample representative of the larger Tulsa population, and we may use imputation or different coding strategies; thus, the data reported in the final impact analysis may differ from the data presented in this report. However, the unweighted information shared in this report still can be helpful in developing supports. For instance, the finding that such a high proportion of kindergarten survey families reported child cavities could suggest the need for further exploration of this phenomenon and raising awareness.

In 2025, we will turn to cleaning and analyzing the 30-month survey data for Cohort 1, which, in conjunction with the 18-month survey data, will give us descriptive trends on all the survey-based outcomes for Cohort 1.

Using Extant Data: Examining Trends of Child and Family Well-Being

In our examination of Tulsa Health Department program appointment data trends during the past year, we continued our efforts to document historical trends of child and family well-being indicators in Tulsa before implementation of the BEST initiative. To this end, we have received more administrative data from local and state agencies to conduct additional baseline analyses

that contribute to our understanding of health, education, and family well-being outcomes for Tulsa residents before and during the BEST initiative.

The topical areas that we have examined for baseline trends are listed in the sidebar. We have previously examined trends in maternal health and birth outcomes, third-grade reading and math proficiency, preschool participation, residential mobility, housing affordability, child welfare, and public benefit receipt, in addition to new analyses presented in this report on health program usage and infant and maternal mortality. These initial analyses have laid a foundation for the CITS technique that we will employ to examine the impacts of the BEST initiative.

In this year's report, we present baseline trends in two new topics: (a) usage trends, represented by service appointments, in several health programs operated by the Tulsa Health Department; and (b) trends in infant and maternal mortality in Tulsa County and Oklahoma County.

Usage Trends: Tulsa Health Department Program Service Appointment Data

In this section, we present the usage trends, as measured by families' service appointments, in several health programs funded, operated, or supported by the Tulsa Health Department (THD) from 2013 through July 2023.¹⁵ THD, a partner in the BEST initiative, serves as the primary public health agency for more than 600,000 Tulsa County residents.¹⁶ THD programs offer a variety of services, including but not limited to supports for first-time mothers, food benefits, developmental screenings, and childhood immunizations. Services are provided in multiple settings, including hospitals, health clinics, and clients' homes, and may take the form of in-person visits, virtual visits, phone calls, or text messages, depending on the program.

To examine usage of THD programs, we analyzed trends in the number of appointments recorded and the number of unique individuals who completed appointments by year. We also calculated the percentage of clients who completed appointments with multiple THD programs. We looked at trends for all THD clients and for clients who live in high-poverty neighborhoods in Tulsa.¹⁷ The rationale for focusing on high-poverty neighborhoods is that we expect the impact of BEST on THD service usage to be greater in high-poverty neighborhoods because these neighborhoods will have a higher concentration of BEST partners. We are interested in examining whether trends vary for the overall sample versus the sample of clients in high-poverty neighborhoods.

¹⁵ AIR would like to thank Tulsa Health Department and Asemio for their support in preparing and providing the data for these analyses.

¹⁶ Pathways to Health Tulsa. *Tulsa County Community Health Improvement Plan 2023–2028*. <https://tulsa-health.org/programs/community-health-improvement-plan/#:~:text=Led%20by%20the%20Tulsa%20Health,county%20in%20the%20United%20States>.

¹⁷ *High-poverty neighborhoods* are defined in this analysis as neighborhoods with poverty rates above the median neighborhood poverty rate in Tulsa, which was 17%.

The seven THD programs examined in this analysis are described in Exhibit 21, along with program eligibility. The data include records of all appointments for individuals living in the city of Tulsa from 2013 through July 2023, although data availability varied across individual programs.¹⁸ Analyses for each program were limited to years with complete appointment data. As a result, the length of the trend for each program will vary. The data file includes the program name, year of appointment, and the ZIP code of the program client.

Exhibit 21. Tulsa Health Department Programs Examined

Program	Description	Eligibility criteria
Child Guidance	Provides behavioral and developmental screenings, foster care and adoption support, service coordination, development and parenting support, and speech-language pathology services	Children under age 18 and their families and/or caregivers
Children First	Provides at-home nurse visits, health assessments, education on family planning and child rearing, illness and accident prevention, grief counseling, and referrals to other programs if needed	Pregnant first-time mothers, beginning before 29th week of gestation, living in Tulsa who are eligible for WIC and/or SoonerCare ¹⁹
Family Advocates	Provides ongoing, personalized support during pregnancy and throughout a child's early years	Expecting mothers and families of children under 9 years old, where mothers and/or children are enrolled in SoonerCare
Family Planning	Provides physical exams, lab services, pregnancy testing, contraceptives, counseling, referrals, and education about birth control options	All Tulsa residents of child-bearing age, regardless of insurance status
Immunizations	Provides vaccinations as well as vaccine education	All Tulsa residents, regardless of insurance status
Lactation Consulting	Provides lactation support to families, including prenatal and postnatal breastfeeding education, individual or group classes, phone calls or texting support, and individual consults	Expectant and postpartum mothers residing within Tulsa County who are eligible for WIC and/or SoonerCare
Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)	Offers services related to nutrition and other basic resources	Women, infants, and children up to age 5 qualifying for SoonerCare, the Supplemental Nutrition Assistance Program (SNAP), or the Temporary Assistance for Needy Families (TANF) program

¹⁸ Analyses were limited to births within Tulsa and Oklahoma City. The data excluded ZIP codes where less than 25% of the population lived in the city. See geographic boundaries defined in D'Souza, I., Bos, H., & Howard, E. (2022). *BEST Study geographies*. American Institutes for Research.

¹⁹ SoonerCare (Oklahoma Medicaid) is a health coverage program jointly funded by the federal and state governments. This program helps pay some or all medical bills for many people who can't afford them. The Oklahoma Health Care Authority (OHCA), the state agency that administers the program, determines financial eligibility for the program.

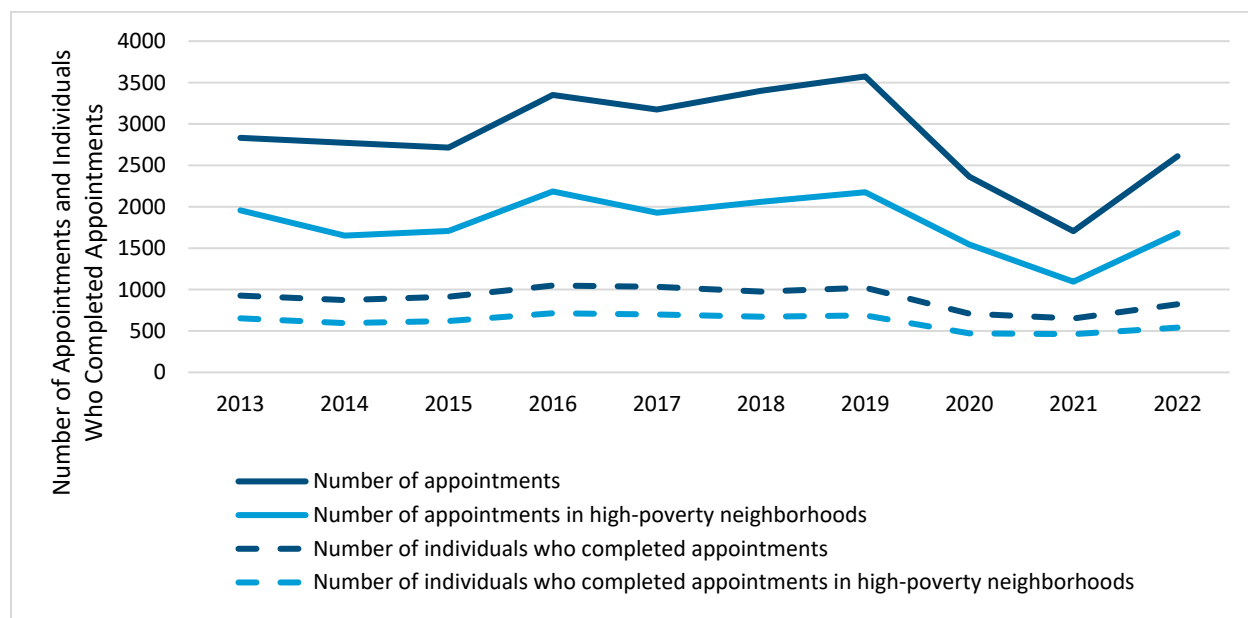
Findings: program usage

Trends in program usage, represented by service appointments, are presented separately for each THD program in the subsequent section. Programs vary in their capacity to serve clients; some programs are designed to serve a large number of families, and some serve a targeted number of families. For example, the highest volume programs are Immunizations and WIC, which serve children and families. Programs like Lactation Consulting, which offers breastfeeding support, and Children First, which includes at-home nurse visits, serve a smaller number of clients. Therefore, please note that the y-axis representing the number of appointments and the number of individuals who completed appointments varies for each data chart.

Child Guidance

Child Guidance (Exhibit 22) in Tulsa offers a variety of support services for children from birth to age 18, including developmental screenings, foster care and adoption support, and service coordination. The average number of Child Guidance appointments completed per individual was 3.2 appointments across all years. The average fluctuated from year to year, with a low of 2.6 in 2021 and high of 3.5 in 2019. The number of appointments and individuals who completed Child Guidance appointments dropped dramatically in 2020 and 2021, the years associated with the height of the COVID-19 pandemic. From 2019 to 2021, the number of appointments (-52%) dropped more than the number of individuals who completed appointments (-36%). The trends for both number of appointments and individuals who completed appointments showed evidence of rebounding in 2022. Trends for clients in high-poverty neighborhoods, which comprised 61% of appointments and 67% of individuals in 2019, were similar to trends for Tulsa overall.

Exhibit 22. Number of Appointments and Individuals Who Completed Appointments for Child Guidance in Tulsa, Overall and in High-Poverty Neighborhoods in Tulsa, 2013–2022



Note. Data availability varies across programs. Analyses are based on years for which complete program data were provided.

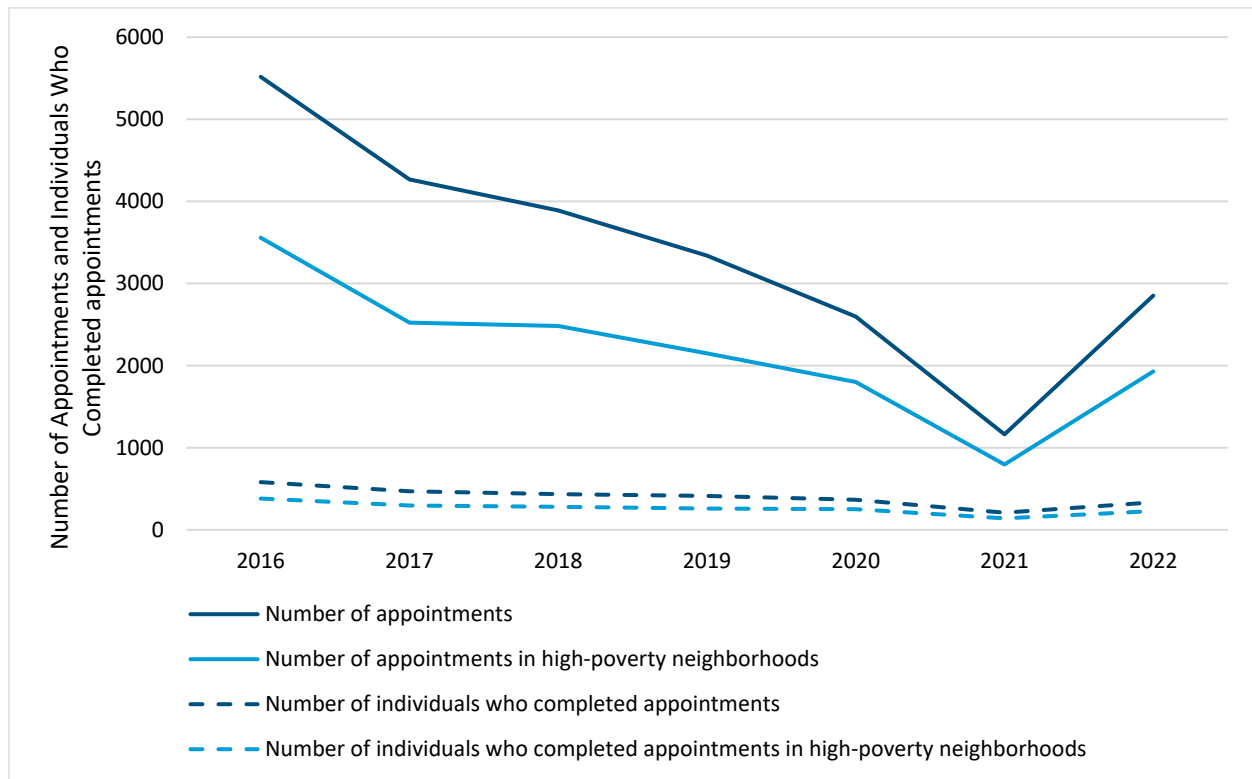
Source: Tulsa Health Department appointment records.

Children First

Children First (Exhibit 23) provides at-home nurse visits to first-time mothers. On average, 7.9 Children First appointments per person were completed across all years.²⁰ Trends in appointments and individuals who completed appointments were declining since 2016. Service provision sharply decreased due to the pandemic, as shown in 2021, but rebounded in 2022 to nearly the same levels as in 2019. Similar patterns were observed for clients in high-poverty neighborhoods.

²⁰ The average number of appointments per person fluctuated across years, with a low of 5.6 in 2021 and a high of 9.5 in 2016.

