

FINAL REPORT

Understanding the Supply of Quality Early Childhood Education Seats in Arkansas's Benton and Washington Counties

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Study Summary and Findings

While questions about the supply of and demand for early care and education (ECE) are often posed and investigated at the national level, their answers can vary significantly from location to location. This report examines the supply and demand for quality early childhood education in a specific locale, namely Benton and Washington counties in Northwest Arkansas. NORC at the University of Chicago carried out three linked activities as part of a multi-phase examination: a snapshot of the supply and demand for ECE using publicly available data; an in-depth exploration of how providers establish what supply they will offer; and a household survey to understand quality as a factor in child care decision-making.

This study knit together three types of data collection and analysis, providing perspectives from three different vantage points: an aggregate community level picture using existing data about providers and families, a deep dive into the management of center-based ECE programs, and reports on how families with young children think about and react to their choices for center-based ECE care. We note the following summary observations from this work:

- from a geographic perspective, we did not find any notable mis-match in the location of ECE providers relative to the locations of children. In many communities, disadvantaged populations can have lower geographic access to ECE programs, but we do not find evidence of differential geographic access by household income or ethnicity. This is a potential indicator of reasonable health of the system.
- center-based ECE providers at varying levels of quality reported challenges with management aspects of running centers. Many directors felt unable to actively manage enrollment, while a small number of vacancies could make the difference for financial viability. The strain between paying fair workforce wages for qualified staff while keeping prices affordable for families was palpable.
- among households, we observe patterns of differences across families with and without mothers who work full-time, as well as by household income. The patterns suggest that families with higher incomes or full-time working mothers are 1) likely to value different dimensions of quality from other families, 2) to make their child care decisions based on parent logistical factors such as center schedule or distance from home, and 3) to place lower value on information from neutral ECE agencies in the ECE search.

Together, the three observations suggest an ECE market in which the ‘market is not clearing’ – that is, providers have slots and parents need care, but the two are not successful in finding each other. As a result, providers risk financial distress, while families make do with suboptimal ECE arrangements or

employment choices. While our data cannot say so definitively, we see signs that downtown Bentonville centers operate a high-demand internal market of their own, while providers with equivalent quality in other parts of the two-county area have trouble attracting families.

The first phase of the study drew a two-county portrait relating the characteristics of families with children to the characteristics of early childhood programs located near those families, relying on publicly-available ECE program lists and information and the Census Bureau's American Community Survey (ACS) about every neighborhood and regulated provider. Home-based and center-based providers are concentrated in the mostly densely populated areas (where demand is also higher), but there are some sparsely populated areas that have home-based providers but no center-based providers. Our estimates show that, on average, there is an ECE provider (whether center-based or regulated home-based) for approximately every 1000 people and every 50 mothers of young children. [Similarly, across rural and urban areas nationally, there is approximately one provider for every 1270 people and every 57 mothers of young children.]

Although the supply of ECE is higher in areas with higher overall population density, we did not find systematic relationships with local concentrations of Hispanic families or the local levels of household income, two other potential indicators of demand. These types of income or race/ethnicity-related disparities are common weaknesses in communities' ECE supply, so it is a positive sign that the two-county area's ECE supply shows none of these weaknesses. 2016 Census data indicate that 23.8 percent of children under 5 in the two-county area are Hispanic or Latino (22.3 percent in Benton County and 25.7 percent in Washington County), far exceeding any other racial/ethnic minority in the area, where white, non-Hispanic families are by far the majority. Given the racial/ethnic composition of the area, we include some analyses pertaining to Hispanic populations, but do not consider any of the other, much smaller racial/ethnic subgroups, such as African-Americans.

The second phase of the study examined how 12 diverse center-based providers establish their own cost-quality-quantity relationships: how do centers make decisions about the prices they charge families, the quality of care they offer families, and the number of children they serve? Directors of center-based based programs reported that setting prices was a challenging endeavor for them; they rarely based prices on expected costs of providing care, instead developing perceptions of what the market would bear while allowing them to maintain high enrollment. Enrollment is a major concern of centers in the area. Despite having waiting lists for specific classrooms, most centers report being undersubscribed overall. Center directors would prefer to have approximately 10 to 25 additional children enrolled. Center directors usually defined ideal enrollment as the number of children that would allow them to maintain or increase

the quality of services offered to families; this was generally a quantity below licensed capacity. While high quality teaching staff was perceived as a central component of high quality services, center directors reported that they felt limited in the quality improvement they could undertake because any improvements in recruiting or retaining high quality staff (their preferred quality improvement initiative) would represent significant increased costs. Because of the small number and non-representative nature of the provider sample, we do not provide statistical summaries such as percentages from these responses, which are primarily qualitative in nature.

As part of the study's third phase, a two-part survey of almost 500 households in the two-county area examined their perceptions of available child care options and, for parents of children under age six years, how quality enters into their decision-making relative to other factors such as cost, schedules, and location. Parents perceived center-based care as the best type of care for preparing children to be ready for school but also as the least affordable type of care, when compared to care by relatives/friend or other home-based providers. When presented specific hypothetical scenarios that combine various levels of price, quality, distance, and schedule, a majority of parents selected a center further away, charging higher prices, or having a less convenient schedule in exchange for better quality. The laws of economics dictate that any increase in price will likely deter some consumers, who will choose a lower-priced product instead, but on balance, the survey results reveal local demand for higher quality, even when accompanied by price increases of approximately \$50 per week per child.

Below, we review the key findings in additional detail.

Community

Although not a primary focus of our study, we observe some indications that the availability of center-based care is less satisfactory for children with working mothers. For example, our maps show that home-based care is located in areas with the highest proportion of working adults, but that many of those areas with high proportions of working adults do not have center-based care located nearby. Also, 20 percent of working mothers responding to our survey 'somewhat disagreed' that their community had adequate resources to help families raise their children, compared to 7 percent among non-working mothers. In general, families without a stay-at-home parent are more likely to use non-parental care for infants and toddlers, and need longer hours of care (at least 30 hours weekly) for all ages. If parents work variable or non-standard hours schedules, then they may require additional hours or flexibility for child care that supports their employment. Given that almost one-third of parents responding to our survey reported

working more than 8 miles from home, they may be willing to travel further from home for their child care (for example, anywhere along their commute) than they would be if they worked closer to home.

The rapid population and economic growth in Northwest Arkansas is well known, and some impacts on ECE are widely-perceived, for example, upward pressure on workers' wages from a tight labor market as evidenced by increasing worker wages and worker attrition to employers paying higher wages and more benefits. (Actual measurement of wage pressures is outside of the scope of this point-in-time study.) We note two additional impacts of population growth on ECE. The first is that population increase brings with it expansions of K-12 schooling. Because the education and certification path for elementary teachers is a long one, additional elementary workers are often drawn from the ECE sector, diminishing that sector's workforce at a time when ECE too is facing pressures to expand to meet population growth. Secondly, fully a quarter of infants and toddlers nationally are cared for by family, friends and neighbors (regardless of income or other demographic characteristics), more than double the proportion that is cared for in center-based programs. To the extent that migrants to a community are less likely to have nearby friends and family to provide care, demand for formal sector care for infants and toddlers can increase far more rapidly than the overall rates of population growth.

Affordability/Prices

One positive finding from the household survey is that 52 percent of surveyed households with incomes below \$25,000 report 'good or excellent' affordability of center care. Among higher income surveyed households, the proportion rating center affordability as 'good or excellent' ranges from 17 to 29 percent. The high levels of perceived affordability among low-income households suggest that public pre-K, child care subsidies and other means-tested assistance programs are having the desired effect of increasing access for low-income families.

Directors reported wide variation in the fraction of children for whom they are receiving the full listed price, but that rate is rarely 100 percent of children. Reasons for not receiving full price include subsidies, sibling discounts, sliding fee scales and discounts for staff. Of the twelve centers we interviewed, only one reported taking costs into account in setting prices. All other centers set prices slightly below what they perceive their competition to charge, then attempt to balance their budgets to that level. This price-setting strategy is likely one of several factors contributing to financial precariousness in most of the interviewed centers.

Using prices posted on publicly available websites, we found that median prices for full-day preschool care varied less across centers in census tracts with high population density (and therefore many

providers), while median prices varied more widely in areas with low population density and relatively few providers. The observed patterns of prices are consistent with the reported patterns of price-setting, which are more about what nearby centers are charging than what it costs to provide care.

Enrollment

Six of the twelve interviewed providers reported serving lower numbers of children than their licensed capacity, either because of limited demand or because they didn't feel that they could expand their enrollments without damaging quality.

Waiting lists and vacancies often coexist within centers, with some age groups having vacancies while others have waiting lists. Because vacancies for younger children are more damaging to the centers' bottom line, the implications of waiting lists and vacancies are quite complex. Coexistence of waiting lists with vacancies becomes even more challenging when we think about families often having multiple children needing care (for example, a 2-year-old and a 4-year-old). Nationally, 67.4 percent of households with any children under age 6 years have two or more children in that age range. For families with multiple young children, it is necessary to have vacancies for all children needing care in order for a center to be a viable option. It appears that waiting lists are more common for infant and toddler slots, but that parents also 'game the system' by signing up on multiple waiting lists simultaneously.

The prevalence of social media and word-of-mouth is high in parents' search and providers' marketing, but social media in particular can generate volatility in demand for providers. While on-line presence seems to be important for providers' marketing, a few providers reported harmful business impacts of negative comments or rumors of waiting lists that appeared on social media. When a difference of one or two infants' enrollment can make or break a center's budget, social media represent both opportunity and threat to providers' business practices.

Although parents use social media and word-of-mouth to become aware of providers, respondents in the household survey indicated that neither social media nor QRS-type agency ratings of provider quality are as valuable sources of information as personal knowledge (through visits, for example), or knowledge shared through word-of-mouth by friends and family. These patterns are true in many communities, but families who have recently migrated to the area may have fewer alternative information sources such as connections to the local community and family and friends who can act potential informants about local child care providers.

Quality

The household survey explored the key factors entering into parents' decision-making about ECE: distance from home, cost, fit with schedule, and quality. We found many parents declining to choose center care when they feel their choices are inadequate, such as when the only care they can afford is lower quality than they are willing to accept, doesn't meet their needs for hours, or the care is too far away. For example, about thirty percent of interviewed parents offered a hypothetical choice between poor and average center-based care reported preferring not to use center-based care at all, even when the care would have been free, within 10 minutes from home, and met the parents' schedule needs. On the other hand, at least twenty percent of interviewed parents chose excellent center care over good center care even if the excellent care was 20 minutes further from home, \$50 more per week, or mis-matched with the parent's schedule needs by an hour each day.

The household survey also found that preferences of lower-income parents are less aligned with research-based practices, for example, use of child-initiated rather than teacher-initiated activities (Zaslow, et al., 2010). Just as households seem to report preferring something other than quality as defined by research, so also we saw providers defining their care as faith-based care or using alternative pedagogical methods rather than adopting features of quality as defined in the child-care literature. These findings mirror recent work by Bassok, et al. (2018) which finds that parents' ratings and satisfaction with preschool do not seem to be explained by any standard elements of what researchers define as features of high-quality care.

Our interviews and observations with providers indicate that some providers are intentional about not participating in a quality-rating system because they feel that the quality they provide is better than what the Better Beginnings Quality Rating System (QRS) would encourage. Indeed, we find that the observed quality in centers not participating in QRS is similar to the observed quality of one and two-star centers within the QRS (though worse than three-star centers). This relatively high level of observed quality among QRS non-participants is contrary to commonly-held assumptions that non-rated centers might have lower quality. This finding may be particular to our small but diverse sample.

Even so, we found that participating in the QRS was associated with an orientation toward quality improvement. Our QRS non-participant respondents often reported that their prevailing level of quality was adequate to maintain (rather than needing improvement).

One question that we have limited information about is the extent to which parents' perceptions of quality mirror the research base (or QRS assessments like in Better Beginnings). The findings from pictorial

questions and the characteristics that parents value most suggest perhaps mediocre alignment, with almost 40 percent of ‘most important’ factors not considered in provider ratings (such as schedule and price and the overall feeling that a parent gets from an ECE setting). Parents’ preferences from pictures were consistent with research practices about half the time, and they expressed little interest in QRS ratings. In addition, we observe from the supply side a strong preference among some providers for a faith-based orientation, which emphasizes aspects of care not typically measured in the research literature. As noted above, almost one-quarter of children in the two-county area are Hispanic, but outside of the public schools, none of the centers we interviewed described features of care that would be specifically culturally responsive to Hispanic families, such as recruiting Hispanic teaching staff or providing services for dual-language learners. These religious and cultural elements can contribute significantly to issue of fit and comfort that may not align closely with quality measurements that are focused on child outcomes and observed classroom quality. Although we use the term ‘quality’ for both supply and demand-side perspectives, we acknowledge that the quality that parents value may not match the quality providers are seeking to improve.