Exhibit 23. Number of Appointments and Individuals Who Completed Appointments for Children First in Tulsa, Overall and in High-Poverty Neighborhoods in Tulsa, 2016–2022



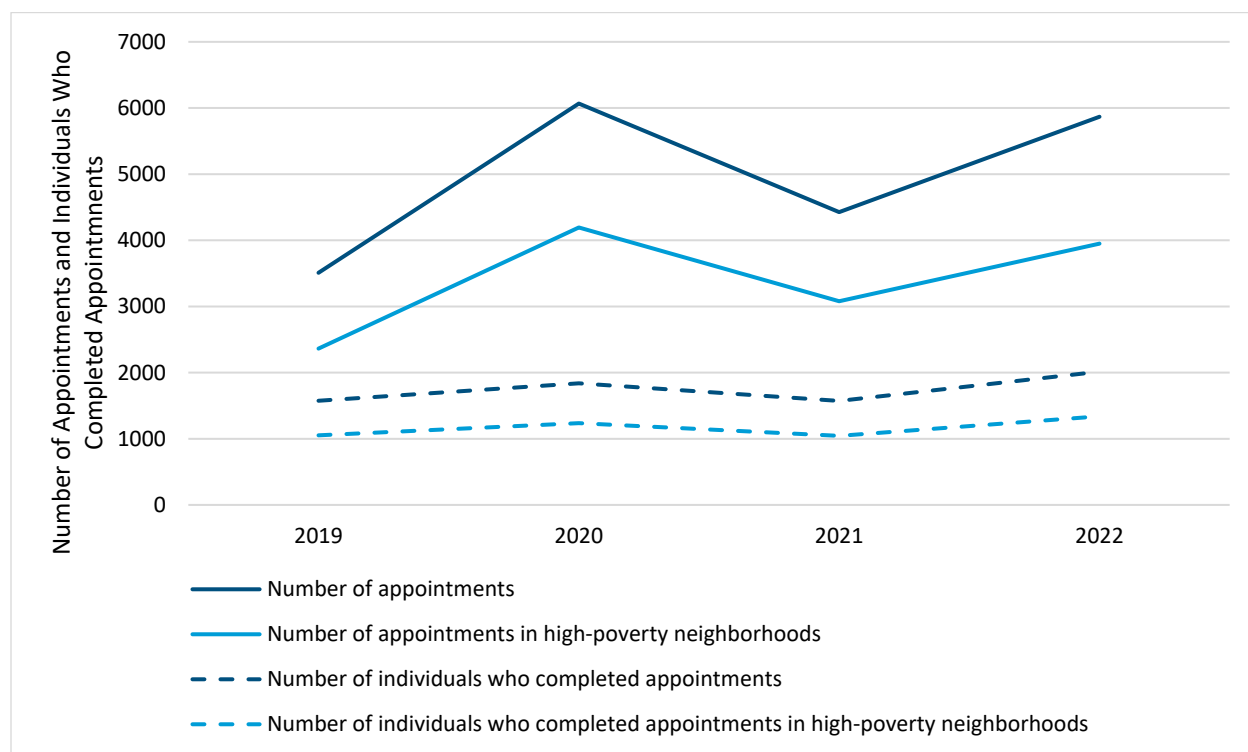
Note. Data availability varies across programs. Analyses are based on years for which complete program data were provided.

Source: Tulsa Health Department appointment records.

Family Advocates

Family Advocates (Exhibit 24) is a program that provides support and referrals during pregnancy and the early years of a child’s life. The analysis for this program was limited to 2019–2022 due to data availability. On average, 2.7 appointments per individual were completed across all years.²¹ The number of appointments and number of individuals who completed appointments fluctuated between 2019 and 2022 in Tulsa overall and in high-poverty neighborhoods.

Exhibit 24. Number of Appointments and Individuals Who Completed Appointments for Family Advocates in Tulsa, Overall and in High-Poverty Neighborhoods in Tulsa, 2019–2022



Note. Data availability varies across programs. Analyses are based on years for which complete program data were provided.

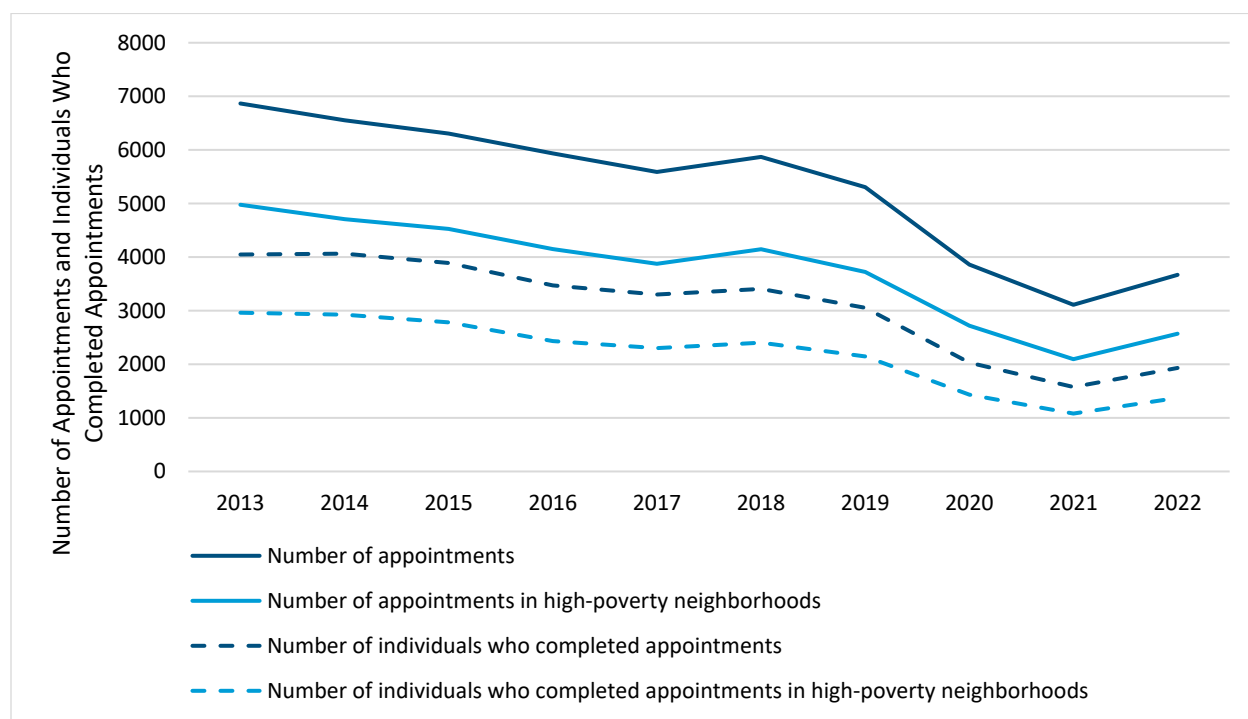
Source: Tulsa Health Department appointment records.

²¹ The average number of appointments per person fluctuated across years, with a low of 2.2 in 2019 and a high of 3.3 in 2020.

Family Planning

Family Planning (Exhibit 25) provides reproductive health services. On average, 1.8 appointments per individual were completed across all years.²² Except for an uptick in 2018, the number of appointments and individuals who completed appointments in Tulsa declined before 2019 and from 2019 to 2021. The trends declined more sharply with the onset of the pandemic in 2020 but showed evidence of a slight rebound in 2022. Trends for clients in high-poverty neighborhoods were similar to trends in Tulsa overall.

Exhibit 25. Number of Appointments and Individuals Who Completed Appointments for Family Planning in Tulsa, Overall and in High-Poverty Neighborhoods in Tulsa, 2013–2022



Note. Data availability varies across programs. Analyses are based on years for which complete program data were provided.

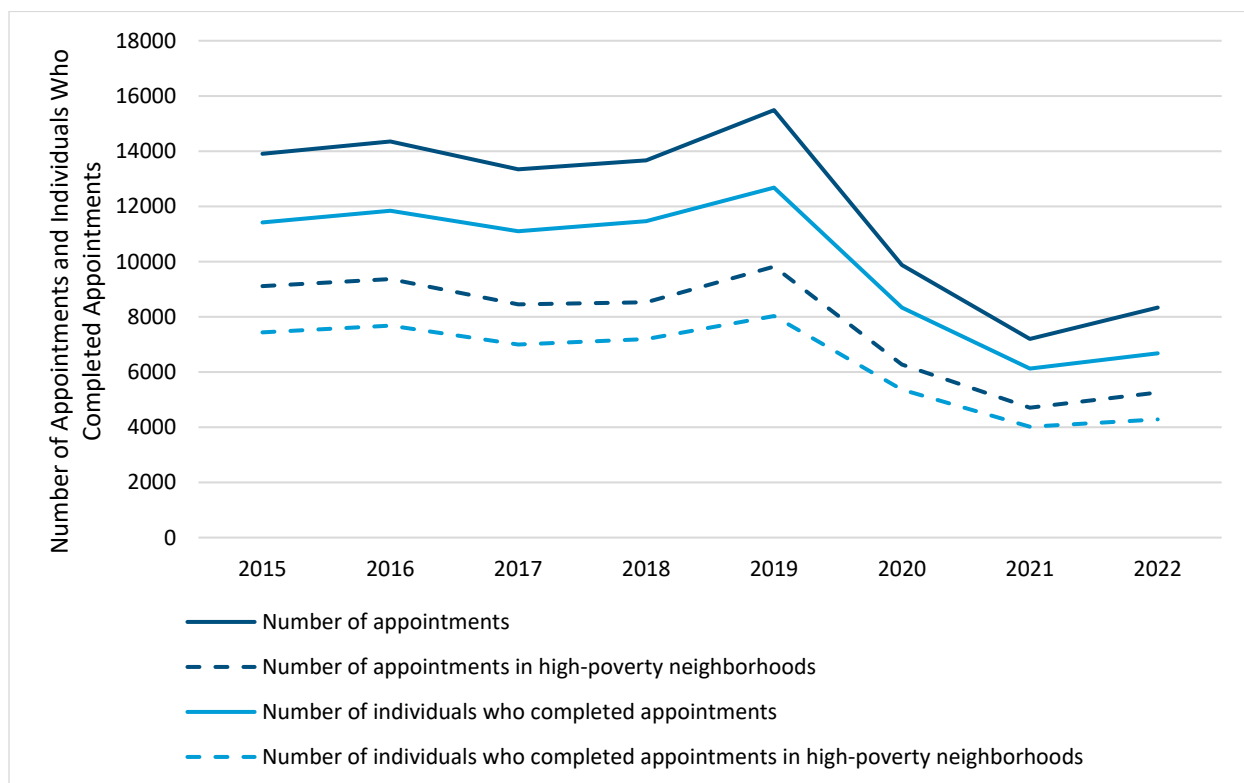
Source: Tulsa Health Department appointment records.

²² The average number of appointments per person did not fluctuate very much across years, with a low of 1.6 in 2014 and 2015 and a high of two in 2021.

Immunizations

The Immunizations program (Exhibit 26) provides vaccinations, including childhood immunizations and flu vaccines for adults and children. On average, 1.2 appointments per individual were completed across all years, which aligns to a typical vaccination schedule. After an uptick in 2019, the trends declined sharply to 2021, with evidence of rebounding in 2022 but still much below 2019 levels (appointments and clients were both down 46%). Program usage in high-poverty neighborhoods followed the same trends as Tulsa overall.

Exhibit 26. Number of Appointments and Individuals Who Completed Appointments for the Immunizations Program in Tulsa, Overall and in High-Poverty Neighborhoods in Tulsa, 2015–2022



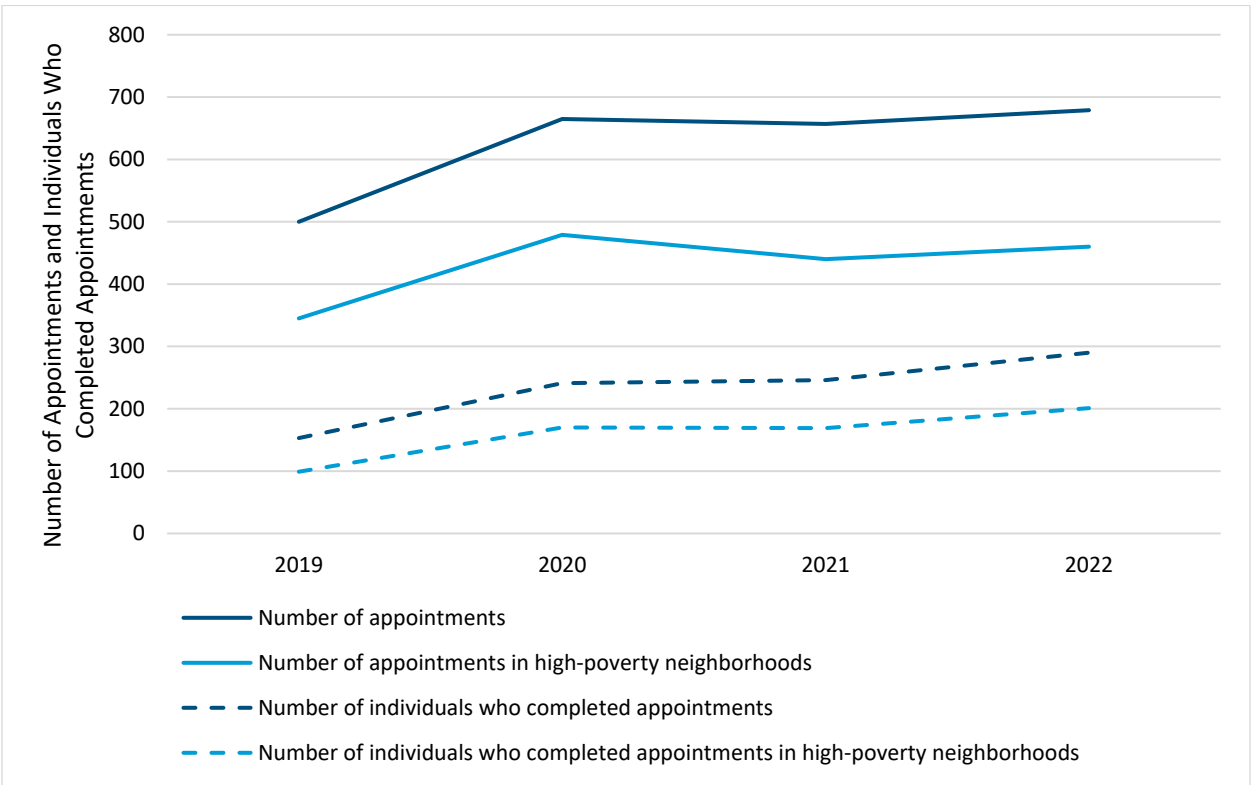
Note. Data availability varies across programs. Analyses are based on years for which complete program data were provided.

Source: Tulsa Health Department appointment records.

Lactation Consulting

Lactation Consulting (Exhibit 27) offers support with breastfeeding, and, as a result, service volume is lower compared to other programs. On average, 2.8 appointments per individual were completed across all years.²³ Unlike trends for other programs, program usage for Lactation Consulting did not decline sharply during the height of the pandemic in 2020 and 2021. In fact, the number of individuals who completed appointments, for example, increased by 89% during the 4-year period.

Exhibit 27. Number of Appointments and Individuals Who Completed Appointments for Lactation Consulting in Tulsa, Overall and in High-Poverty Neighborhoods in Tulsa, 2015–2022



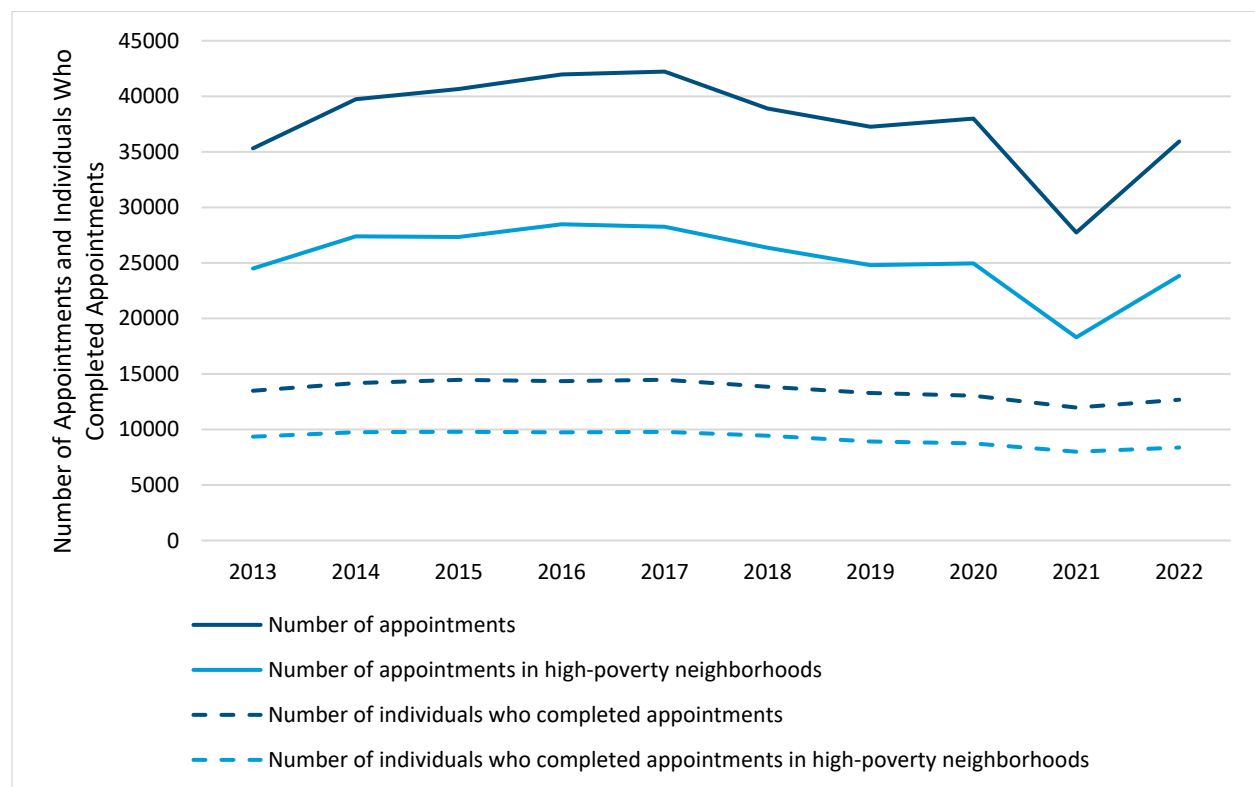
Note. Data availability varies across programs. Analyses are based on years for which complete program data were provided.
Source: Tulsa Health Department appointment records.

²³ The average number of appointments per person fluctuated across years, with a low of 2.3 in 2022 and a high of 3.3 in 2018.

WIC

WIC (Exhibit 28) provides nutrition services for mothers and young children. On average, 2.8 WIC appointments per individual were completed across all years.²⁴ The number of appointments declined sharply in 2021 but rebounded in 2022. The trend in number of individuals receiving support from WIC was more stable, for Tulsa overall and for high-poverty neighborhoods in Tulsa. Appointments fell by nearly 27% from 2020 to 2021, and the number of individuals who completed appointments fell by 8%.

Exhibit 28. Number of Appointments and Individuals Who Completed Appointments for WIC In Tulsa, Overall and in High-Poverty Neighborhoods in Tulsa, 2013–2022



Note. Data availability varies across programs. Analyses are based on years for which complete program data were provided.

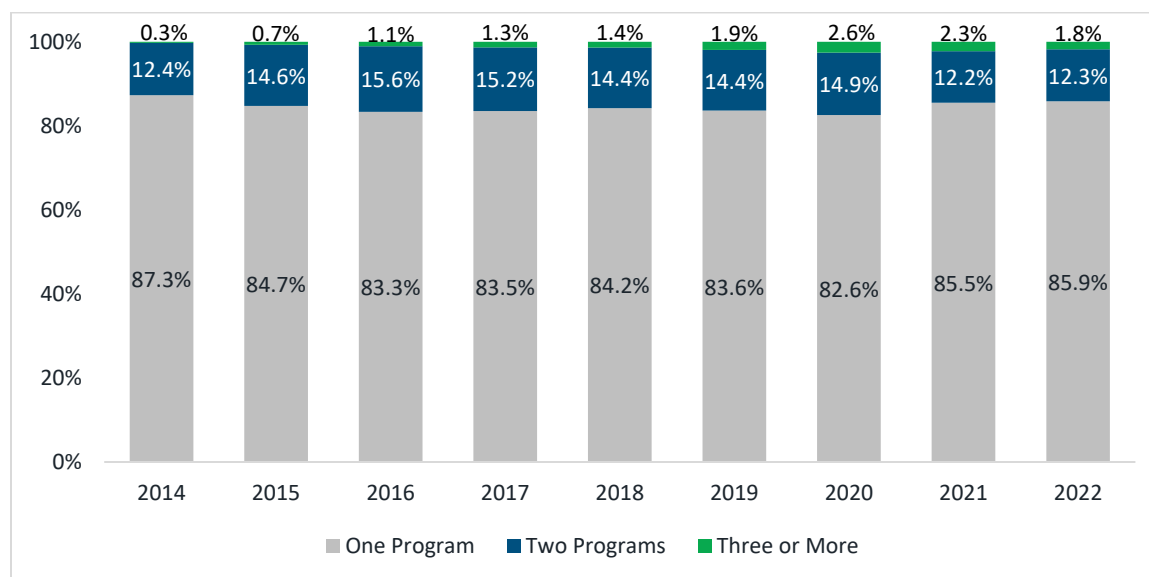
Source: Tulsa Health Department appointment records.

²⁴ The average number of appointments per person fluctuated across years, with a low of 2.3 in 2021 and a high of 2.9 in 2018.

Findings: Program Overlap

To examine program overlap, we first examined the percentage of individuals who had completed appointments from multiple programs. Given the time it may take for referral appointments across programs to be realized, an individual was considered a multi-program client in a given year if they a) used a program in that year and b) used one or more different programs within that year and/or the previous year. Exhibit 29 shows the percentages of program clients who had completed appointments for one, two, or three or more programs by each year. Most individuals (ranging from 83% to 87%) used only one THD program, and very few individuals used three or more programs. The percentage of clients using multiple programs appeared to peak in 2020 with about 17.4% of clients using multiple programs.

Exhibit 29. Percentage of Clients with Appointments at Multiple Tulsa Health Department Programs, 2014–22



Note. Values may not sum to 100 percent due to rounding.

Source: Tulsa Health Department appointment records.

Looking at the appointment data for clients who used multiple programs (Exhibit 30), we see that almost all clients had appointments at WIC and then one other program. Before 2017, families who used WIC often had appointments for Immunizations, Family Planning, or Child Guidance services. With the implementation and expansion of Family Advocates, the use of other programs among WIC recipients was more distributed.

Exhibit 30. Percentage of Tulsa Health Department Multiple Program Users Who Had Appointments With Different Programs, 2013–2022

Year	Child Guidance	Children First	Family Advocates	Family Planning	Immunizations	Lactation Consulting	WIC
2013	39%	--	--	62%	--	--	99%
2014	20%	--	--	40%	47%	--	95%
2015	15%	9%	--	28%	59%	--	91%
2016	17%	16%	--	24%	56%	--	92%
2017	17%	14%	--	24%	58%	--	92%
2018	16%	13%	10%	25%	51%	0%	91%
2019	14%	11%	26%	18%	45%	4%	91%
2020	12%	12%	37%	19%	35%	7%	89%
2021	13%	11%	42%	14%	29%	10%	90%
2022	13%	14%	42%	16%	27%	10%	90%

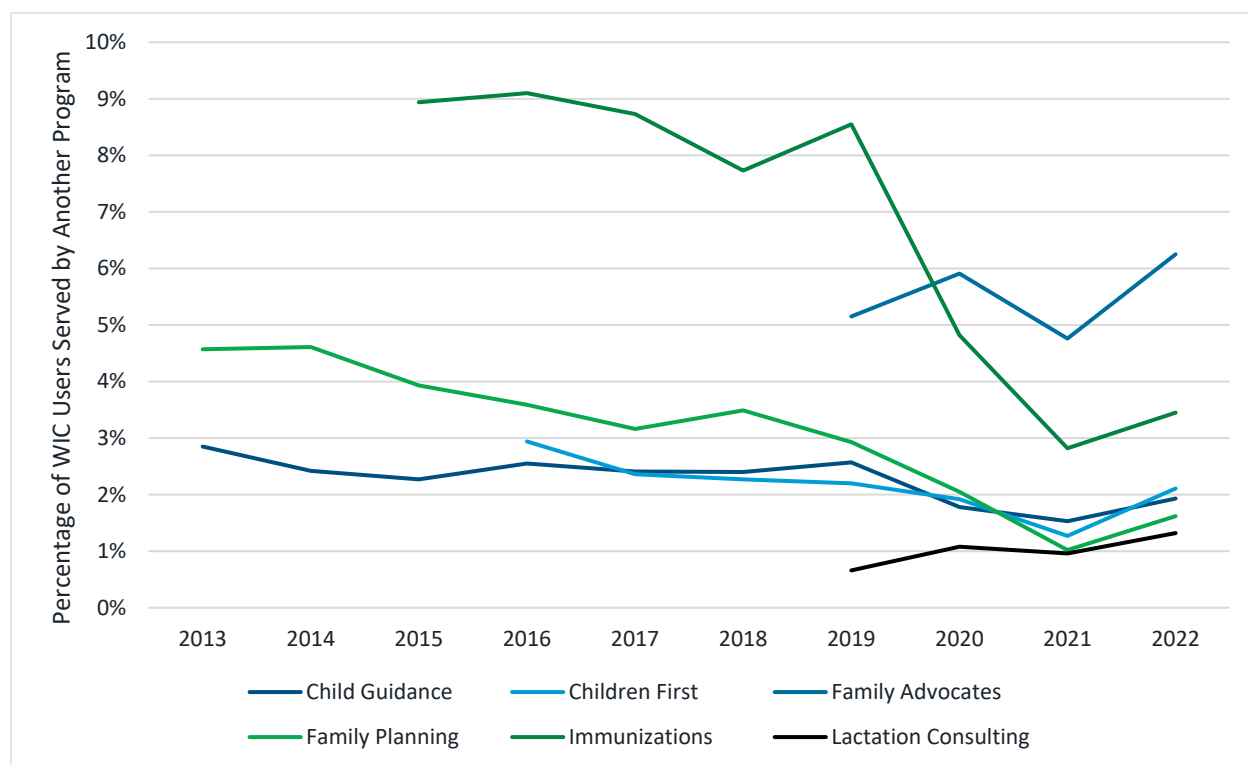
Source: Tulsa Health Department appointment records.

Because WIC is the most prevalent service, we examined trends in other program usage for WIC recipients specifically (Exhibit 31). Of course, not all WIC recipients will need or want other services, but examining appointment trends over time will help inform our understanding of possible opportunities for connecting clients to additional services.

Among the other six THD programs, WIC users were most likely to complete appointments with the Immunizations program and Family Advocates program. WIC users were relatively less likely to use the other programs—Family Planning, Child Guidance, Children First, and Lactation Consulting.

In general, the trends, again, point to service disruption due to the pandemic. WIC recipients were less likely to have appointments with other services in 2021.

Exhibit 31. Percentage of WIC Users Using Another Tulsa Health Department Program, 2013–2022



Source: Tulsa Health Department appointment records.

Lessons learned and next steps: health program appointments

For most programs, significant disruptions occurred with the onset of the COVID-19 pandemic (Lactation Consulting and Family Advocates are notable exceptions), followed by a rebound in services in 2022. The number of appointments often was impacted more than the number of individuals who completed appointments. It is also important to note that some appointments for services were already experiencing downward trends before the pandemic hit (Children First and Family Planning). We did not observe differences in trends for clients in high-poverty neighborhoods compared to Tulsa overall.

Though we do not have exact counts of the number of people in Tulsa who are eligible for each program, approximate populations show very little change in magnitude year to year (see Appendix A). Thus, we interpret changes in numbers of appointments and individuals completing appointments as reflective of changes in service usage as opposed to changes in numbers of individuals in the population who are eligible for each program.

Findings from the program overlap analysis showed that the majority of individuals accessed only one THD program. There was an initial increase in the percentage of clients accessing more

than one program, but the trend was largely steady over the time period. We observed that clients who had appointments in multiple programs were most likely to have appointments with WIC. WIC recipients were more likely to have appointments with the Immunizations program and Family Advocates.

In later years of the evaluation, we will return to these research questions by refreshing the data with subsequent years to inform our understanding of whether program usage trends have improved during the implementation period of the BEST initiative.