Program Operations

There is low administrative capacity in many centers. Directors came to the field as teachers or interested in helping children, but they find themselves managing complex operations with little to no formal management training.

In addition, the small scale at which many centers operate prevents them from efficiently acquiring and providing related services and goods. Many centers operate on budgets assuming they are at full capacity, so that any churn in enrollment affects their financial viability. The expansion of public pre-kindergarten also posed a concern to directors, who reported losing some higher margin 3 through 5 year old enrollment to public school programs, while costlier infant and toddler care became a larger fraction of centers’ services. Given the strict income requirements for the Arkansas Better Chance program, it is likely that the number of children moving from private-pay ECE to publicly-funded pre-kindergarten is relatively small.

A focus group of center directors identified workforce turnover as a significant obstacle, especially coupled with a workforce that requires training investments to become qualified to provide care. It is a challenging proposition for a center to invest in its workers if the workers can then earn higher wages elsewhere. But publicly-funded or externally-funded training and professional development programs can

allow workers to move from sector to sector and provider to provider as they develop greater skills and can earn higher wages.

Although recruiting and retaining workers was a common concern across the focus group and our 12 recruited centers, in other respects, the perspectives of the focus group participants were quite different from those of other directors we spoke to. Specifically, we found a lower level of capacity and greater challenges with financial viability among our recruited Phase 2 sample than we perceived from our focus group discussion, which had included multiple thriving programs with limited cost concerns and the ability to maintain high enrollments with consistent price increases.

The report is organized as follows. The first section details the research questions that guided this project and the methods employed to address these questions. The section entitled Community addresses the first research question, describing the number and types of providers located near families in Benton and Washington counties. The next sections, Price, Enrollment and Quality address the second and third research questions and describes how centers who provide ECE and households who may utilize ECE make decisions about key aspects of ECE, including price, quality, and enrollment. Tradeoffs between these are discussed in a subsequent section. The topics discussed in these sections stem from both the qualitative study of center-based providers and also the survey of households located in Benton and Washington counties.

Research Questions and Methods

This study aimed to understand the state of early care and education (ECE) supply and demand in Arkansas' Benton and Washington counties, and further to identify potentially relevant interventions, if any, that might help achieve closer alignment of ECE supply and demand in the area. This study addresses three research questions:

1. How many and what types of providers are located near families of different types throughout the region?
2. How do center-based providers decide the combination of prices, quality, and quantity (number of children) they offer?
3. How do parents perceive quality in ECE settings and how does quality enter into their ECE choices relative to other factors such as cost, schedule, and location?

NORC carried out a three-phase study design for investigating each of these research questions. The first phase applies geographic information systems (GIS) techniques to publicly available data on all centers and all communities in the region to understand the supply and demand of ECE in Northwest Arkansas. Specifically, we combined data from the U.S. Census Bureau and from the Arkansas Child Care Information website (dhs.arkansas.gov/dccece/ccilas/FacilitySearch.aspx#Child) that captures a complete list of regulated home-based, center-based and after school providers in Washington and Benton counties. Linking the demographic characteristics of communities with the locations and characteristics of providers in the same area allows us to better understand the relationships between factors that are expected to drive demand for ECE and the actual supply and quality of ECE in the area.

The second phase examines how center-based providers establish their own cost-quality relationship, specifically (1) how centers choose the level of quality they provide and how they prioritize different features of quality; (2) how centers set the prices they will charge to families; and (3) how centers manage their enrollment to optimize their own cost-quality relationship, for example through the number of children served, use of waiting lists, and grouping of children and use of aides and assistants.

NORC explored these issues by carrying out a focus group with directors from nine center-based providers and conducting an in-depth qualitative study with 12 center-based providers. The focus group took place in mid-September and it allowed us to identify key challenges centers in the area face regarding the number of children they serve, the quality of services they offer, and the prices they charge parents. This discussion informed our design of the next phase of this qualitative study, which focused on

12 center-based providers in Benton and Washington counties. We recruited a purposive sample of center-based providers in these two counties and interviewed a wide range of centers, including centers located in urban and rural areas, centers serving low-income and middle-income children, centers receiving public and other sources of funding, center serving infants and toddlers as well as preschoolers, and centers not participating in or having different ratings in Arkansas' quality rating improvement system Better Beginnings.

In order to systematically assess program quality, we conducted direct classroom observations in all 12 centers in our sample. These data allow us to examine the cost-quality relationship based on a reliable and valid measure of quality, rather than teachers or directors' self-reports, which can capture structural features of the care provided but not the process features of care that have been more directly linked to child experiences and outcomes. We relied on a widely used research-based assessment instrument, the Early Childhood Environment Rating Scale-Revised (ECERS-R). Members of the research team completed the online ECERS-R training course in preparation for these observations. The class observation effort was led by a research team member who had extensive experience conducting classroom observations for another study, and each observation was conducted by two team members.

The ECERS-R assessment instrument evaluates seven dimensions of early care and education programs' quality: Space and Furnishings; Personal Care Routines; Language-Reasoning; Activities; Interactions; Program Structure; and Parents and Staff. Importantly, these scales are used to assess two key and interrelated aspects of quality, namely process and structural quality. Process quality refers to children's day-to-day experiences, and it involves interactions with children that provide an emotionally responsive, stimulating, and safe environment. Structural quality refers to more distal and regulable features of the environment, such as group size, ratio, and staff qualifications (Pianta 2005; Zaslow et al 2010). These scales are used by Arkansas Better Beginnings in determining the quality ratings of participating centers.

NORC also conducted interviews with the directors of each center to complement the data collected through classroom observations. These interviews consisted of two components: (1) a structured interview that collected information on center characteristics, enrollment, schedule, sources of revenue, staffing and center costs and (2) an unstructured interview that was designed to delve deeper into how center directors think about balancing price of care with the quality of care they provide. Because the structured interview questions were very detailed and directors might not know the answers without reference to documents or assistance from staff, we provided each center with a worksheet one week before our visit to allow them to gather the information prior to the interview. Project staff facilitated the interviews, collected worksheets, and asked any remaining unanswered questions from the structured

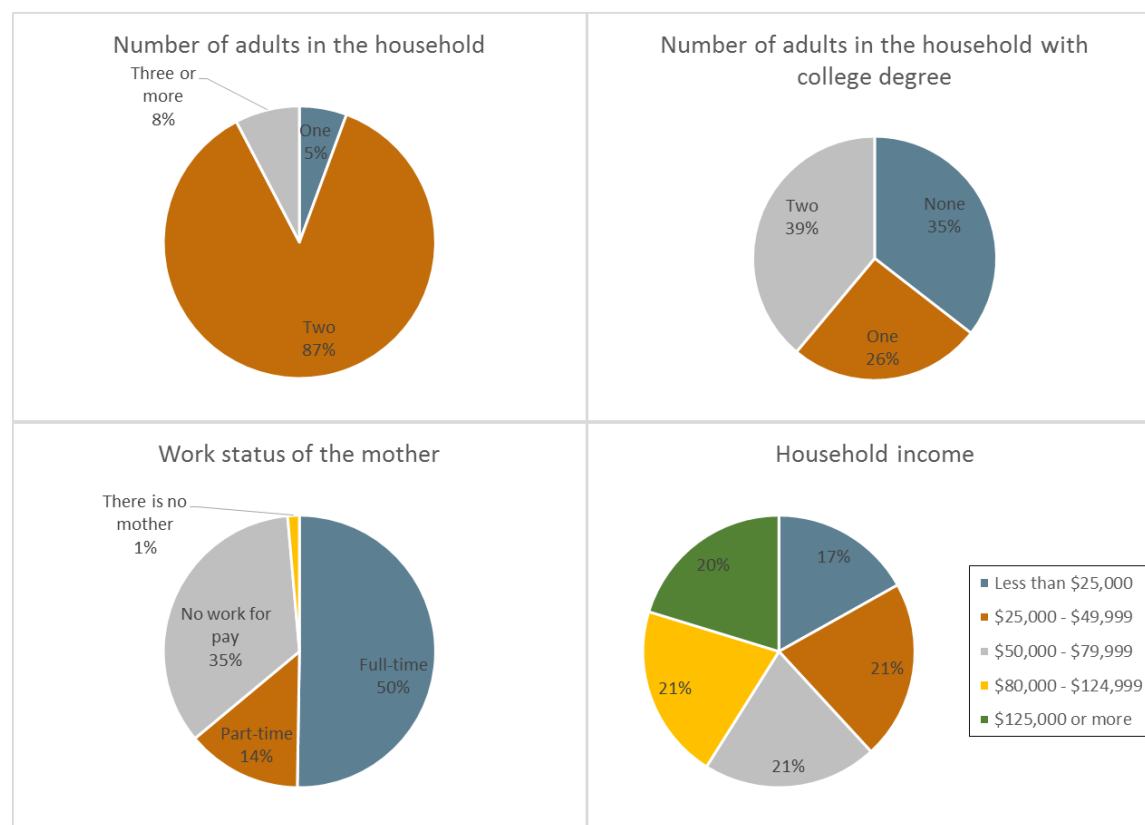
questionnaire. Members of the research team conducted the unstructured interview either in person or by phone. In most cases the observations and interviews were completed on the same day, but for a small number of centers, the director interview was completed at a different time to accommodate their schedules.

Although center directors who were also the owners of the center were able to provide more detailed information about how prices are set in their centers, all center directors were well informed about listed prices, drivers of recent and future increases in prices, the extent to which families pay the listed price, and challenges associated with setting prices.

The third phase focused on how households perceive quality and how quality enters into their decision-making relative to other factors such as cost, schedules, and location. In order to explore these topics, NORC fielded a multi-mode data collection effort to gather information from households in Benton and Washington counties. The questionnaire was programmed as a self-administered web instrument and was available in English only.

A sample of households was selected in the two county area for invitation and recruitment to the survey. Because we anticipated a low rate of households with young children, we structured the questionnaire to collect information from all households on the community and quality of care (regardless of child age) in the initial section. (2016 Census data indicate that 8 percent of households in the two-county area have a child under age 5.) When the household included children under six years old the instrument asked additional questions about parents' perceptions and preferences for early care and education. We attempted to contact 6,559 households across eight weeks in Fall, 2017. All households were sent a letter inviting them to participate in the on-line survey. In order to make sure we collected enough observations from households with children under six, we supplemented this mail contact with in-person visits to households in areas where there was known to be a higher concentration of children. At the end of data collection we had received a total of 211 extended child care perception surveys and abbreviated data on community care needs and perceptions from over 280 additional households.

Our household data are not strictly statistically representative of the area, but they broadly represent the main types of locations where children under six live. Characteristics such as household income, age of respondent, marital status and maternal employment status are consistent with available statistical profiles of households with young children in the two- county area. Exhibit 1 indicates some socio demographic

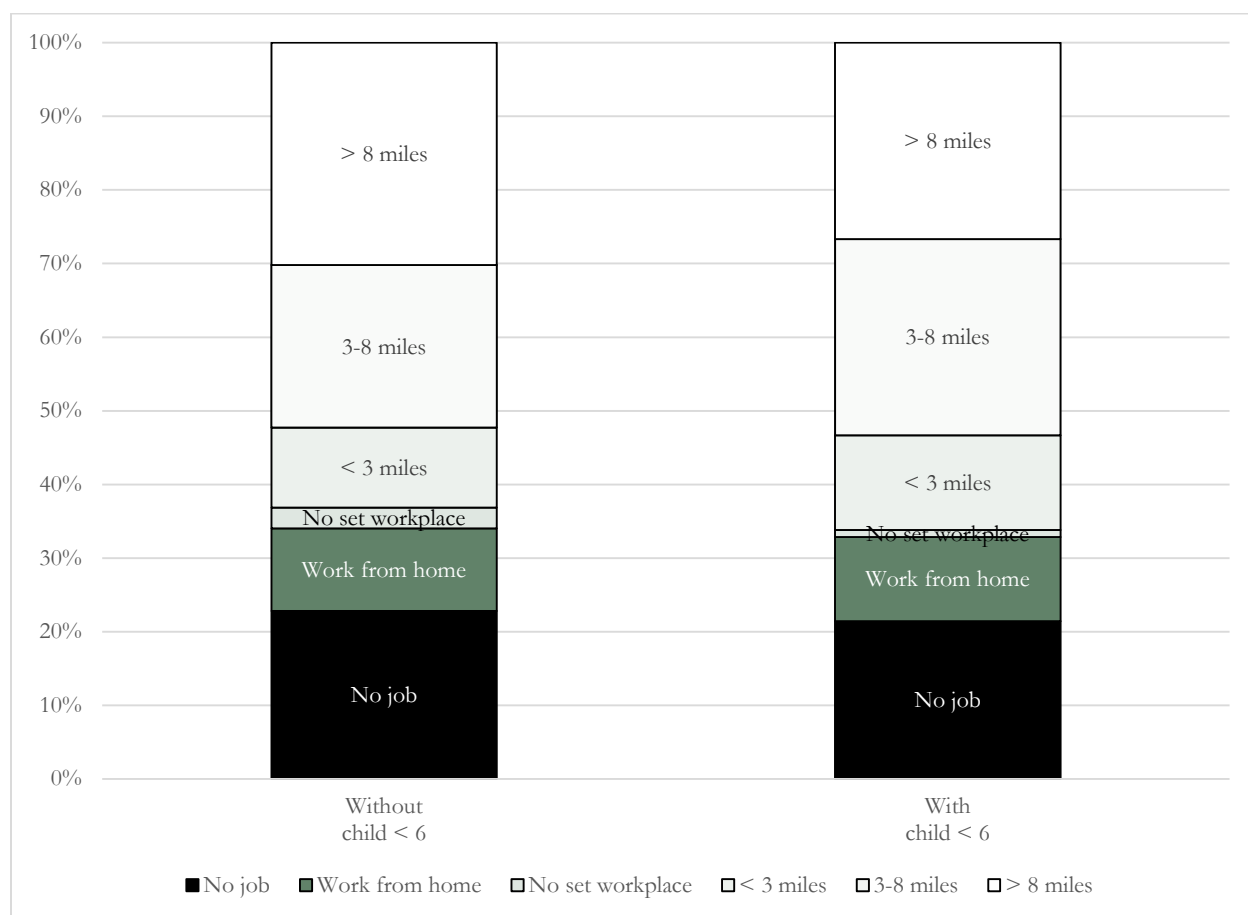
Exhibit 1: Socio-demographic Characteristics of the Households that Completed the Survey

Note: Only households with children under the age of six.
Source: Arkansas ECE Household Web Survey.

characteristics of the sample of households that completed the survey. The pie chart on the bottom left shows the distribution of mothers according to their work status. While in 35 percent of the households the mother has no work for pay, in 50 and 14 percent of the cases the mother works full- and part-time respectively. In terms of annual income, households are close to evenly distributed in five income brackets. With respect to household composition, only 5 percent of households have fewer than two adults, and the number of adults with college degree varies from zero (35 percent) to two (39 percent).

Household respondents were also asked how far their workplace is from where they live. Exhibit 2 shows that around 65 percent of respondents indicated that they travel to work. The first column on the left indicates that, among respondents in households with a child under six, 30 percent travel more than 8 miles, 22 percent travel between 3 to 8 miles, 11 percent travel less than 3 miles, 3 percent do not have a set workplace, and 34 percent either do not have a job or work from home. There were only minor differences between households with and without children under six years of age.

Exhibit 2: Proportion of Respondents by Distance Traveled from Home to Workplace, by Type of Household



Source: Arkansas ECE Household Web Survey.

Less than a third of households that completed the survey are located in low-income census tracts, a fifth are located in medium-income tracts, and about half are located in high-income tracts. Furthermore, income of the households interviewed is correlated with the income level of the tract, such that 79 percent of respondents with the highest level of income are located in high-income tracts and 77 percent of respondents with the lowest level of income come from low and medium-income tracts. As expected, slightly over half of the households are located in tracts with high density of children and more than a third are located in tracts with a high concentrations of Hispanic households.

The remainder of this report is organized in terms of key substantive issues, with results from the qualitative study and the household survey interspersed with one another. The substantive issues discussed below are (1) community-level understanding of ECE supply and demand, (2) prices, in terms of parents' perception of affordability, analysis of listed prices at the level of the provider cluster, and

center-based directors' reports on the prices they charge parents; (3) enrollment considerations among providers; (4) quality, also in terms of parents' perceptions and center-based directors' reports on the quality of services they offer families; and (4) parents' and providers perspectives on the tradeoffs between various attributes of ECE care.

Community

This section takes a community-level perspective. We first summarize the current state of the ECE market in Benton and Washington Counties using existing data from licensing and census sources. We supplement those linked, geographic analyses with responses from the household survey data that also reflect on the community as a whole. In order to document the entire range of providers available to families, this section encompasses all types of regulated ECE, including home-based and center-based providers. We first discuss ECE supply, including the number and types of providers located in these two counties. We then look at the demand for ECE as it might be inferred from characteristics of households located in these counties. We next integrate the information on the supply and demand of ECE, graphically displaying the overlap between providers and various characteristics of the communities where providers are located. We close with household survey perceptions on the community's ability to support the needs of caregivers.

ECE Supply: Characteristics of Providers

The three exhibits below describe key indicators of the ECE supply in Benton and Washington Counties. Exhibits 3 and 4 show that the distribution in terms of number of providers, types of providers, and age groups served, in both counties is very similar. Exhibit 5 shows Benton County has more facilities not receiving a Better Beginnings rating (~47 percent) when compared to Washington County. The difference in Better Beginnings participation merits further exploration. Head Start facilities are one type of three-star center, but the number and proportion of Head Start providers is approximately equal in the two counties.

Exhibit 3: Number of Providers by Category within Counties

County	Number of Out of School Time Facilities	Number of Center-based Providers	Number of Licensed Home-based Providers	Number of Registered Home-based Providers	Number of Facilities
Benton	29	96	23	1	149
Washington	16	106	20	0	142
Grand Total	45	202	43	1	291

Source: Arkansas Child Care Information. Information collected in June 2017

Exhibit 4: Market Share by Type of Licensed Provider Facility Serving Children <= 5 Years

County	Center-based Providers Market Share	Number of Center-based Providers	Home-based Provider Market Share	Number of Home-based Providers	Total
Benton	81%	96	19%	23	119
Washington	84%	106	16%	20	126
Grand Total	82%	202	18%	43	245

Source: Arkansas Child Care Information. Information collected in June 2017

Exhibit 5: Market Share by Provider's Better Beginnings Rating (Children <= 5 Years)

County	3 Star Facilities	2 Star Facilities	1 Star Facilities	Zero/Null Star Facilities	Total
Benton	23%	7%	23%	47%	100%
Washington	32%	5%	37%	26%	100%
Grand Total	28%	6%	30%	36%	100%

Source: Arkansas Child Care Information. Information collected in June 2017

ECE Demand: Characteristics of Households and Communities

The three exhibits below describe key indicators of ECE demand in Benton and Washington counties. Where information at the required level is not available from the U.S. Census Bureau, population summaries are based on the small area estimated micro data, a proprietary statistical product developed by NORC that combines information from various census data sources. As Exhibits 6 and 7 show, the general demographic characteristics of Washington and Benton counties are similar in terms of population, population density, and number of children under age six. Exhibit 8 shows that these two counties differ in the share of mothers who are in the labor force. Washington County has a larger proportion of mothers in the labor force than Benton County – a factor that may increase the demand for child care or the demand for specific types of child care, such as providers offering full-time care or non-standard hours of care. We did not explore why the proportion of mothers working differs across the two counties. A variety of demographic factors could be responsible, like maternal education, maternal marital status, and household income, all of which typically vary with maternal employment. But it is also possible that lack of adequate child care options is discouraging maternal employment in Benton county.

Exhibit 6: Population and Geographic Characteristics of Washington and Benton Counties

County	Population	Total Square Miles	Average Number of People per Square Mile
Benton	238,198	885	269
Washington	216,432	952	227
Grand Total	454,630	1,837	247

Source: 2011-2015 American Community Survey. Census Bureau.

Exhibit 7: Share of Population Under Six Years Old

County	Population	Under Six Years Old	Percent of Population Under Six
Benton	238,198	20,790	8.73%
Washington	216,432	19,018	8.79%
Grand Total	454,630	39,808	8.76%

Source: 2011-2015 American Community Survey using NORC proprietary methodology for small area estimation.

Exhibit 8: Share of Population That Are Mothers, and Share of Mothers That Are in the Labor Force

County	Females Age 16+ with Own Child under Six	Females Age 16+ with Own Child under six in Labor Force	Percent in Labor Force
Benton	12,874	6,453	50%
Washington	11,262	7,321	65%
Grand Total	24,136	13,774	57%

2011-2015 American Community Survey using proprietary methodology for small area estimation.

Spatial Distribution of ECE Providers and Community Characteristics

This section describes how the demographic characteristics of the population located in Benton and Washington counties relate to the distribution of home-based or center-based providers in the area. The overlap between supply and demand of ECE is summarized in a series of maps that display the spatial distribution of licensed home-based providers (Map A, on the left) and the distribution of center-based providers (Map B, on the right). The maps characterize the population of these two counties in terms of population density, median household income, percent of population over 16 who are employed, and percent of population that is Hispanic. Each of these population characteristics is broken down in three categories, referred to as low, medium, and high and defined as the lowest third (0 to 33rd percentiles), middle third (33rd to 66th percentile), and highest third (66th to 100th percentile) of the distribution at the of each characteristic.

Exhibits 9.A and 9.B show that providers are clustered in the most populated areas. Home-based and center-based providers concentrate in the mostly densely populated areas, though there are some sparsely populated areas that have a home-based provider, but do not have any center-based providers.

Exhibit 9: Home-based and Center-based Facilities and Population Density

Exhibit 9.A

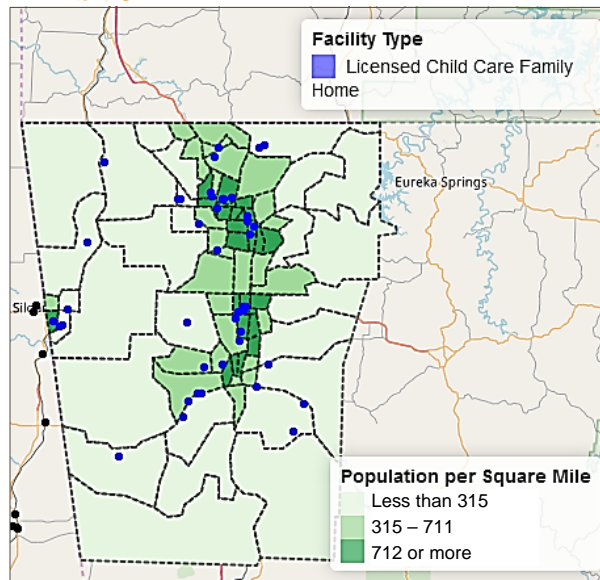
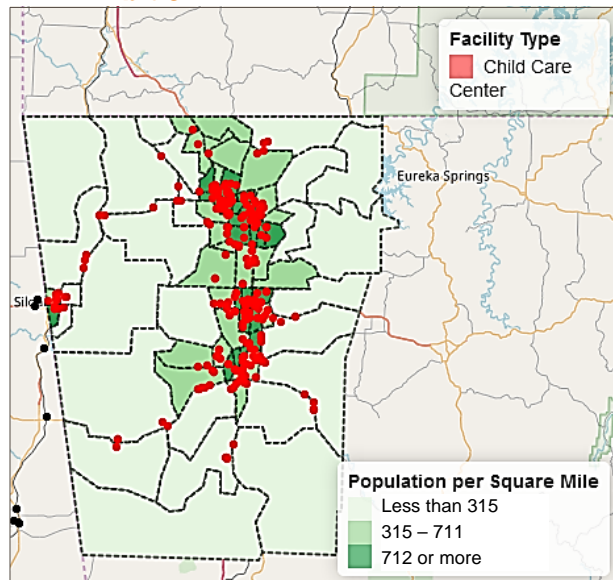


Exhibit 9.B



Source: 2011-2015 American Community Survey. Census Bureau. Arkansas Child Care Information. Information collected in June 2017

Exhibits 10, 11, and 12 show that the distribution of providers is not closely aligned with household income, adult employment, and the proportion of Hispanic population. In sum, population density, rather than other demographic characteristics of households, is most highly correlated with the location of providers.