Infant and Maternal Mortality

In this section, we examine infant and maternal mortality in Tulsa County and Oklahoma County before implementation of the BEST initiative in Tulsa. Publicly available data on infant and maternal mortality from the Oklahoma State Department of Health (OSDH) were used for this analysis. The data that we analyzed for this memo are aggregate county-level data that are publicly available from the OSDH Vital Statistics. We present descriptive trends in infant mortality and maternal mortality from 2013 to 2020, the latest years for which data are available. Where data are available, we also analyze trends by demographic characteristics. Exhibit 32 lists the indicators that we examined in the analysis, along with their definitions.

Exhibit 32. Infant and Maternal Mortality Indicators

Indicator	Definition
Infant mortality	Number of infant deaths within the first year of life per 1,000 live births in the same time period; most infant deaths occur within the first month after birth
Maternal mortality	Number of maternal deaths related to or aggravated by the pregnancy, by childbirth, or by the puerperium (maternal causes or obstetric causes) per 100,000 live births in the same time period ^a
Maternal characteristics^b	
Adequate prenatal care	Categories: adequate prenatal care (i.e., first trimester and 10+ visits), inadequate prenatal care (including unknown care)
Mother's race/ethnicity	Categories: White, Black, Latina
Mother's marital status	Categories: married, not married, and marital status unknown
Mother's education level	Categories: less than a bachelor's degree, ^c bachelor's degree or higher

^a This measure is based on data that refer to "Pregnancy, childbirth, and the puerperium" causes of death, identified by Maternal Death "O00-O99" ICD-10 Medical Code.

^b All categories are defined by the Oklahoma State Department of Health (OSDH). We will revisit analyses by mother's age when we receive individual-level records from OSDH. OSDH suppresses data for instances in which there are fewer than five cases, which poses challenges for analyzing rates for teenage mothers.

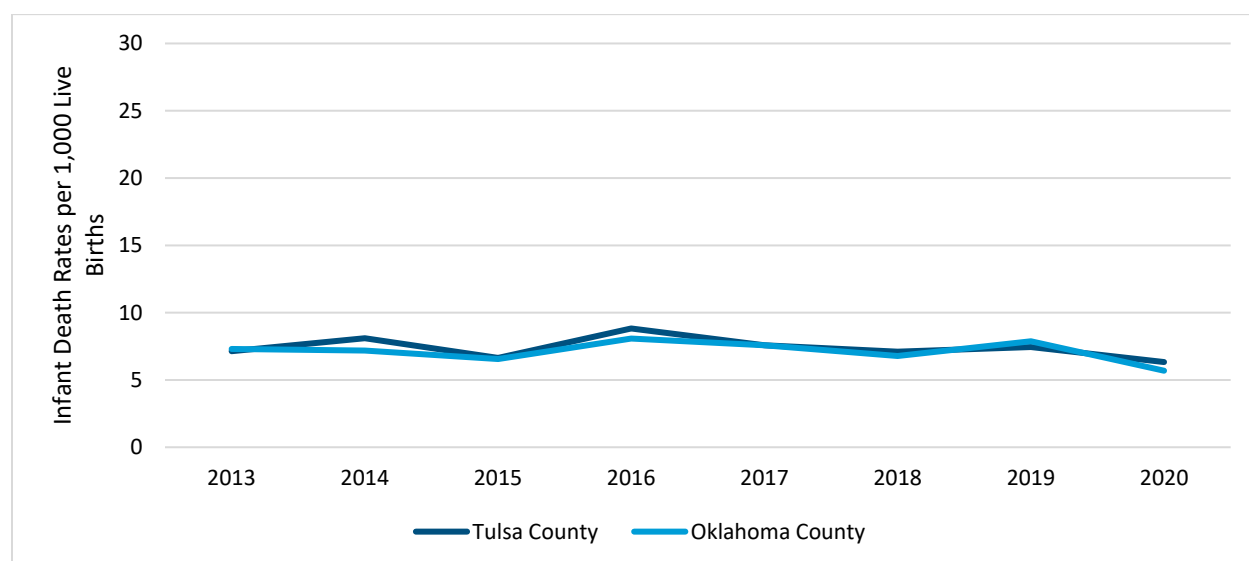
^c Including education levels: 8th grade or less, 9th grade through 12th grade no diploma, high school graduate or GED completed, and some college.

We conducted descriptive analysis in order to present trend lines.²⁵ We analyzed infant mortality trends from 2013 to 2020 at the county level for each of the maternal characteristics. Because of the low numbers of maternal deaths, we could not disaggregate the data by demographic characteristic. To deal with sparse data based on low numbers of maternal deaths, we report 4-year averages for 2013–2016 and 2017–2020. This approach is consistent with a similar aggregated approach used by OSDH²⁶ but means that we are not able to examine trends across several years.²⁷

Infant mortality

Infant mortality rates are similar for Tulsa County and Oklahoma County (Exhibit 33), hovering between seven and eight deaths per 1,000 live births over time; the rates appear to slightly decline in both places to about six deaths per 1,000 live births.

Exhibit 33. Infant Mortality Rates (per 1,000 Live Births) in Tulsa County and Oklahoma County, 2013–2020



Source: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2010 to 2022, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE). Accessed at <https://www.health.state.ok.us/>

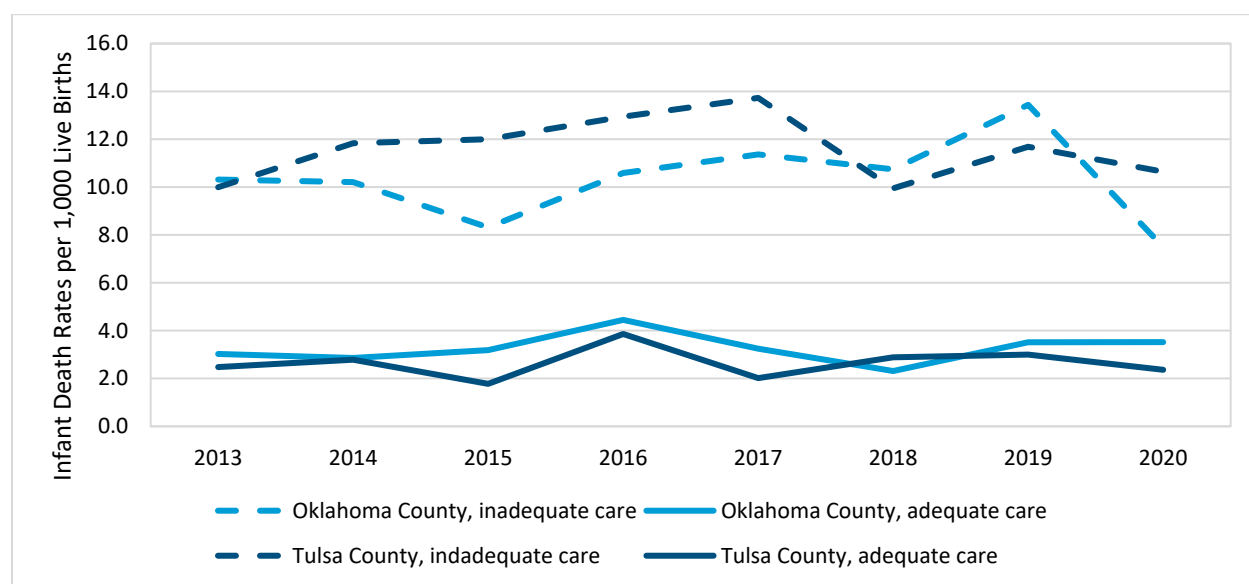
²⁵ Because of the descriptive nature of these trends, we advise caution in interpreting trends. In forthcoming analyses, we will examine whether differences in trends are statistically significant, which will aid in interpretation.

²⁶ OSDH. (2021). *Oklahoma Maternal Health, Morbidity and Mortality—Annual Report 2021*. <https://oklahoma.gov/content/dam/ok/en/health/health2/aem-documents/family-health/maternal-and-child-health/maternal-mortality/maternal-morbidity-mortality-annual-report-2021.pdf>

²⁷ Because we report 4-year averages, we are not able to examine maternal mortality trends, which rely on three time points, as we were able to examine for infant mortality data. Another challenge we encountered while analyzing maternal mortality data is that OSDH suppresses data in instances where there were fewer than five cases.

Within each demographic group examined (i.e., mother’s prenatal care, race/ethnicity, marital status, and education level), we observed disparities in infant mortality rates (see Appendix B for additional graphs). We display here (Exhibit 34) differences in infant mortality rates by quality of prenatal care. OSDH defines adequate prenatal care through a commonly used measure based on two criteria: (a) prenatal care starting in the first trimester and (b) a minimum of 10 prenatal care visits. Infant mortality rates are consistently higher for mothers who received inadequate prenatal care—in some cases, more than five times as high. There is some indication that rates for mothers who received inadequate care may be dropping in later years.

Exhibit 34. Infant Mortality Rates (per 1,000 Live Births) in Tulsa County and Oklahoma County by Quality of Prenatal Care, 2013–2020



Source: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2010 to 2022, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE). Accessed at <https://www.health.state.ok.us/>

Results from the examination of infant mortality rates by maternal race/ethnicity, education level, and marital status are presented in Appendix B. Overall, we found the following:

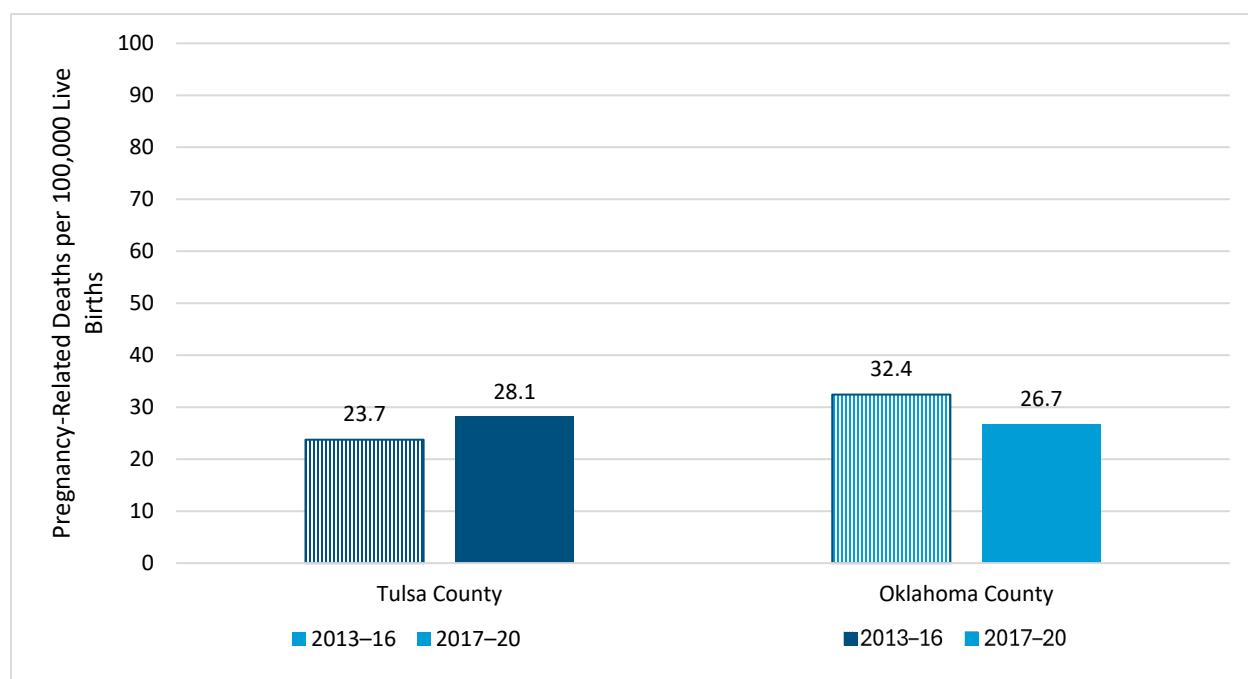
- Black women have higher rates of infant mortality than either White women or Latina women (Exhibit B1).
- Rates of infant mortality among mothers with less than a bachelor’s degree are more than twice as high as rates among mothers with a bachelor’s degree or higher (Exhibit B2).

- Rates of infant mortality for women who are unmarried or whose marital status is unknown are approximately twice as high as rates for married women, although there is some evidence of a drop in the rates among women who are unmarried or whose marital status is unknown in recent years (Exhibit B3).

Maternal mortality

The change in maternal mortality over the two time periods (Exhibit 35) was not consistent across the two counties: Maternal mortality rates increased in Tulsa County but decreased in Oklahoma County. Some caution may be warranted in interpreting these data, given the low incidences of maternal deaths.

Exhibit 35. Maternal Mortality Rates (per 100,000 Live Births) in Tulsa County and Oklahoma County, 2013–2016 and 2017–2020



Source: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2010 to 2022, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE). Accessed at <https://www.health.state.ok.us/>.

The baseline analyses presented in this memo are considered a first step in examining infant and maternal mortality trends that will build on upcoming analyses that use individual-level data, allowing for greater flexibility and sophistication in the types of analyses we can conduct.

What We Learned From the Outcome/Impact Study

As the Phase II evaluation completes its fifth year, we can report on findings from the first birth and kindergarten cohorts, in addition to documenting trends using extant administrative data.

In 2024, we analyzed the 18-month survey data and collected the 30-month survey data from the study's first birth and kindergarten cohorts. From the 18-month survey analysis, we learned that families tended to mostly use health and nutrition services. Families generally are satisfied with where they live and their employment, but most families are worried about living expenses. Families generally described their child as healthy, though about half of the children do have a health condition. The birth cohort tends to have higher socio-economic status than the kindergarten cohort.

Analyses of health appointment data for THD programs showed disruptions in programs and services due to the COVID-19 pandemic, followed by a rebound in services in 2022. We examined both the number of appointments completed and the number of unique individuals who completed appointments. Our analysis showed that the number of appointments often was impacted more than the number of individuals who completed appointments. Regarding program overlap, most individuals accessed only one program. We observed that clients who had appointments in multiple programs were most likely to have appointments with WIC.

Our analyses of county-level infant and maternal mortality showed that rates are similar for Tulsa County and Oklahoma County. We observed disparities by key characteristics that point to gaps in health care access. For example, Black women have higher rates of infant mortality than either White women or Latina women. Rates of infant mortality among mothers with less than a bachelor's degree are more than twice as high as rates among mothers with a bachelor's degree or higher. Rates of infant mortality for women who are unmarried or whose marital status is unknown are approximately twice as high as rates among married women, although there is some evidence of a drop in the rate among women who are unmarried or whose marital status is unknown in recent years.