Exhibit 10: Home-based and Center-based Care and Median Household Income

Exhibit 10.A

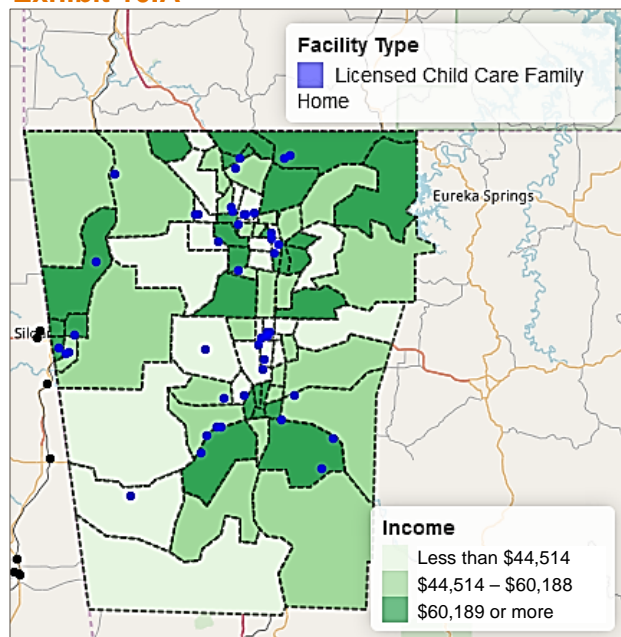
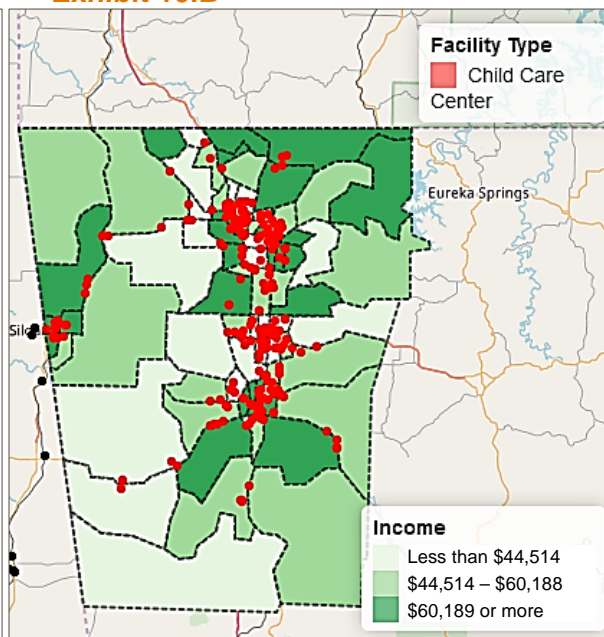


Exhibit 10.B



Source: 2011-2015 American Community Survey. Census Bureau. Arkansas Child Care Information. Information collected in June 2017

Exhibit 11: Home-based and Center-based Facilities and Percent of People over 16 who are Employed

Exhibit 11.A

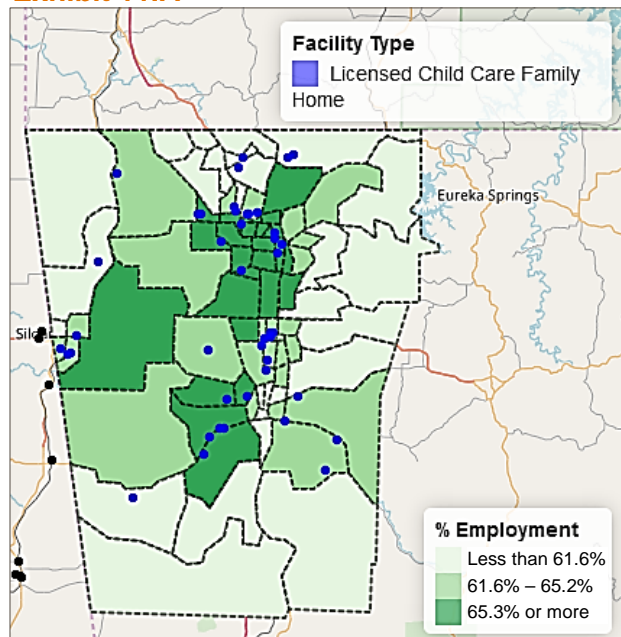
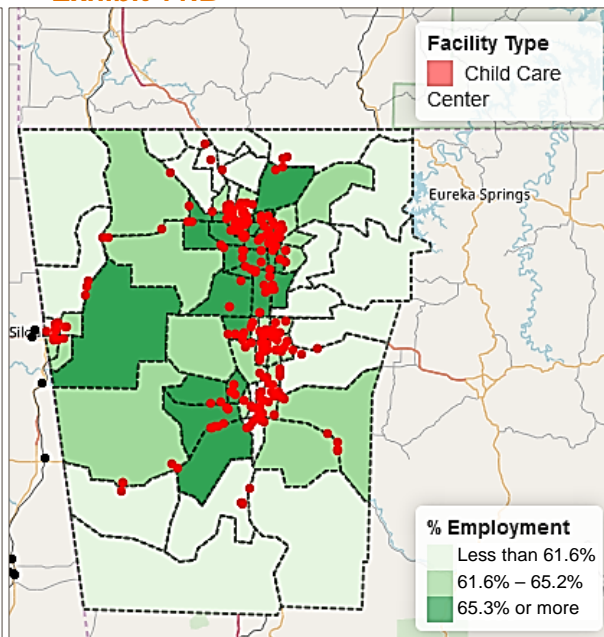
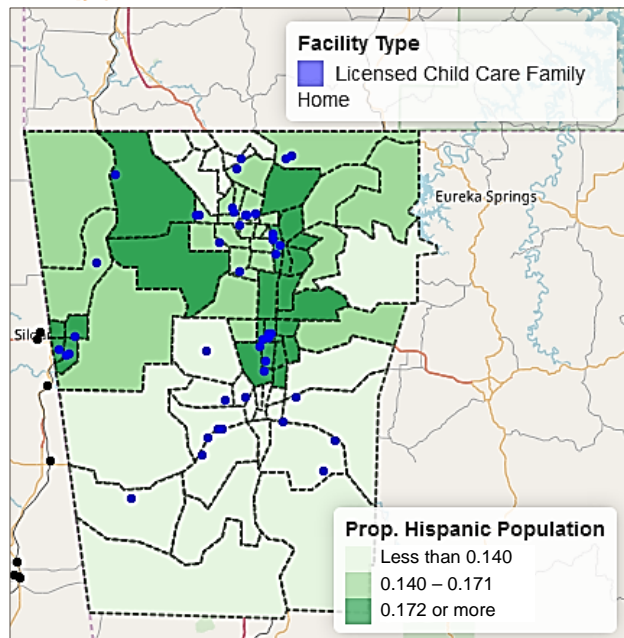
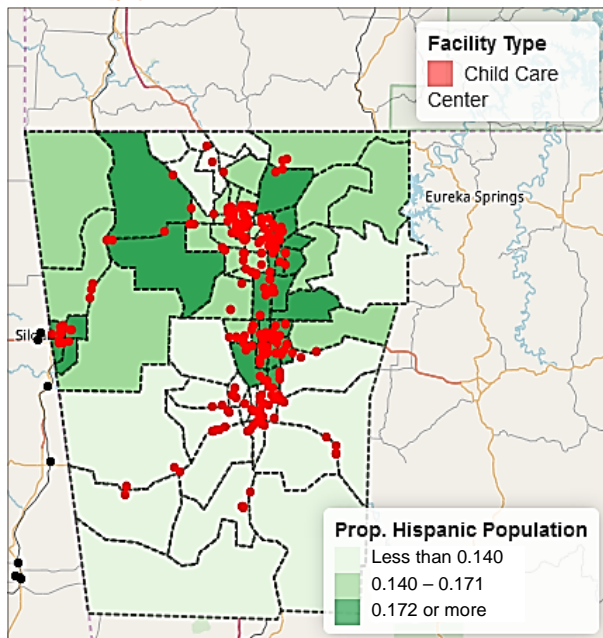


Exhibit 11.B



Source: 2011-2015 American Community Survey. Census Bureau. Arkansas Child Care Information. Information collected in June 2017

Exhibit 12: Home-based and Center-based Facilities and Percent of People who are Hispanic**Exhibit 12.A****Exhibit 12.B**

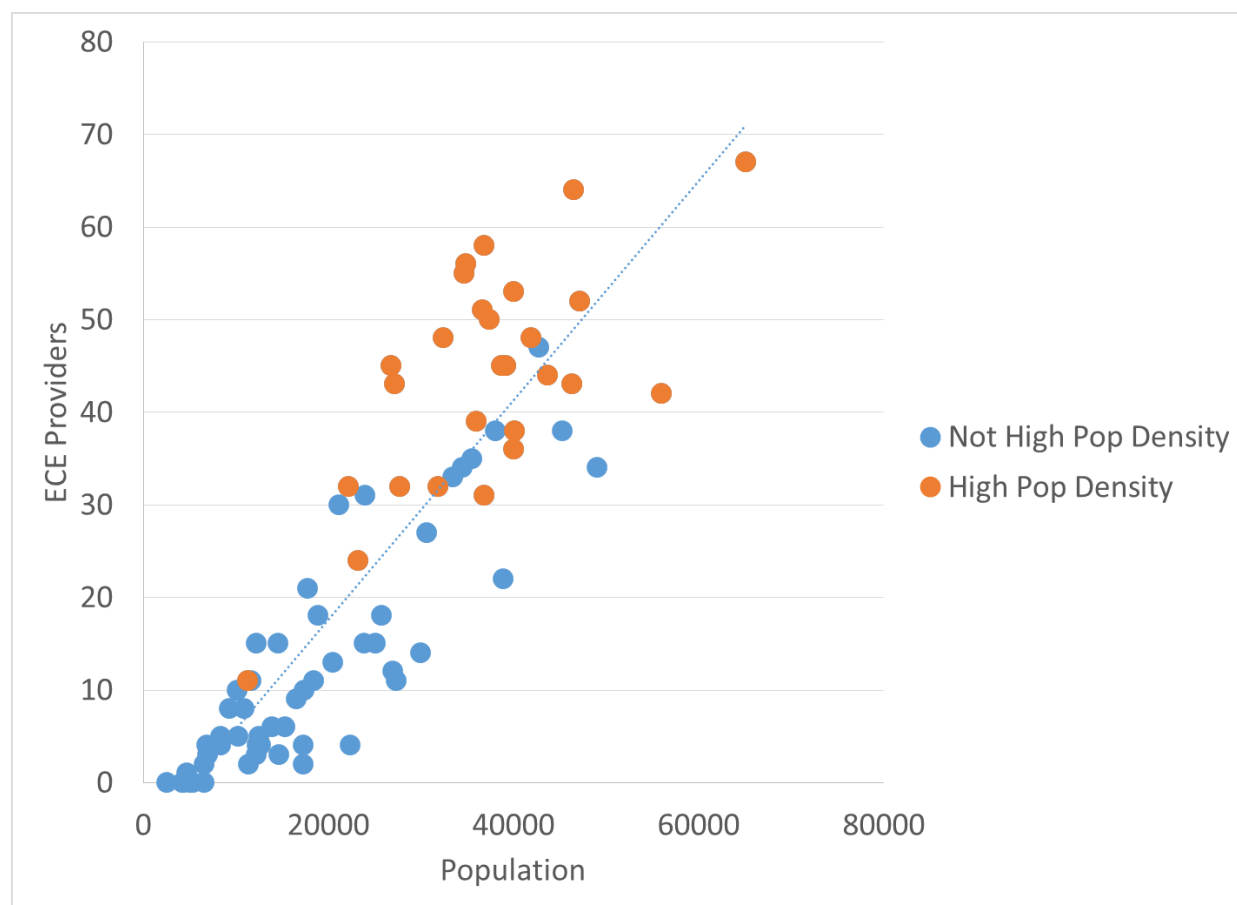
Source: 2011-2015 American Community Survey. Census Bureau. Arkansas Child Care Information. Information collected in June 2017

ECE Supply and Demand: Statistical Integration

This section provides a statistical summary of the overlap between supply and demand of ECE in Benton and Washington counties. The following four exhibits display the relationship between the number of ECE providers and two key demographic characteristics of the population, for each of the 81 census tracts in these two counties and their surrounding provider clusters. Appendix III describes the methodology of the provider cluster, including its definition and measurement. In Exhibits 13-16 each point in the scatter plots represents one of 81 provider clusters. The vertical axis represents the supply of ECE as measured by the number of ECE providers in each provider cluster. The horizontal axis represents a measure of demand for ECE, for example, the number of people at the center of the provider cluster (i.e., the anchor tract) or the number of adult women with young children. Across these measures, we find that regulated providers are disproportionately located in areas of high population density, but we find that low-income families and Hispanic families experience similar levels of geographic access to all families, indicating generally equitable location of regulated services for these families.

Exhibits 13 and 14 indicate that both measures of demand are highly correlated with supply (R-squared values near 0.79). The coefficients indicate that there is a provider for approximately every 1000 people and every 50 mothers. Among the 81 provider clusters from Washington and Benton counties, the 33 percent with highest population density were colored in orange, while the remainder are in blue. In Exhibits 13 and 14, high-density clusters are mostly above the trend lines, while low-density clusters are near the trend line or slightly under. This indicates that high-density clusters have more supply per unit demand (overall population or number of mothers) than do low-density clusters. This is consistent with the maps displayed above, which showed that ECE providers were mostly located in areas with high population density.

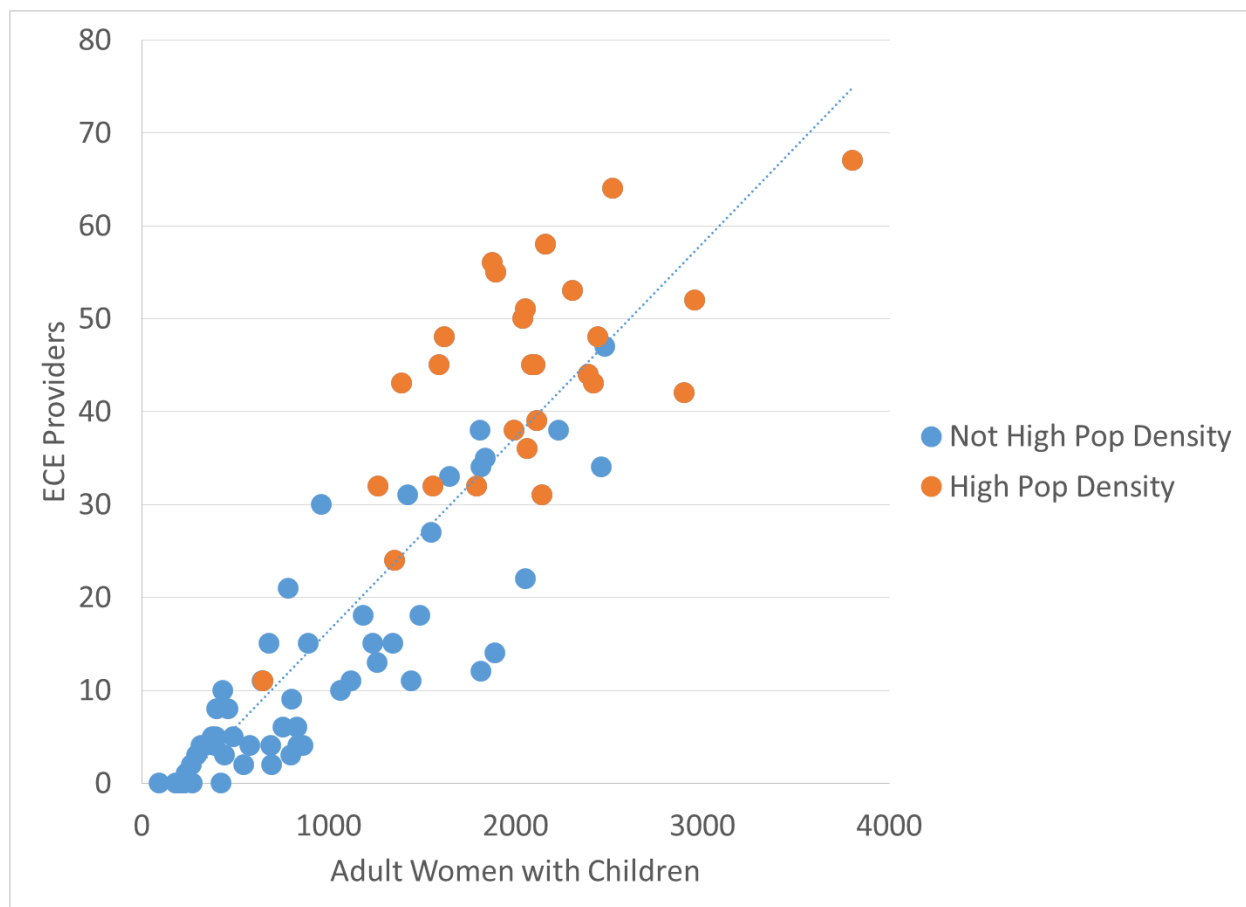
Exhibit 13: ECE Providers by Population Count and Population Density



Note: Each point represents a cluster. Points in orange indicate clusters with the highest population density (top 33 percent of all clusters).

Sources: 2011-2015 American Community Survey. Census Bureau.
Arkansas Child Care Information. Information collected in June 2017

Exhibit 14: ECE Providers by Women with Young Children and Population Density

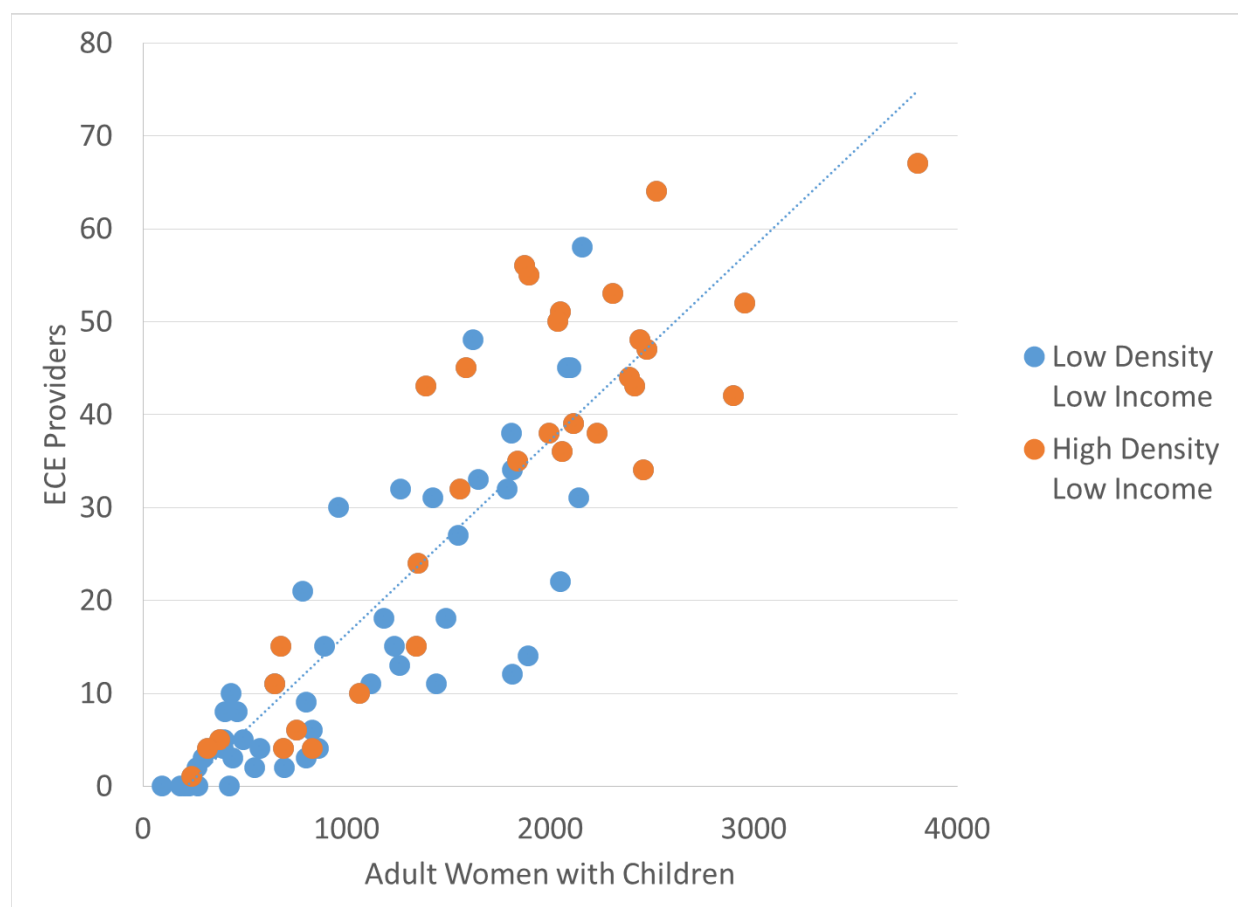


Note: Each point represents a cluster. Points in orange indicate clusters with the highest population density (top 33 percent of all clusters).

Source: 2011-2015 American Community Survey using proprietary methodology for small area estimation.
Arkansas Child Care Information. Information collected in June 2017

Exhibit 15 below shows the same relationship as Exhibit 14 in terms of number of providers and number of adult women with children, but the color of each point represents clusters with different concentration of low income households rather than clusters with different concentration of population. Tracts with more than 40 percent of households under 200% Federal Poverty Level are termed ‘high-density low-income.’ Exhibit 15 shows that deviations from the trend line are more random than for population density, as displayed in Exhibit 14. This indicates that any surplus or shortage in ECE is not correlated with density of lower income households at the cluster level. In other words, the surplus or deficient supply of ECE is more highly correlated with overall population density than with concentration of low income households. In many communities, low-income households have less geographic access to regulated ECE providers, but that does not appear to be the case in the two-county area.

Exhibit 15: ECE Providers by Adult Women with Children and Density of Low Income Households

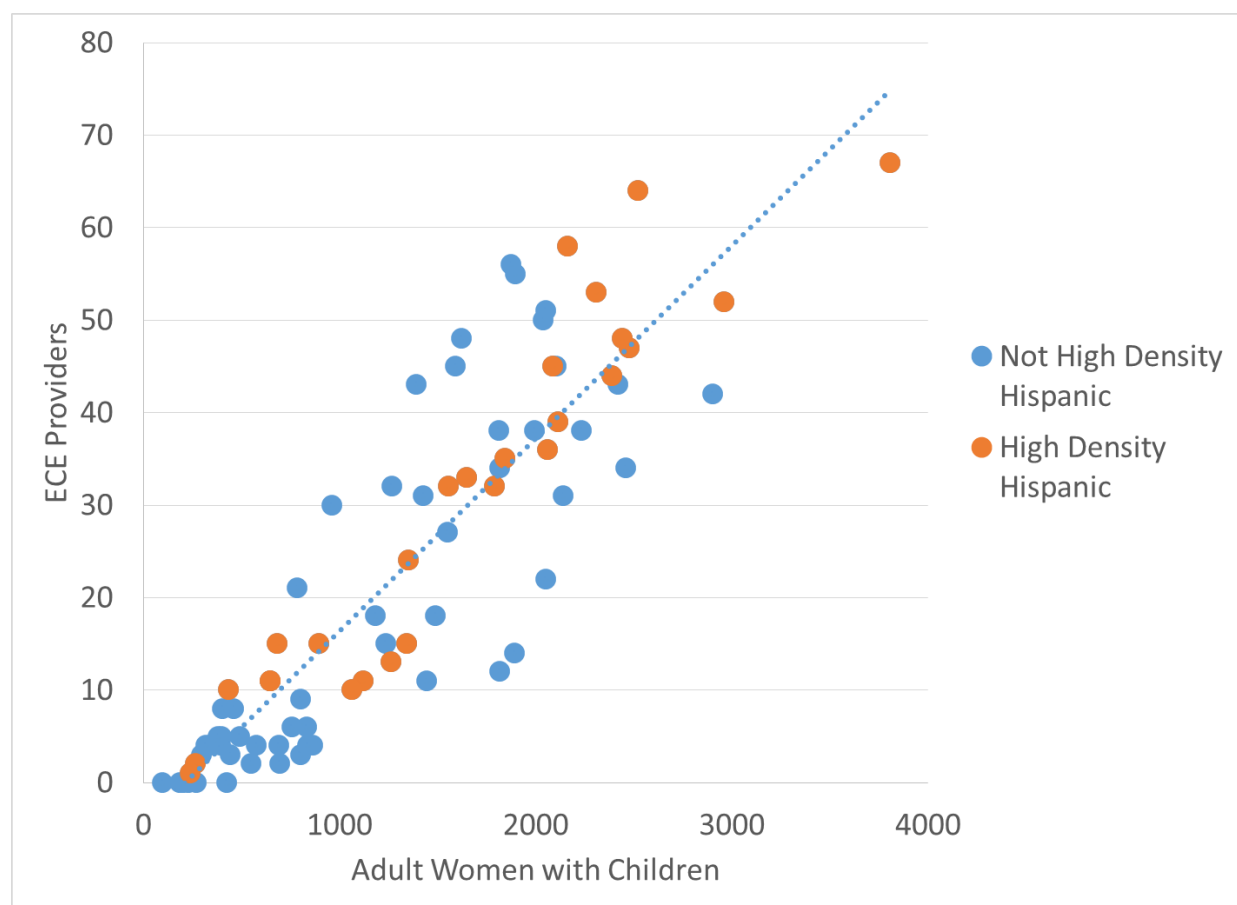


Note: Each point represents a cluster. Points in orange indicate clusters with more than 40 percent of households under 200% Federal Poverty Level.