The analyses of extant data trends underscore that Oklahoma City is a suitable candidate for the CITS analysis because it currently does not implement a place-based initiative like BEST and has similar city-level trends. In 2025, we plan to continue baseline analyses of additional extant data indicators, including trends in childhood immunizations trends, well-child visits, and care enrollment in SoonerCare. We also will consider how extant data trends relate to findings from other components of the BEST Study. For example, we intend to situate findings for the samples from our cohort study within the broader trends observed in the extant data component.

Section IV: Ethnography Study Key Activities and Findings

The ethnography study includes monthly interviews with 20 families from Cohort 1 and 20 families from Cohort 2 of the outcome/impact study for a period of 2.5 years. The purpose of the ethnography study is to provide an in-depth description from families' points of view about the day-to-day experiences raising young children in Tulsa, including their interactions with systems and service providers. Key ethnography study activities this past year included the following:

- Maintaining sample and completing monthly ethnographic interviews with families.
- Continuing to conduct interviews with families interested in continuing with the study beyond the initial 30-month period.
- Creating family profiles and learning about family life and routines, with a focus on work and subsistence, social services and supports, child development, and cultural beliefs and influences.

What We Learned From the Ethnography Study

The monthly conversations have highlighted the various ways in which families in Tulsa raise children, often balancing complicated work arrangements with dynamic child care needs. Most families rely on a variety of social services and informal supports to make ends meet. This complex nature of family function illustrates why it is so important for the BEST evaluation to understand the Tulsa social service sector and its partners.

In the sections that follow, we summarize our work in each of these activities, concluding with lessons learned and next steps for the work in 2025.

Maintaining Sample and Completing Monthly Ethnographic Interviews

The 20 families selected for the ethnography study are also part of the Cohort 1 birth and kindergarten outcome/impact study sample (10 Birth Cohort 1 families and 10 Kindergarten Cohort 1 families). As of December 2024, a total of 501 ethnographic family interviews have been completed since the beginning of the study; 142 of these interviews were completed in 2024. On average, eight interviews per family were completed in 2024. In addition, we have started to conduct biannual interviews with families who have expressed interest in continuing their participation in the study beyond the 30-month participation in the ethnography study. To date, we have conducted four biannual interviews with four families. Exhibits 36 and 37 offer more demographic information on the ethnography sample. For the kindergarten cohort in the ethnography study, five families are Hispanic, two are Black, one is White, and two are mixed race. The average number of children in the household is three, and four families have

indicated that Spanish is their primary language. For the birth cohort in the ethnography study, three families are Hispanic, two are Black, three are White, and two are mixed race. The average number of children in the household is three, and three families have indicated that Spanish is their primary language.

Exhibit 36. Kindergarten Ethnography Cohort Sample Descriptives

Family name	Key child's racial/ethnic identity	Number of children	Primary language
Anderson Family	Mexican, Mexican American, Chicano	5	English
Clark Family	White, Non-Hispanic	3	English
Garza Family	Mexican	4	Spanish
Johnson Family	White; Black or African American	1	English
Lopez Family	Mexican, Mexican American, Chicano	2	Spanish
Reyes Family	Honduran	3	Spanish
Smith Family	Black or African American; American Indian	2	English
Thomas Family	Black or African American; American Indian or Alaska Native	5	English
Valdez Family	Mexican, Mexican American, Chicano	3	Spanish
Williams Family	White; Black or African American	4	English

Note. All names are pseudonyms.

Exhibit 37. Birth Ethnography Cohort Sample Descriptives

Family name	Key child's racial/ethnic identity	Number of children	Primary language
Error! Reference source not found.	Black or African American; American Indian	2	English
Error! Reference source not found.	White, Non-Hispanic	4	English
Error! Reference source not found.	Mexican, Mexican American, Chicano	2	Spanish
Error! Reference source not found.	Black or African American	3	English
Error! Reference source not found.	Black or African American	2	English
Error! Reference source not found.	Mexican, Mexican American, Chicano	3	Spanish

Ecocultural Family Interview Key Domains

- 1. Family Subsistence and Work
- 2. Services
- 3. Information
- 4. Cultural Beliefs and Influences
- 5. Home–Community Environment
- 6. Networks and Supports
- 7. Connectedness
- 8. Domestic Workload and Child Care Tasks
- 9. Sustainability of Daily Routine

Error! Reference source not found.	White, Non-Hispanic	4	English
Error! Reference source not found.	Mexican, Mexican American, Chicano	3	English
Error! Reference source not found.	Mexican, Mexican American, Chicano; White	3	Spanish
Error! Reference source not found.	White, Non-Hispanic	3	English

Note. All names are pseudonyms.

The study uses the Ecocultural Family Interview (EFI), an approach to ethnography research that uses conversations with parents about how they organize their family’s everyday routines. The approach focuses on learning how families plan, create, change, and sustain their everyday activities. The format of the open-ended interview is a mixture of conversation, probing questions, and preplanned structured questions to hear about the family routines and circumstances from the parent’s perspective, in their own words. We have completed a total of 173 EFI quarterly scoring protocols and an average of nine per family since the start of the study.

Creating Family Profiles and Learning About Family Life and Routines, With a Focus on Work and Subsistence, Social Services and Supports, and Cultural Beliefs and Influences

We drafted family profiles for the 20 selected ethnography families (10 kindergarten families and 10 birth families) from Cohort 1. Focusing on the evolving routines of families across different domains over the first year of interviews, AIR conducted thematic analysis of 357 field notes.

In addition to field notes, we examined the average EFI quarterly scorings completed for October 2023 through October 2024. Scorings were completed at least once for 18 of the ethnography families. On average, quarterly scoring was completed three times for each family in this time period. Each family is rated on nine domains on a quarterly basis. This quarterly scoring is used to quantify the information collected from interviews. Each domain contains a subset of items (across the nine domains, there is a total of 37 items). Based on their conversations with families, interviewers first score each item as low, medium, or high and then assign a numerical ranking on a 9-point scale (0–2 = *low*, 3–5 = *medium*, 6–8 = *high*).

Highlighted Findings

Work and Subsistence

The ethnographic findings reveal a nuanced picture of how families in Tulsa support themselves financially while managing child care responsibilities. The 20 selected ethnography families from Cohort 1 had a wide range of occupations and work arrangements, with different levels of flexibility regarding child care. Example occupations are listed in the sidebar at the bottom of the previous page. About half of the families included a married or cohabitating couple. In most married families, both spouses were working outside of the home, with at least one spouse having a job that was flexible enough to accommodate child care routines. For example, two mothers worked in early childhood education centers that allowed them to bring their children to work, and another mother owned her own business and worked from home. In the other half of families one caregiver (usually the mother) stayed at home to focus on child care and domestic work, while their spouse/partner worked outside of the home. About five of these stay-at-home parents looked for work and/or

Example Occupations Held by Caregivers in the Ethnography Study

- Stay-at-home parent
- Machinist
- Cybersecurity engineer
- Small business owner
- Banker
- Waiter
- Home health care nurse
- Construction worker
- Electrician apprentice
- Health clinic manager
- Welder
- Early childhood education teacher
- Sign installation worker
- Customer service representative
- Fast food restaurant worker

worked intermittently during the study period. However, a consistent theme that emerged from the study was that stay-at-home parents who wanted to work is that they had trouble finding jobs with enough flexibility to meet child care needs.

“It’s not fair. I can’t work now because there are no places where I can get hours if I have to be available for the kids at 7:00 a.m. and then again at 2:50 p.m. I’m trying to work it through.”

– Tiffany Thomas, Kindergarten Cohort

In six ethnography families, the mother was separated/divorced and was the sole caregiver of the family. Three of the six mothers did not have steady employment outside the home and relied on social services, child support, and other types of family support to cover their families’ basic needs. However, three solo mothers in our sample have full-time jobs and accommodate child care, largely with support from extended family members.

Families in the ethnography sample had diverse financial situations. Six families said they felt financially stable and could afford luxuries such as family vacations. Five of the 20 families reported that they were struggling to afford necessities such as food, rent, and utilities and that they were relying on credit cards, social services, and support from friends or family. Nine families said they could cover basic expenses but had occasional financial challenges. These families reported not having a fallback plan in case of unexpected expenses. The nine families described managing tight budgets, cutting expenses, and relying on family support and/or credit cards in case of unexpected bills. Across our sample, families mentioned the rising costs of food and gas during the study period as an additional source of financial stress. For example, a mother of four children shared, “[The rising cost of food is] always drastically affecting us because we do get SNAP, right? And it is a blessing. But it’s still expensive for us ... by the time the last week comes, sometimes we might have to pay cash for stuff because things are expensive.”

“I mean, we just pay what we can when we can ... like the bills that come first ... we always make it through somehow, some way. I don’t know how, but we do.”

– Quinn Miller, Birth Cohort

In Exhibit 38, we present average quarterly scores for five EFI items related to family subsistence and work for October 2023 through October 2024. We present average EFI scores for families in the three subgroups:

- Families who felt financially stable (subgroup 1—six families)
- Families who struggled to cover unexpected expenses (subgroup 2—nine families)
- Families who struggled with basic expenses (subgroup 3—five families)

Overall, families in the first subgroup scored in the high range on all the EFI items, suggesting that they can cover basic expenses and still make investments, save money, and potentially help others in the family. These scores also suggest that these families' income is reliable and that they generally are satisfied with their standard of living.

Exhibit 38. Ecocultural Family Interview (EFI) Average Quarterly Scores for Family Subsistence and Work

EFI item	Families who felt financially stable (n = 6)	Families struggling to afford unexpected expenses (n = 9)	Families struggling to afford basic expenses (n = 5)
Amount of income for basic items	7.3	5.8	3.0
Amount of money for unexpected expenses	6.3	5.0	1.6
Predictability of income	7.8	6.4	4.3
Overall satisfaction with current availability of income/subsistence base	7.5	6.0	4.4
Flexibility of parent's/caregiver's current work or school schedule	6.2	6.7	6.8

Families in the second subgroup scored on the higher end of the medium range on amount of income for basic items (5.8) and amount of income for unexpected expenses (5.0). These EFI scores suggest that the families can cover basic expenses like the rent or mortgage but occasionally may need to borrow money from family members or use credit cards to make ends meet. At the same time, families in this subgroup scored on the lower end of the high range on predictability of income (6.4), satisfaction with income base (6.0), and flexibility of work schedule (6.7), suggesting that their income is somewhat reliable and that they are fairly satisfied with their standard of living, despite occasional challenges. However, predictable income does not mean a lack of financial difficulties. A family may reliably know what income they expect to earn in any given period but not whether that income will meet their household and living expenses. Therefore, it is important to know that the EFI predictability of income score does not capture the financial struggles that some of these families may be facing.

Families in the third subgroup scored in the lower medium range on amount of income for basic items (3.0) and in the low range on amount of money for unexpected expenses (1.6), suggesting that they have highly limited backup resources. For instance, they may pay the rent but run out of food before the end of the month, they may have to choose between which bills to pay, and they may rely on credit cards or borrowing money from friends or family to cover unexpected

expenses. These families also may rely more heavily on government benefits and/or community services for basic items. Furthermore, families in this subgroup scored in the medium range on predictability of income (4.3) and overall satisfaction with current income base (4.4), indicating that their income is less reliable and that they may express satisfaction with some aspects of their standard of living and dissatisfaction with others.

Families across subgroups scored on the high range of flexibility of parent/caregiver work schedule. This indicates that parents are usually able to change their work schedule fairly easily to attend to child care needs, or that flexibility is generally not an issue for them. However, the EFI scores on flexibility of a parent's/caregiver's current work or school schedule may not capture the situations of stay-at-home parents who want to return to the workforce but are not able to find employment with enough flexibility for their child care needs.

FAMILY PROFILE: THE JOHNSON FAMILY

Suzanne and Ben Johnson have one child, Nick (7 years old). They lived apart and were never married. Suzanne and Nick have lived in a rented duplex in East Tulsa for 5 years. Suzanne has worked part time sporadically in the past year, and she is attending online classes toward a medical assistant certification. She is interested in becoming a certified nursing assistant so that she can earn more money to support herself and her son. While attending school, she has worked intermittent cleaning jobs. However, this income is inconsistent, and Suzanne mostly relies on government assistance and financial help from her parents to make ends meet. She receives Supplemental Nutrition Assistance Program (SNAP) benefits, SoonerCare benefits, and funds from the Low-Income Home Energy Assistance Program. Suzanne is thankful for her SNAP benefits. She explained, "If I did not have food stamps, I would be in all sorts of trouble," and "food would probably take up the majority of my money."

Social Services and Informal Supports

Social services were a crucial source of support for most families in the ethnography sample, with families relying primarily on Women, Infants, and Children (WIC) and Supplemental Nutrition Assistance Program (SNAP) services. Families who received WIC and/or SNAP generally described positive experiences with the programs, with some mothers stating that these programs were "a blessing" and could cover groceries for their family for the whole month. Several women noted that they appreciate the guidance and resources that WIC provided during their pregnancies. However, a few families expressed frustration about their experiences in applying or proving eligibility for SNAP benefits.

In addition, many ethnography families reported using SoonerCare services for their children. They used SoonerCare to cover children's medical needs, such as prescriptions and doctor's visits. Experiences with SoonerCare tended to be positive, although some people with more extensive health needs reported that the cost of certain services, such as physical therapy, was not fully covered by SoonerCare. Other services mentioned by ethnography families as important forms of support include child care and counseling at the Community Action Project (CAP) Tulsa, housing vouchers or assistance, and Low-Income Home Energy Assistance. Two families who described either applying for or receiving housing assistance shared frustrations with these services, including a slow application process, lack of communication, and insufficient voucher amount.

Families reported that they relied extensively on informal support systems, such as family members, to help them with child care and emotional and financial support. Twelve out of 20 families in our sample stated that they rely on family members for child care, ranging from occasional babysitting to regular child care while a caregiver works. Five respondents said they also relied on their family members (mostly their parents) for occasional financial help. Some families described helping family members in return for their support (e.g., doing chores for grandparents who babysit their grandchildren). Four out of the 20 families reported that they do not have a strong support system in Tulsa.