Sources: 2011-2015 American Community Survey using proprietary methodology for small area estimation. Arkansas Child Care Information. Information collected in June 2017

Exhibit 16 follows the same structure as Exhibits 14 and 15, but the color of each point represents the concentration of Hispanic population. Clusters with the highest proportion of Hispanic population over the total population (top 33 percent of all clusters) are represented by orange points. The majority of clusters with high concentration of Hispanic population are located near the trend line, indicating that the supply of ECE is close to the average exhibited by all clusters in the two counties, i.e. a provider every 50 mothers. A few clusters are further away from the trend line, but they can be found both below and above the line, indicating that they have less and more supply per unit demand than the average, respectively. It can be concluded that any surplus or shortage in ECE is not correlated with the concentration of Hispanic population. As with low-income households, the absence of a correlation is a good sign indicating that Hispanic families are not systematically experiencing lower geographic access than other families.

Exhibit 16: ECE Providers by Adult Women with Children and Concentration of Hispanic Population



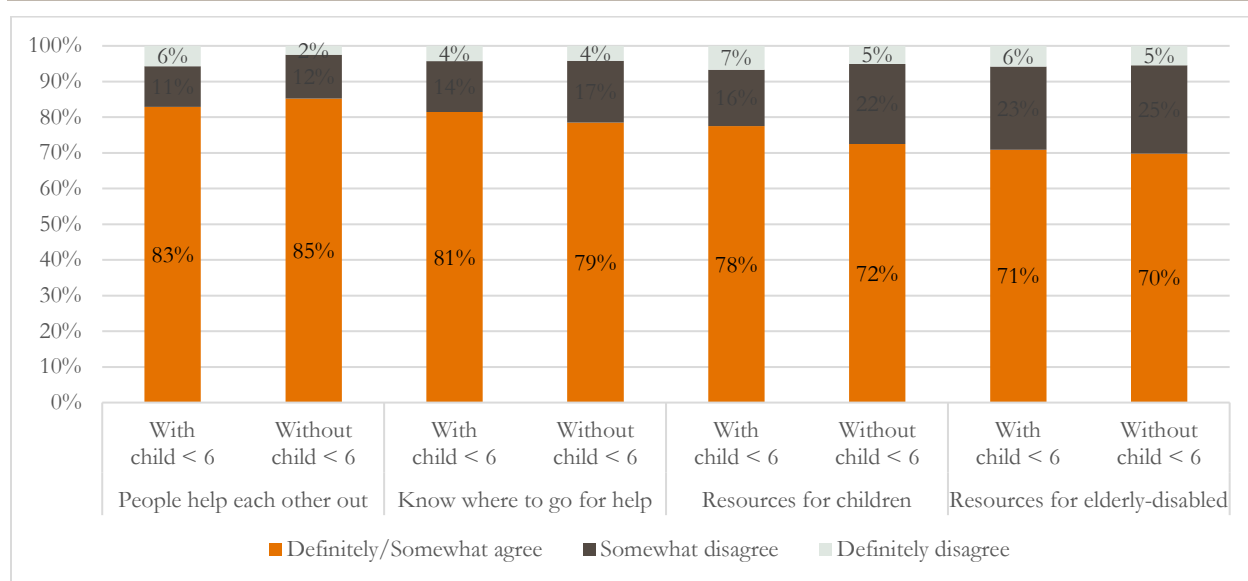
Note: Each point represents a cluster. Points in orange indicate clusters with the highest proportion of Hispanics population (top 33 percent of all clusters).

Sources: 2011-2015 American Community Survey using proprietary methodology for small area estimation.
Arkansas Child Care Information. Information collected in June 2017

Residents' perception of community resources and support

In the household survey, respondents were asked about the resources and support provided by their community with regard to various aspects of their everyday life. Exhibit 17 shows that the majority of households have a positive perception of their community's support for families. The first two columns on the left indicate that 83 percent of households with a child under six and 85 percent of households without a child under six reported that they definitely or somewhat agree that "people help each other out." More than 70 percent of households reported that they definitely or somewhat agree with the statement that there are adequate resources to help families care for their children. Households with children under six have a slightly more positive opinion than households without young children of the adequacy of resources to care for children (78 versus 72 percent).

Exhibit 17: Proportion of Households that Agree/Disagree about Different Community Characteristics, by Type of Household

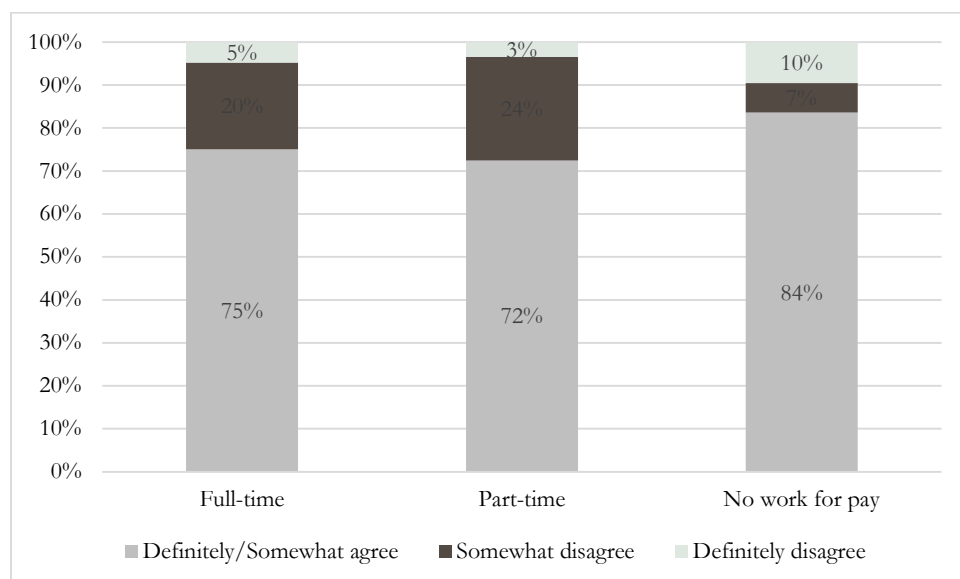


Source: Arkansas ECE Household Web Survey.

Exhibit 18 summarizes responses to a question about the adequacy of resources that help families care for their children by work status of the mother. The first column on the left indicates that 75 percent of households with a child under six where the mother works full-time reported that they definitely or somewhat agree that “this community has adequate resources to help families care for their children.” Households where the mother does not work for pay have a more positive perception of their community’s resources for families to care for their children than households where the mother works for pay. While 84 percent of households where the mother does not work for pay definitely or somewhat agree that their community has adequate resources to help families care for their children, households where the mother works full time have a proportion that is 9 percentage points lower. While these numbers alone may not be statistically conclusive, they are part of a pattern of working mothers’ differing (and often more negative) perceptions of the adequacy of options.

When analyzed by income, households with income between \$25,000 and \$49,999 have the lowest perception of the adequacy of resources that help families care for their children. While around 80 percent of households in all the other income brackets reported that they definitely or somewhat agree that “this community has adequate resources to help families care for their children,” only 64 percent of households with income between \$25,000 and \$49,999 did so.

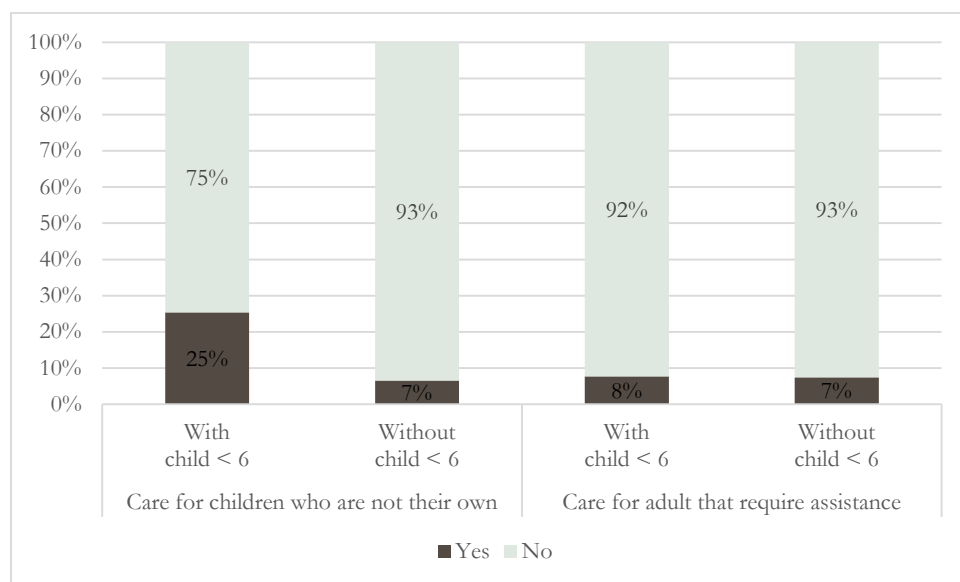
Exhibit 18: Proportion of Households that Agree/Disagree that Their Community Has Adequate Resources that Help Families Care for Their Children, by Maternal Work Status



Note: Only households with children under the age of six. Fewer than 30 households indicated the mother works part time.
Source: Arkansas ECE Household Web Survey.

In the household survey, respondents were asked about their caregiving responsibilities, both whether they care for children who are not their own and caring for adults who require assistance with daily activities. Respondents in households with young children were more likely to report also taking care of other young children, but caring for adults did not vary by whether or not the household had young children. While in some communities we see more blending of elder and child care-giving responsibilities, these data suggest that child care-giving is happening relatively separately from elder (or disabled adult) care-giving. We do see 7 percent of older households reporting child care-giving (for example, when grandparents or older neighbors care for young children).

Exhibit 19: Proportion of Households Caring for Others' Children or for Adults, by Presence of Young Child



Source: Arkansas ECE Household Web Survey.