FAMILY PROFILE: THE HAWKINS FAMILY

Jasmine and Liem Hawkins got married in June 2023 after being together for 5 years. They have two daughters together, Iman (age 2, the key child) and Alisha (age 4), who were the flower girls at their small ceremony. The family currently rents a three-bedroom house that they moved into in October 2023, after staying with Jasmine's mother for a year and a half after their apartment lease ended. Jasmine began working part time as a personal care assistant (PCA) in January 2023. She works on Wednesdays from 9 a.m. to 12 p.m. She has the flexibility to switch days if needed, which usually occurs when her mother is unavailable to watch Iman during Jasmine's shift. Liem also works part time as a PCA, which he began doing in May 2023. His hours have shifted a few times, and he currently works 15 to 18 hours a week from Monday to Friday.

The family's financial stability has shifted multiple times throughout the study period. At the beginning of the study, Jasmine said that she felt the family had a steady income and could meet their living needs. She gave an example of when Liem got a flat tire; they were able to afford a new one with the leftover money they had after paying the bills. However, in March 2023, she shared that some bills were going unpaid and she was worried about meeting their monthly needs. In June 2023, Jasmine said that she once again felt that they were able to cover their monthly expenses after settling into their new jobs. The family does not have savings and regularly relies on social services.

The family receives SNAP, WIC, and SoonerCare for the children. Jasmine described positive experiences with WIC (e.g., she appreciates receiving information about nutrition) but mixed experiences with SNAP. The family applied for SNAP three times before getting accepted. In addition, after moving into their current house, Jasmine went to update their address for SNAP. She said that she found the website "frustrating" to navigate, but she was able to update her address once she was able to connect with a customer service representative over the phone. On occasion, the family would visit a local church for food and Emergency Infant Services to get diapers and clothes for the girls. At the beginning of 2022, the family had applied for housing assistance, but Jasmine consistently shared their frustrations with the application process because of the slow process and lack of communication. By the end of 2023, they had not heard back about their application despite follow-ups.

In Exhibit 39, we provide average quarterly scores for EFI items related to social services and supports for October 2023 through October 2024, organized by the three subgroups of families described above. Families in subgroup 3 (who struggled with basic expenses) scored in the high range (6.4) on level of household activity focused on getting and using government services, suggesting that these families relied more heavily on these services than those in the other two subgroups. This rating also may suggest that subgroup 3 families have occasional challenges with government services. This aligns with our finding that some families were experiencing issues applying or maintaining eligibility for benefits such as SNAP. Families across subgroups scored in the low range, on average, for level of activity focused on getting and using community-based services, suggesting that they may not often seek support from community-based agencies.

Families across subgroups also scored in the low range on getting, using, and/or paying for health care for children and other family members. Our monthly conversations with families suggest that SoonerCare is one of the services most often used for children, and despite some occasional issues with coverage of more extensive health needs, families are not having major challenges getting, using, or paying for these services. With regard to relationships and supports, families in subgroup 3 (who struggled with basic expenses) on average rely more on extended family support for child care than the other two subgroups. Further, subgroup 3 also scored higher on providing support to family and friends than the other subgroups, suggesting the importance of support networks in the lives of families who struggle financially.

Exhibit 39. Ecocultural Family Interview (EFI) Quarterly Scores for Social Services and Relationships and Supports

EFI item	Families who felt financially stable (subgroup 1)	Families struggling to afford unexpected expenses (subgroup 2)	Families struggling to afford basic expenses (subgroup 3)
Social services			
Level of household activity currently focused on getting and using government services	2.6	3.3	6.4
Level of household activity currently focused on getting and using services from community-based agencies	0.9	1.6	2.3
Level of household activity focused on getting, using, and/or paying for health care for children	1.9	1.6	0.8
Level of household activity focused on getting, using, and/or paying for health care for other family members	0.9	2.0	1.5

EFI item	Families who felt financially stable (subgroup 1)	Families struggling to afford unexpected expenses (subgroup 2)	Families struggling to afford basic expenses (subgroup 3)
Child care			
Parent/caregiver (household) currently relies on help from family, kin, and friends, including siblings, grandparents, former in-laws, and others	3.4	2.3	5.1
Parent/caregiver (household) currently provides instrumental and/or emotional help to families, kin, and friends, including siblings, grandparents, former in-laws, and others	1.3	1.6	3.1

Differences Between the Ethnographic Sample Kindergarten and Birth Cohorts

Overall, the family profiles point to some key differences in the life conditions between the kindergarten and birth cohorts. Kindergarten families are more likely to have parents working full-time or part-time jobs, whereas birth families have more parents who stay at home or work part time. This may reflect the different caregiving needs associated with each cohort, as well as the high cost of child care for young children. Although families in both cohorts face financial challenges, families in the kindergarten cohort face more employment instability and continuous financial challenges than birth cohort families. Birth cohort families appear to have more stable housing but still face the financial strain of child care. Furthermore, families in both cohorts rely on social services, but the type and extent of services may differ depending on the children’s ages and family needs. For example, birth cohort families more often report relying on services like WIC and SoonerCare for young children.

Lessons Learned and Next Steps

In 2025, AIR will continue to collect ethnography data to better understand how these families sustain their daily routines as they raise their children in Tulsa. The monthly interviews will continue until each family has participated in the ethnographic study for 2.5 years. After this period, ethnography families can continue with biannual interviews for a period of 2 years. Biannual interviews will provide updates on how families are maintaining routines and coping with life’s challenges in a longer time frame. So far, 11 out of the 14 families who concluded the 2.5-year participation period have expressed interest in participating in biannual interviews. Along with continuing to facilitate monthly and biannual interviews with ethnography families, the project team will continue to analyze data and explore synergies between the ethnography and other study components.

Conclusion

We designed the BEST Study to be responsive to the requirements of a participatory evaluation that is durable even when policy and historical events occur. We will continue to actively seek out feedback and suggestions for improvement from BEST partners, community members, and the GKFF-BEST team.

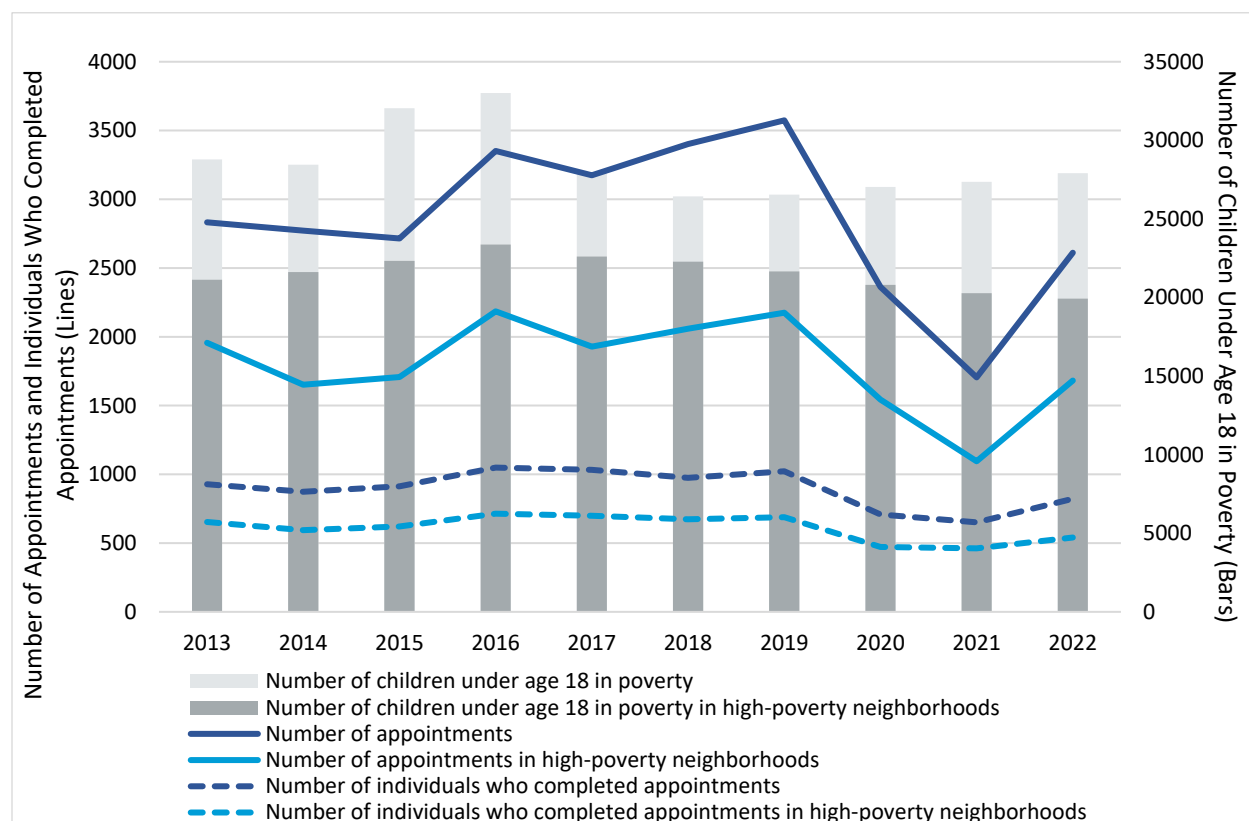
- The workforce survey in the **process study** continues to yield useful annual data on institutional and workforce changes among the BEST partners and in the larger Tulsa early childhood sector. The workforce survey is a great source of evidence on proximal, system-level outcomes, which are an important part of the logic models and theory of change underlying the BEST initiative. Since the workforce survey was first administered in 2020, the study team has purposely adapted the survey to capture change across time, from a panel of individuals in the Tulsa early childhood workforce (repeated observations) and cross-sectionally from a representative sample of staff members at service agencies across Tulsa.
- The **outcome/impact study's** efforts are increasingly focused on analyses of our cohort study data, and we continue analyses of new baseline measures using extant data. We have shifted away from using a multiple-city comparison design for our CITS to focus only on Oklahoma City.
- The **ethnography study** data collection continues. The ethnography study provides in-depth longitudinal information about the experiences and outcomes of participating families, selected to broadly represent the Tulsa child–parent population. The complexities of families' lives that have been illuminated through this part of the study are critical to understand for informing the ongoing efforts of the BEST initiative to coordinate services.

Evaluating a place-based intervention like BEST is challenging because the “intervention” is not precisely defined; the full range of outcomes is difficult to measure; and the community-wide, multistage growth of BEST eliminates the usual study designs that require a clearly identified “no-service” control group, with which evaluators are familiar and which they prefer. The Tulsa BEST initiative focuses on improving the collaboration, coordination, and community leadership of dozens of partner organizations working in the birth-to-8 continuum. BEST aims to transform the service system; partner organizations are helping providers effectively collaborate with one another to create an integrated set of supports for young children and their families. Because of this structure and set of goals, the success of BEST depends on the collaboration of many partners and the synergy resulting from such collaboration. The BEST Study's multiprong evaluation approach is critical for documenting and tracking this impact at the child, family, partner, and community levels.

Appendix A. Health Program Graphs With Estimates of Eligible Populations

The exhibits in this appendix add information about estimates of eligible populations to Tulsa Health Department program usage graphs presented in the outcome/impact section of the main report body (p. 43). We assembled data from two sources—the American Community Survey and the Oklahoma State Department of Health birth characteristics—to generate estimates of the populations eligible for the Tulsa Health Department (THD) programs that help provide a picture of how the underlying eligible population might be increasing or decreasing over time. Doing so helps us determine whether changes in trend lines are due to changes in the size of the population or an increase in program use. By understanding the population, we concluded that most changes in THD service use are not due to population changes. These data do not provide precise counts of eligible individuals and cannot be used to estimate service take-up rates accurately or for creating ratios of usage per eligible population, but the fluctuations across years do provide an accurate picture of how the underlying eligible population might be increasing or decreasing over time. The purpose of reporting the numbers of these comparison populations is to provide context—if, for example, appointments are increasing but the comparison population is staying steady in size, we can conclude there is an increase in individuals seeking services.

Exhibit A1. Number of Appointments and Individuals Who Completed Appointments for Child Guidance Overall in Tulsa and in High-Poverty Neighborhoods in Tulsa, With Estimates of Eligible Populations, 2013–2022

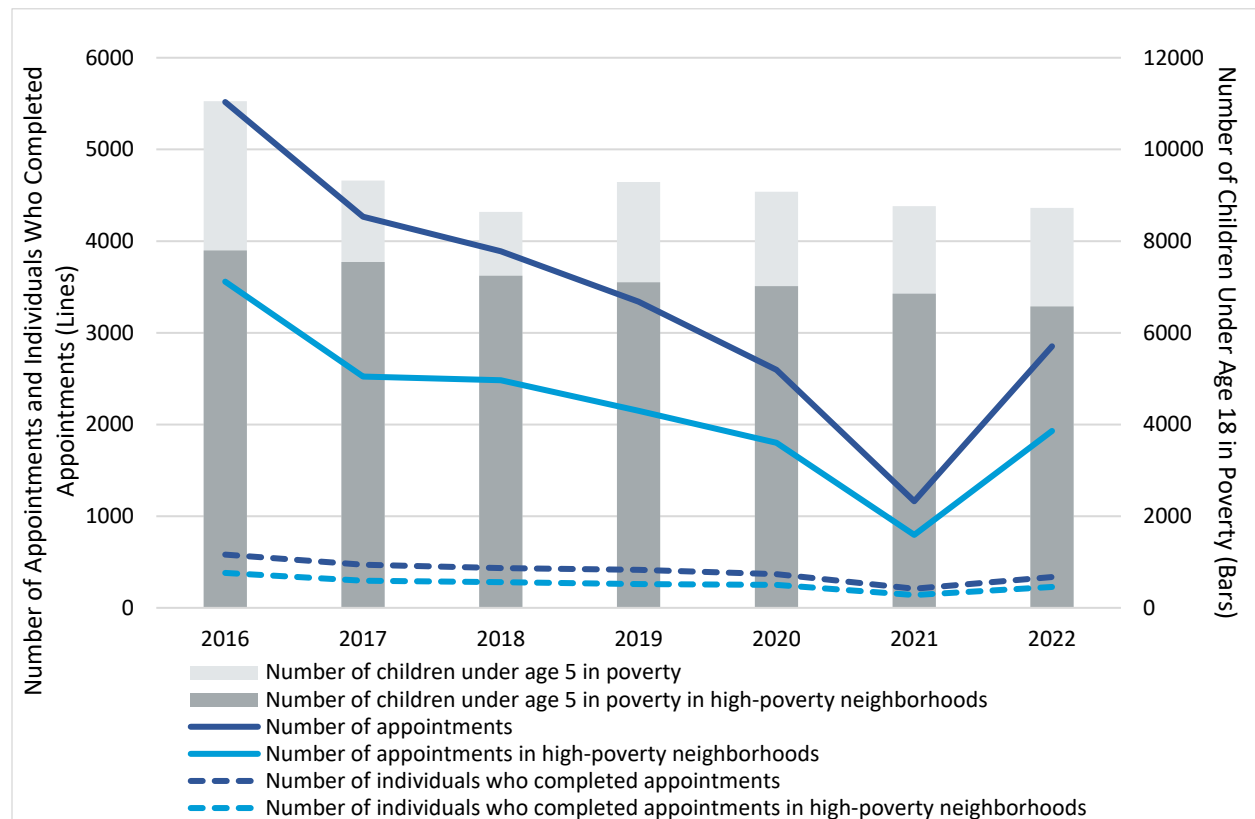


Note. Data availability varies across programs. Analyses are based on years for which complete program data were provided.