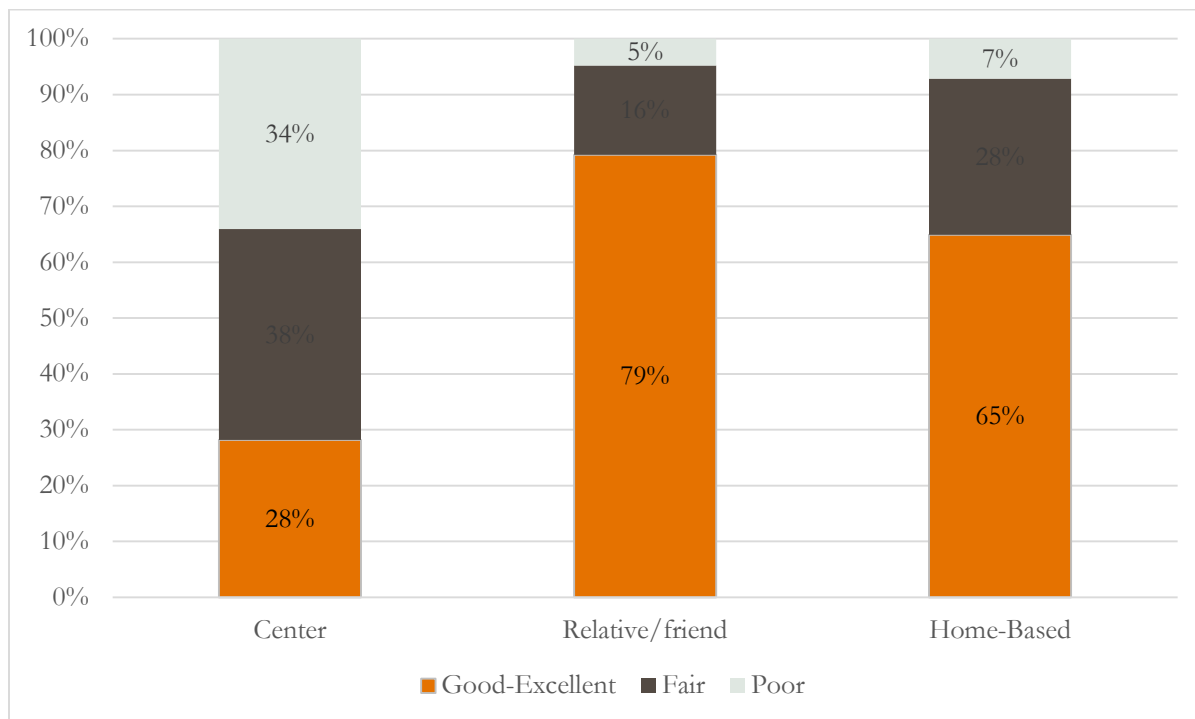
Prices

Parents' perception of ECE affordability

Affordability is among the three most important attributes of child care centers, as stated by respondents from Benton and Washington counties in the household survey. When respondents were asked to identify the two most important characteristics of a child care center for their three-year-old child, they selected “helping the children learn” and “the teacher’s interaction with the child” 29 percent and 27 percent of the time respectively. “Affordability of the center for the family” was the third most often selected characteristic, chosen 16 percent of the time.

In the household survey, respondents were asked to rate different types of child care for three-year-old children (center, relative/friend care, and home-based care) with respect to various characteristics. Exhibit 20 shows how households rated different types of care with respect to affordability. The first column on the left indicates that 28 percent of households with a child under six rated center-based care as excellent or good in terms of affordability, while 38 and 34 percent of households rated center-based care as fair and poor respectively for affordability. Households rated care provided by relatives or friends most affordable and center-based care least affordable. While 79 percent of households rated affordability of care provided by relatives or friends as excellent or good, the proportion drops 51 percentage points in the case of care provided in centers. Moreover, 34 percent of households rated center-based care as poor in terms of affordability, a much larger percentage than shown for home-based or relative/friend care. In the case of home-based care, 65 percent of respondents rate it as excellent or good in terms of affordability.

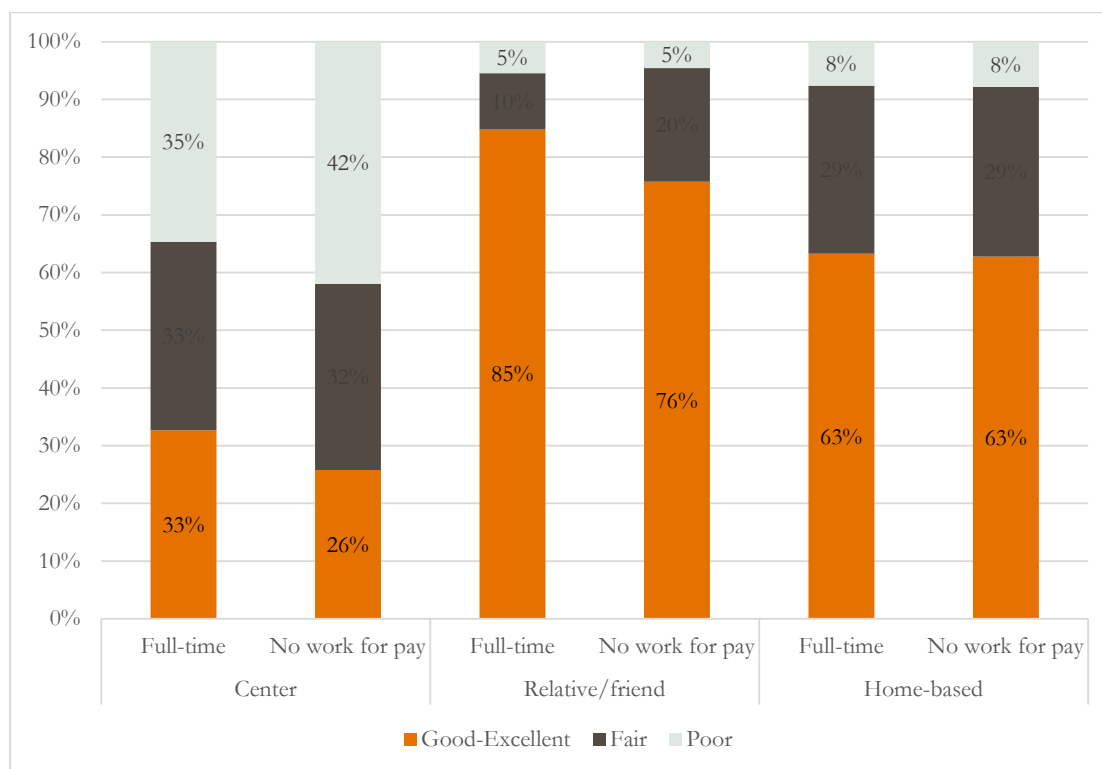
Exhibit 20: Proportion of Households that Rated the Affordability between Excellent and Poor for Different Types of Care



Note: Only households with children under the age of six
Source: Arkansas ECE Household Web Survey.

Exhibit 21 shows the ratings of different types of providers in terms of affordability by work status of the mother. The first two columns on the left indicate that, among households with a child under six, 33 percent of households where the mother works full time and 26 percent of households where the mother does not work for pay rated center-based care excellent or good in terms of affordability. Looking at these ratings by the work status of the mother reveals patterns consistent with what we saw in Exhibit 20: care provided by relatives or friends was rated most affordable and center-based care least affordable. However, households where the mother works full time rated center-based care as excellent or good seven percentage points higher than households where the mother does not work for pay. Households where a mother works full time also rated relative/friend care as excellent or good nine percentage points higher than households where the mother does not work for pay.

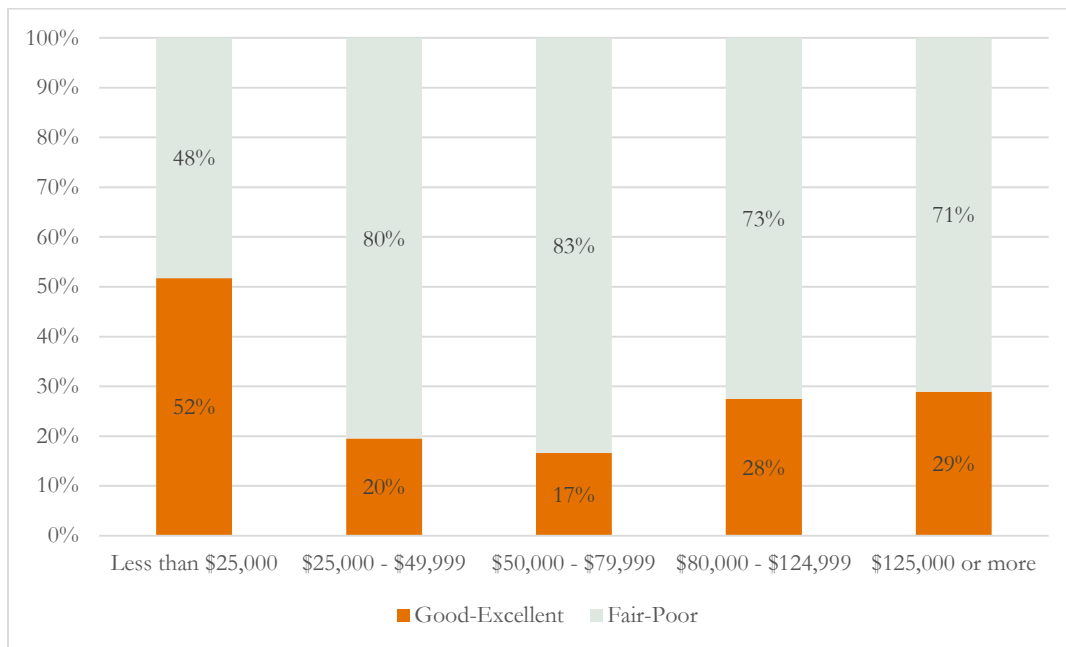
Exhibit 21: Affordability Ratings for Different Provider Types by Work Status of the Mother



Note: Only households with children under the age of six. The part-time category was omitted because of small sample size.
Source: Arkansas ECE Household Web Survey.

Exhibit 22 shows the ratings for center-based providers in terms of affordability by income of the household. The first column on the left shows that 52 percent of households with income less than \$25,000 rated center-based care excellent or good in terms of affordability. This proportion is between 23 and 35 percentage points higher than households from other income brackets. Less than one fifth of households with annual income between \$25,000 and \$79,999 rated center-based care as excellent or good. The perception of center affordability among low-income families is likely evidence of child care subsidies and means-tested public pre-kindergarten programs effectively reaching their target populations.

Exhibit 22: Perceptions of Center Affordability by Household Income



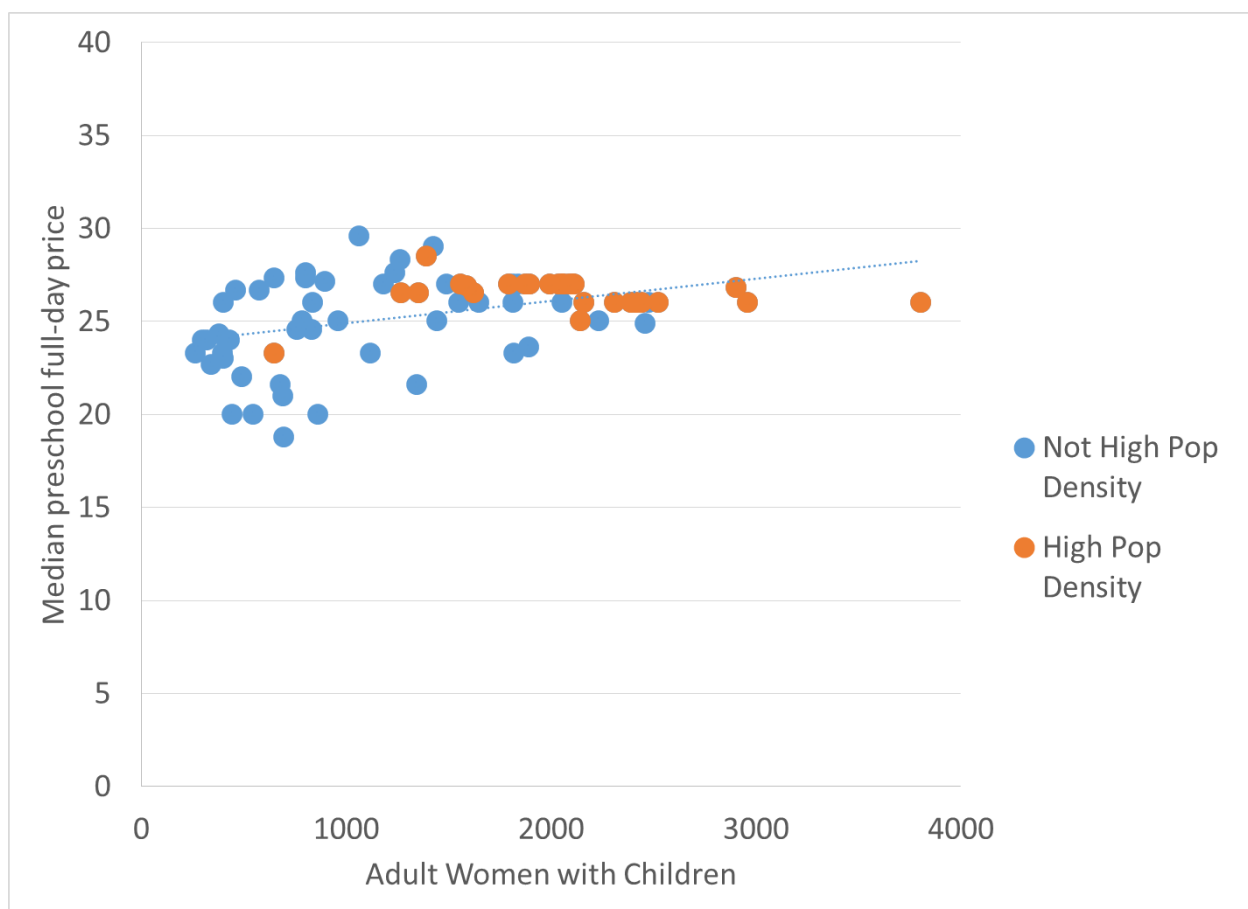
Note: Only households with children under the age of six.