Source: Tulsa Health Department appointment records; American Community Survey estimates for number of children under age 18 in poverty for Tulsa overall (1-year estimates²⁸) and for high-poverty neighborhoods (5-year estimates).

²⁸ One-year estimates were used for Tulsa city estimates for all years except 2020, for which only 5-year estimates were available due to data collection disruptions.

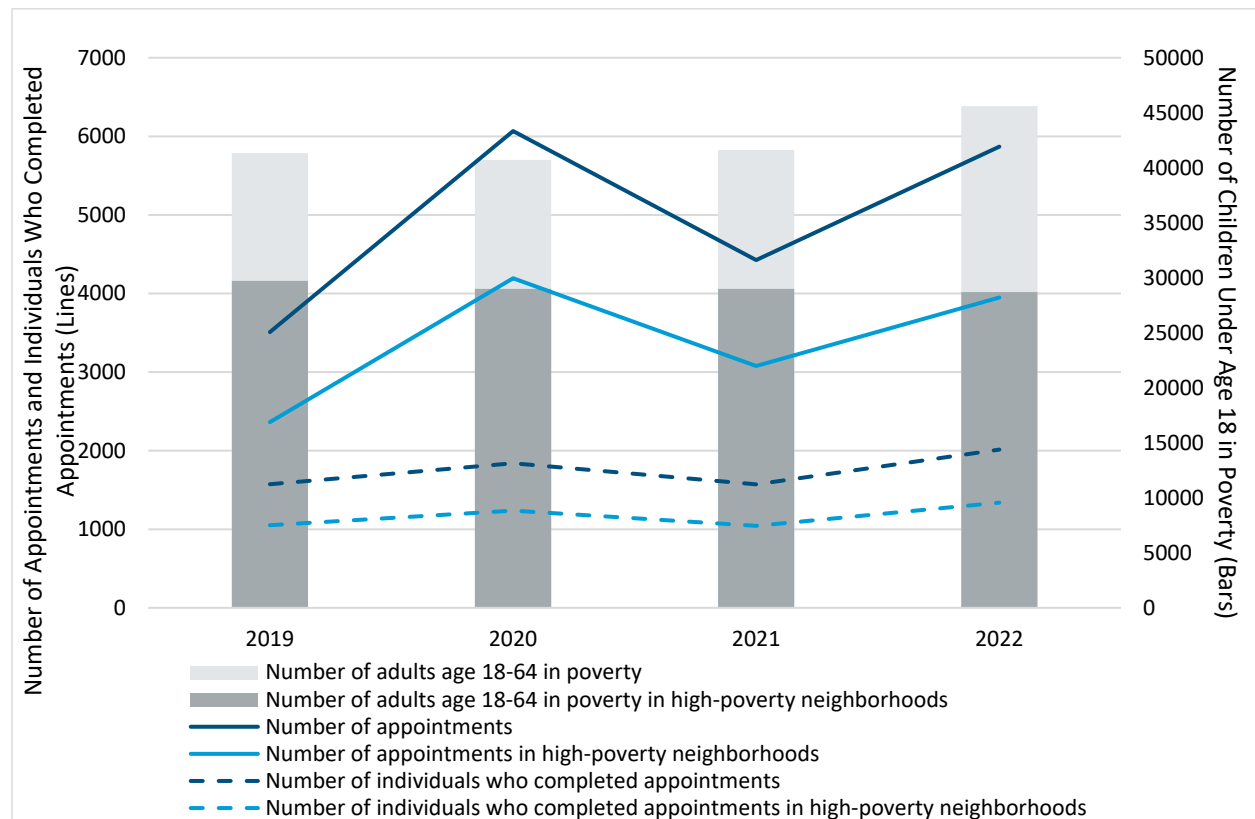
Exhibit A2. Number of Appointments and Individuals Who Completed Appointments for Children First in Tulsa Overall and in High-Poverty Neighborhoods in Tulsa, With Estimates of Eligible Populations, 2016–2022



Note. Data availability varies across programs. Analyses are based on years for which complete program data were provided.

Source: Tulsa Health Department appointment records; American Community Survey estimates for children in poverty below age 5 for Tulsa overall (1-year estimates) and for high-poverty neighborhoods in Tulsa (5-year estimates).

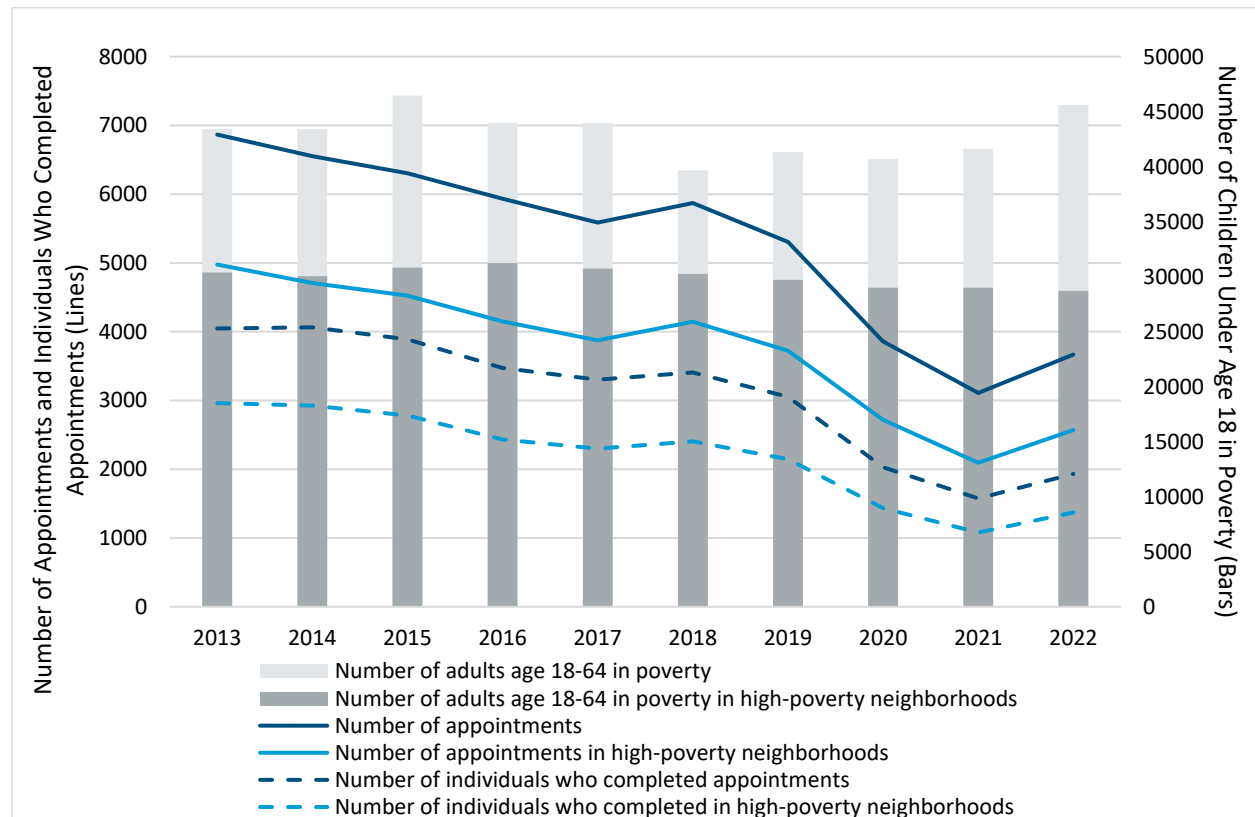
Exhibit A3. Number of Appointments and Individuals Who Completed Appointments for Family Advocates in Tulsa Overall and in High-Poverty Neighborhoods in Tulsa, With Estimates of Eligible Populations, 2019–2022



Note. Data availability varies across programs. Analyses are based on years for which complete program data were provided.

Source: Tulsa Health Department appointment records; American Community Survey estimates for adults in poverty ages 18–64 for Tulsa overall (1-year estimates) and for high-poverty neighborhoods in Tulsa (5-year estimates).

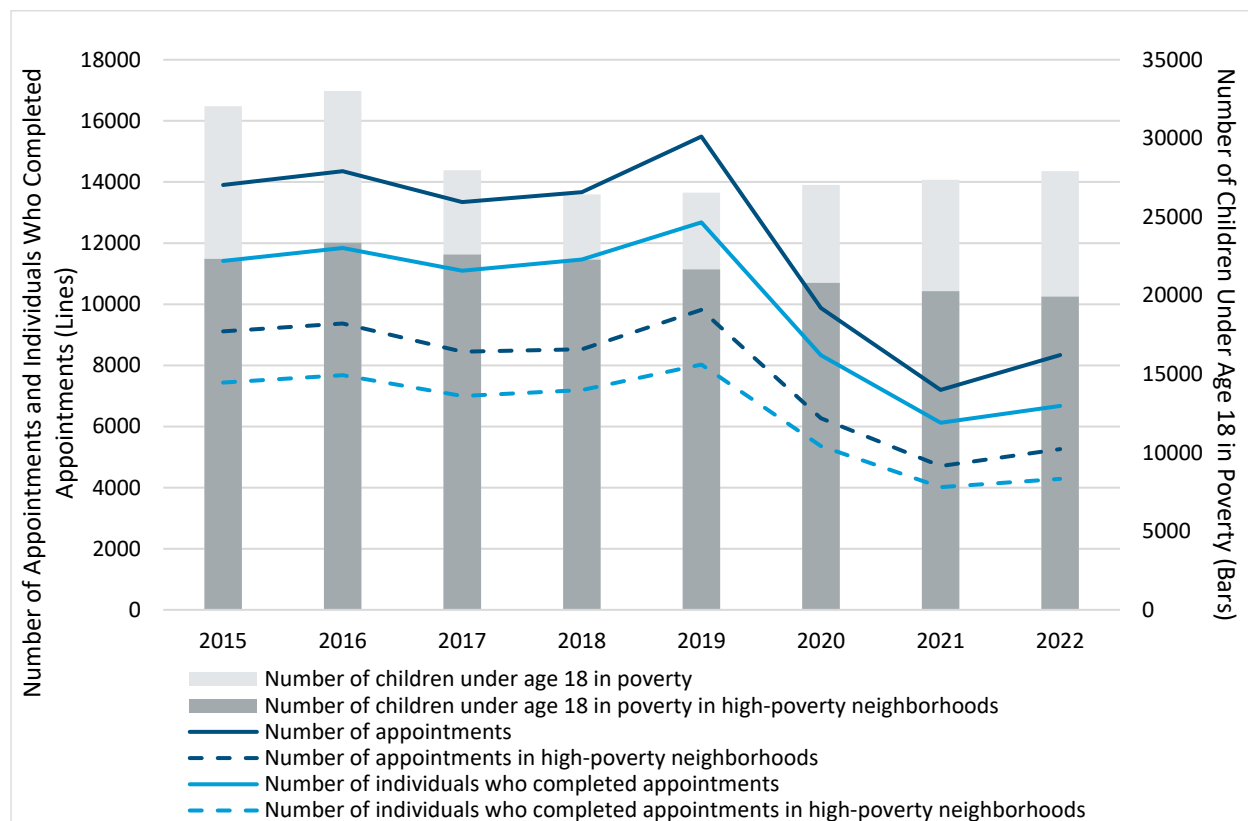
Exhibit A4. Number of Appointments and Individuals Who Completed Appointments for Family Planning in Tulsa Overall and in High-Poverty Neighborhoods in Tulsa, With Estimates of Eligible Populations, 2013–2022



Note. Data availability varies across programs. Analyses are based on years for which complete program data were provided.

Source: Tulsa Health Department appointment records; American Community Survey estimates for adults in poverty ages 18–64 for Tulsa overall (1-year estimates) and for high-poverty neighborhoods in Tulsa (5-year estimates).

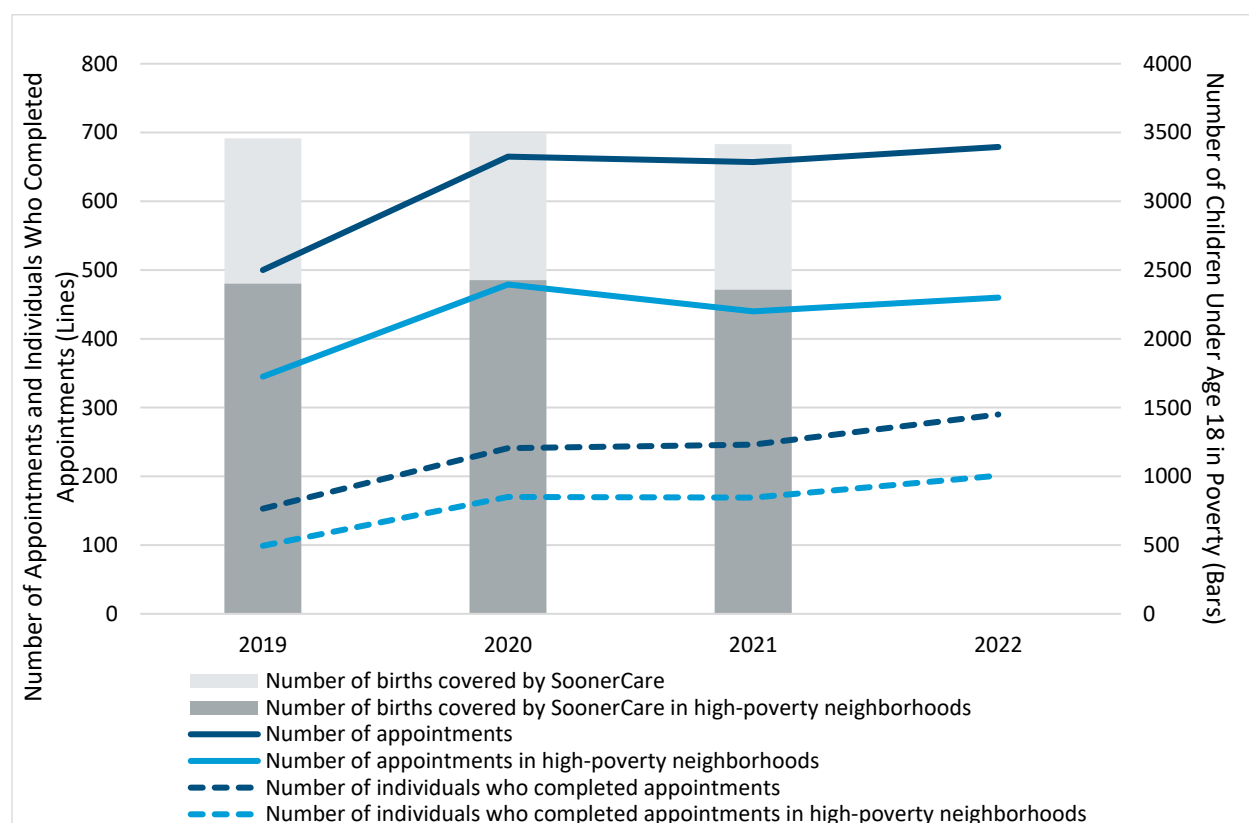
Exhibit A5. Number of Appointments and Individuals Who Completed Appointments for the Immunizations Program in Tulsa Overall and in High-Poverty Neighborhoods in Tulsa, With Estimates of Eligible Populations, 2015–2022



Note. Data availability varies across programs. Analyses are based on years for which complete program data were provided.

Source: Tulsa Health Department appointment records; American Community Survey estimates for children under 18 in poverty for Tulsa overall (1-year estimates) and for high-poverty neighborhoods in Tulsa (5-year estimates).

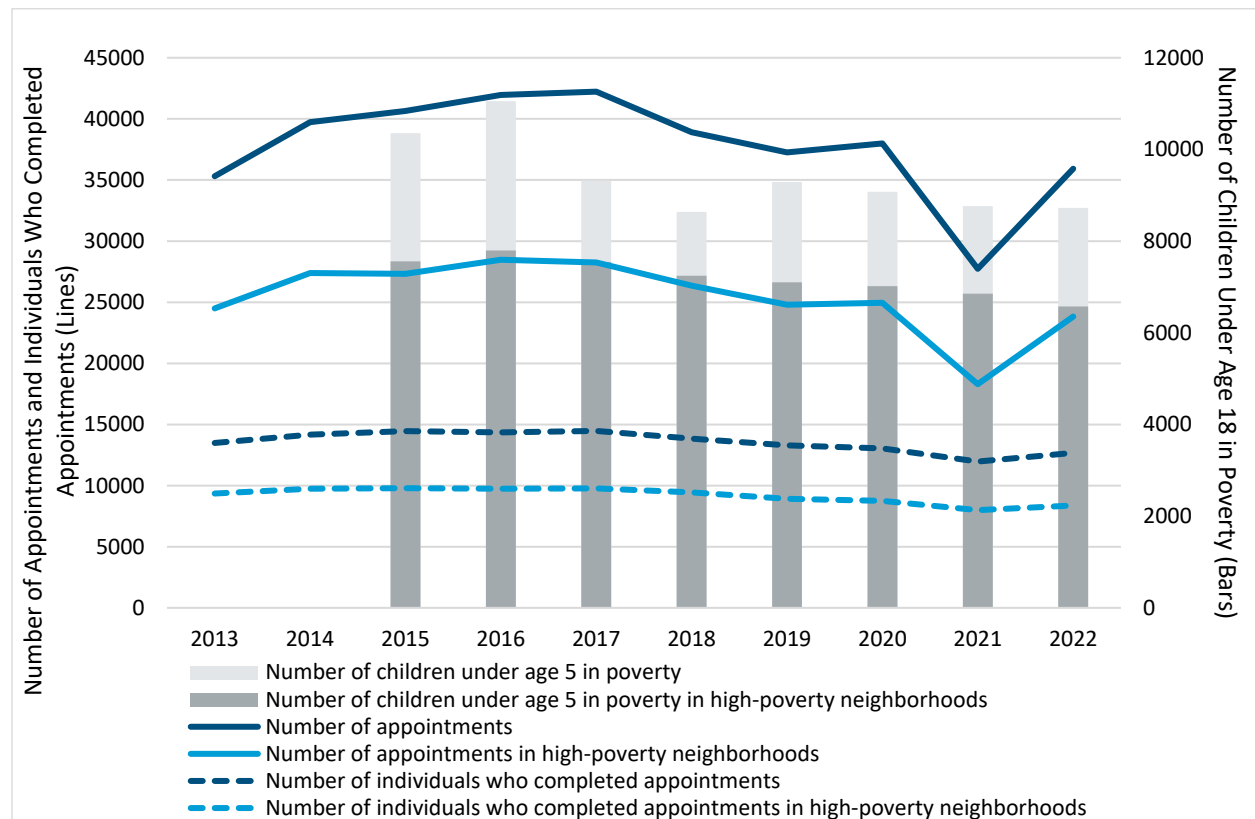
Exhibit A6. Number of Appointments and Individuals Who Completed Appointments for Lactation Consulting in Tulsa Overall and in High-Poverty Neighborhoods in Tulsa, With Estimates of Eligible Populations, 2015–2022



Note. Data availability varies across programs. Analyses are based on years for which complete program data were provided. The 2022 Oklahoma State Department of Health data were not available.

Source: Tulsa Health Department appointment records; Oklahoma State Department of Health Birth Records.

Exhibit A7. Number of Appointments and Individuals Who Completed Appointments for WIC In Tulsa Overall and in High-Poverty Neighborhoods in Tulsa, With Estimates of Eligible Populations, 2013–2022

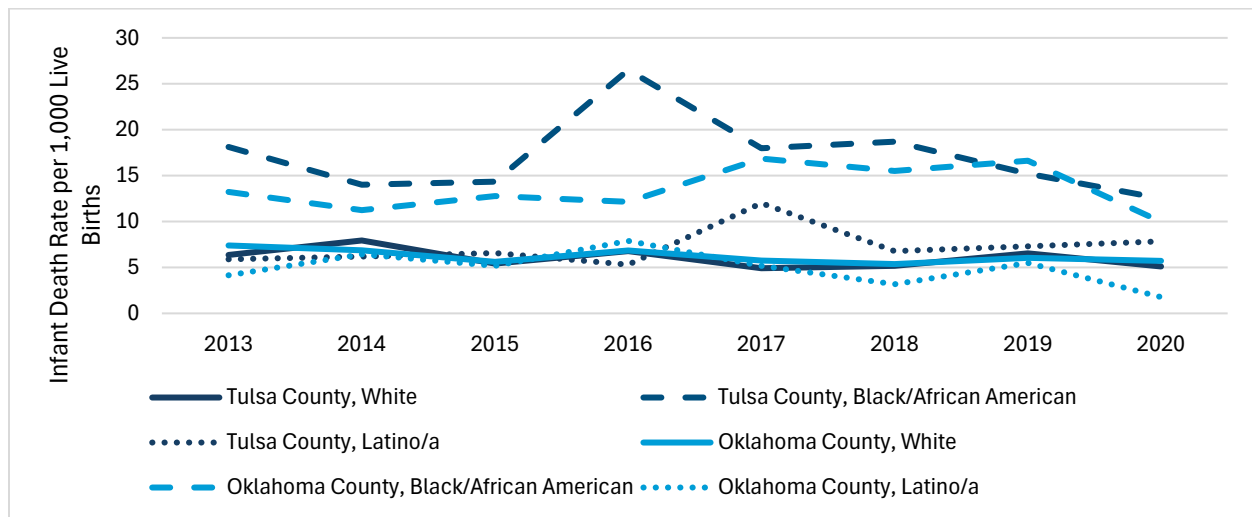


Note. Data availability varies across programs. Analyses are based on years for which complete program data were provided.

Source: Tulsa Health Department appointment records; American Community Survey estimates for children in poverty below age 5 for Tulsa overall (1-year estimates) and for high-poverty neighborhoods in Tulsa (5-year estimates).

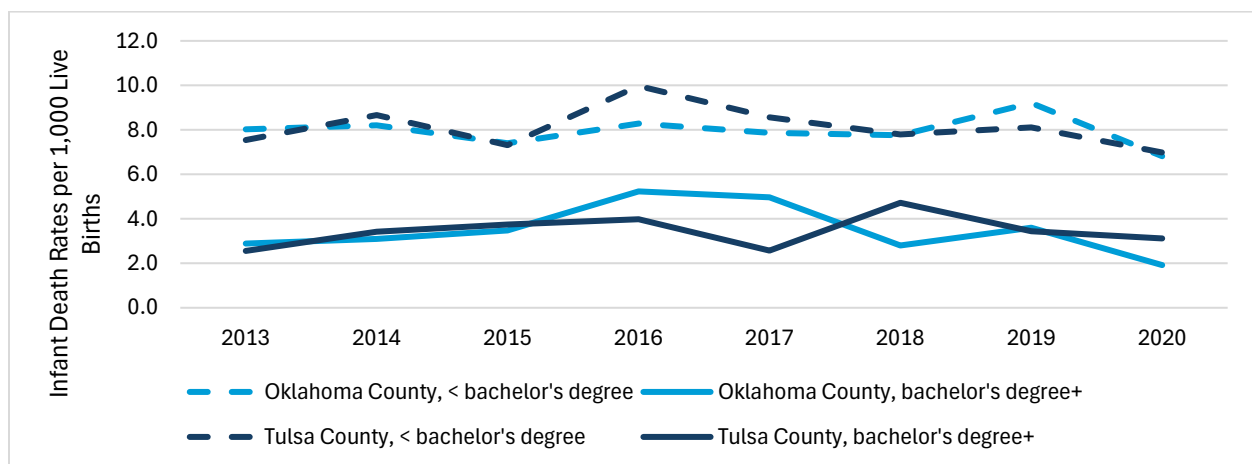
Appendix B. Infant Mortality Trends by Demographic Characteristics

Exhibit B1. Infant Mortality Rates (per 1,000 Live Births) in Tulsa County and Oklahoma County by Mother's Race/Ethnicity, 2013–2020



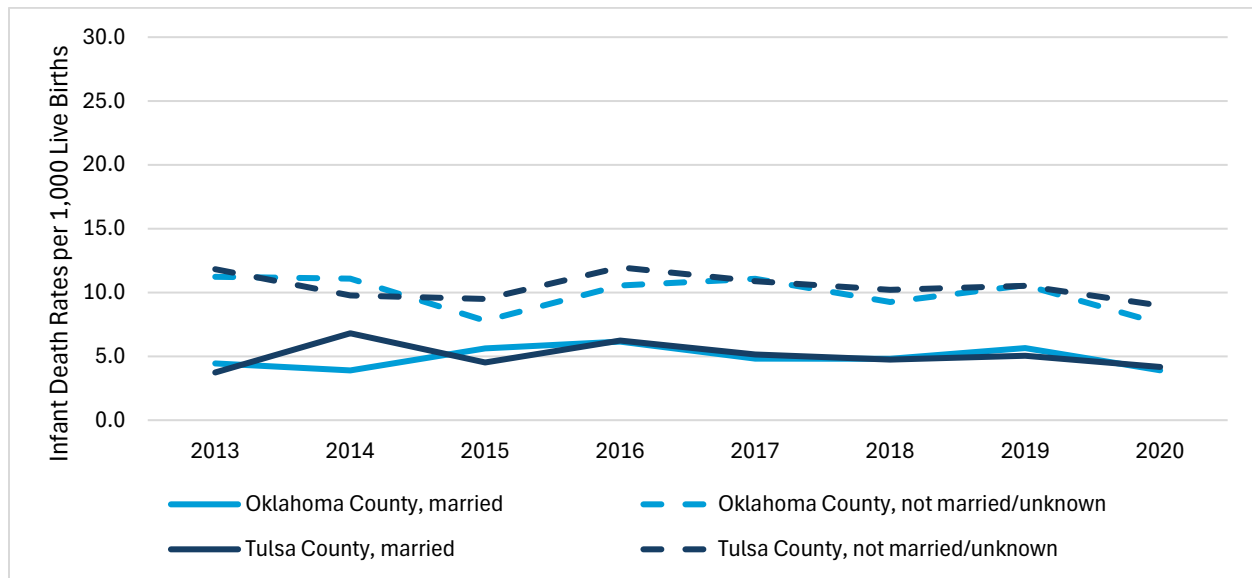
Source: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2010 to 2022, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE). Accessed at <https://www.health.state.ok.us/>

Exhibit B2. Infant Mortality Rates (per 1,000 Live Births) in Tulsa County and Oklahoma County by Mother's Education Level, 2013–2020



Source: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2010 to 2022, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE). Accessed at <https://www.health.state.ok.us/>.

Exhibit B3. Infant Mortality Rates (per 1,000 Live Births) in Tulsa County and Oklahoma County by Mother's Marital Status, 2013–2020



Source: Oklahoma State Department of Health, Center for Health Statistics, Health Care Information, Vital Statistics 2010 to 2022, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE). Accessed at <https://www.health.state.ok.us/>.

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