Source: Arkansas ECE Household Web Survey.

Analysis of listed prices at the cluster level

Exhibit 23 below illustrates the relationship between the median full-day price in centers for preschoolers versus the number of adult women with children in the provider cluster. We use the number of mothers as a proxy for demand for ECE in the area. The trend line indicates that higher demand is associated with slightly higher prices. Also, the median price varies less in tracts with higher levels of demand, around \$26 per day. On the other hand, locations where the demand is lower exhibit greater variation in median prices, ranging from \$20 to \$30 per day.

Exhibit 23: Median Preschool Full-day Price by Women with Children and Population Density

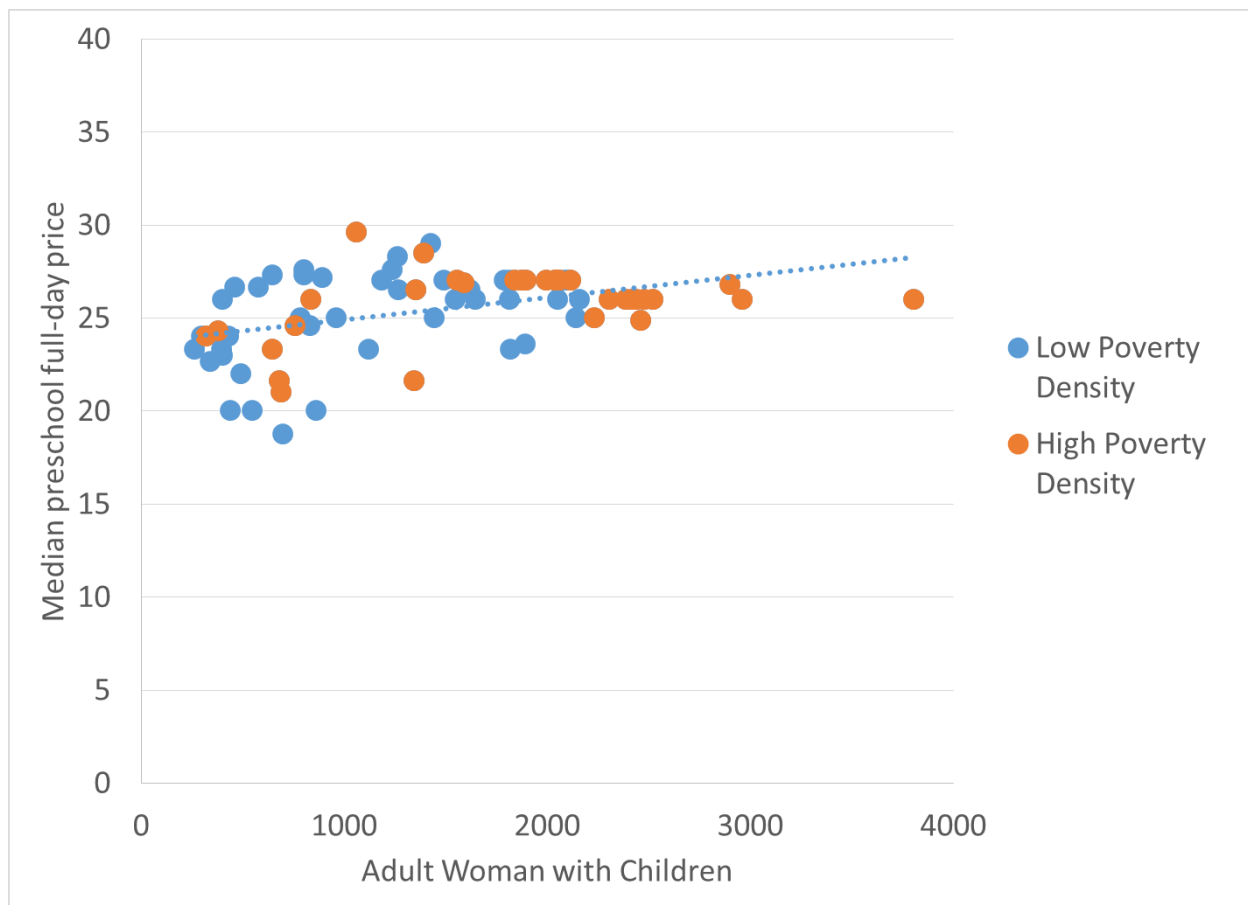


Note: Each point represents a cluster. Points in orange indicate clusters with the highest population density (top 33 percent of all clusters).

Sources: 2011-2015 American Community Survey using proprietary methodology for small area estimation.
Arkansas Child Care Information. Information collected in November 2017

Exhibit 24 below shows the same relationship as above but the colors indicate different household income characteristics, where orange indicates tracts with more than 40 percent of households under 200 percent of the Federal Poverty Level. This chart shows that deviations from the trend line are approximately random suggesting that higher or lower prices are not correlated with density of lower income households at the cluster level.

Exhibit 24: Median Preschool Full-day Price by Women with Children and Density of Low Income Households



Note: Each point represents a cluster. Points in orange indicate clusters with more than 40 percent of households under 200% Federal Poverty Level.

Sources: 2011-2015 American Community Survey using proprietary methodology for small area estimation. Arkansas Child Care Information. Information collected in November 2017.

What do center directors report about prices?

The challenge of setting prices

Center-based providers used a variety of strategies to set the prices they charge families. The majority of center directors reported comparing their prices to those of other centers in the area when they set prices or decided whether or how much to increase their current prices. Centers have different criteria for identifying centers that are comparable to them. Criteria for comparability include geography (i.e., centers located close by), schedule (i.e., hours of service), quality, size, and sponsorship. Notably, no one reported setting prices based on the expected cost of provision of services. Rather, all centers seemed to set their prices based on market conditions and then to tailor their budget and service choices based on those prices.

Director: [Our prices] are on par with other comparable centers.

Interviewer: How do you identify centers that are comparable to you?

Director: We look at other for-profit centers that are comparable in size and, as far as the Better Beginnings rating scale in Arkansas, we would get others that are about the same rating as ourselves.

[Another center:]

Director: I have been here six years. Ever since then, every couple of years we reevaluate the current tuition rates by calling other centers in the area with similar days and times and then we try to make sure we are significantly less. This usually means we raise our tuition \$5 a month every two years. [...] Part of the mission or goal of this school is to provide the opportunity for students of single working parent households. You have one parent at home, maybe it's really hard to afford full time for preschool because you have one parent at home. And yet that child still benefits tremendously from being in a preschool environment. So, we really try to keep it really cheap.

One center director, who is also the owner, reported carrying out a methodical break-even analysis that takes into account different types of costs and assumes enrollment that is below the center's full enrollment potential. Among the centers included in our study, this center was the sole exception in terms of its thorough cost analysis. This center was also an exception in terms of the assumption of enrollment below full capacity, since most centers set prices assuming full enrollment.

Director: I do a break-even analysis every year. I'm also the owner... I do a break even analysis and I take that and I look at what type of pay increases I want to incorporate for my employees as well as continuing education opportunities that I will be paying for (we usually send a couple of employees every year to get their CDA), and of course natural increases that would occur with food and rent and other items. I then set my rate based on 80 percent capacity, at a breakeven point, with a very small profit margin built in.

A very different scenario was reported by another center director who acknowledged setting prices is challenging because she lacks the accounting and financial management expertise required and is not able to afford this type of support. Similar to other center directors, she pointed to the uncertainty involved in setting prices for the entire year, given that revenues and costs are likely to vary during the year.

Director: One of the challenges that we face is that it is all on me, as the owner, to do all the budgeting and pricing. I don't have a background in that. Quite often, I have a lot of difficulty in that area. It is not a very profitable business to begin with. It can be very difficult trying to set the prices because they are in place for a whole year and you're hoping there are no surprises that pop up in the budget throughout during the year. It's tricky because it's not something I have a background in or formal training in.

Interviewer: But you have done it a few times...

Director: Yes. We have been open for 6 years now. [...]

Interviewer: Do you expect to continue setting prices in the same way?

Director: Yes, unless I learn a better method. I do all of the accounting and all of that, because I can't afford hiring an accountant.

Some centers raise prices regularly as a matter of policy. For instance, some centers raise prices once a year by 2-3 percent. Other centers raise prices occasionally, such as when their accountant advises it. In all cases, raising prices for parents was tightly connected to the center's financial viability. One center director explained that she raised prices three years ago because she was not making ends meet. As with other centers, this director pointed out that the break-even point for the center assumes full enrollment.

Director: We have had [prices] one way for a really long time. Recently, probably about three or four years ago, we took what our teachers were getting paid and what our kids... how often they are here, and what it would take to balance it out. Because, I would say, for the last 10 years we

were losing money, because we weren't charging enough. So, we did increase 3 years ago to balance it all out. Right now we don't have that problem of getting kids here, we have all our positions filled, so we are able to manage the cost. What comes in is when we do not have the kids. That would be when we would need to cut back. That is how we figure how much we need to charge.

Balancing prices with enrollment and quality

Center directors carefully evaluate the tradeoff between what prices to charge parents and the number of children they serve. Setting low prices, or at least prices lower than comparable centers, was reported as a strategy used to keep enrollment high. By the same token, full enrollment facilitates price increases and the overall financial viability of the center.

Interviewer: Can you please tell me how your center decides what prices to charge parents?

Director: First we check what the going rate is in the area, and then we undercut, because we want to get kids.

[Another center:]

Director: We will probably raise [prices] again this spring just because it has been several years [without a change in prices...]. Both classes have been full for two years. It's a tradeoff. Our teachers' wages come directly from tuition, so we have to keep the tuition going up every so often so that we can keep the teachers' wages going up every so often. But at the same time we don't want to drop our enrollment because we raised the prices. Having had two years of full classes, we will probably raise prices in each classroom by \$5 in the spring.

Quality standards also have an impact on prices. As this center director explained, she recently increased prices for infant and toddlers and expects to do that again, so that she is able to meet the expected lower teacher: child ratios set by the state. Her center currently has a teacher: child ratio of 1:5 and once the ratio of 1:4 is set, she will increase prices in order to compensate for lower enrollment.

Interviewer: When did you last change prices, the prices that you charge parents?

Director: I think it was some time over the course of the summer before we entered into our new school year. Our pre-school rate stayed the same, I think the infant and toddler rate went up because we have until 2019 to be able to meet certain ratios so we've been raising the rates only like \$10 at a time each year until we can get there because our ratios will change according to

state law. Which even though we have lower ratios I think it's going to drop down even more. That way we will be able to balance that cost.

The real meaning of listed prices

There are multiple reasons why parents may not pay the center's listed price. Parents may pay a portion of the listed price or nothing because centers have a sliding scale, or provide a discount to siblings, center staff, or employees of other organizations, such as children of servicepersons or children whose parents work at the church that sponsors the center. Parents may also pay a portion or none of the listed prices because they receive a subsidy or voucher from federal, state or local programs or an outside agency such as United Way, local charities, or other service organizations.

None of the centers included in this study collects the listed price from all children enrolled. The number of children paying \$0 varies from zero to 50 percent of children enrolled and the proportion of children who pay the listed price ranges from 21 to 98 percent of the children enrolled. Almost all centers studied have a discount for center staff and half of them accept subsidies from federal or state programs.

Center directors reported various reasons for not accepting subsidies. Low reimbursement rates of the subsidy programs are a key reason for not participating in the subsidy program. They are also a key challenge for centers that accept subsidies and are trying to cover the difference between those subsidies and the real cost of providing cost to children, as the following two directors reported.

Director: Our goal is to always be competitive in our pricing but we also want to try to stay on the lower end of that competitive pricing.

Interviewer: Why is that?

Director: Well, we don't take any government assistance whatsoever. For instance, we don't take any of the voucher reimbursement through the Department of Human Services. We understand that all our clients that we provide care for, they have to pay for their child's tuition out of their pocket. We do understand that that can be costly.

Interviewer: May I ask you why you don't take government assistance?

Director: I know that when we first opened, if I understood from our owners' correctly, they had a negative experience. They also believe that the way the program works... basically, the Department of Human Services will determine what we can take for a child. For example, they tell us if we have a student coming to us and they are participating in that program, the

government may only reimburse the provider \$80 per week for a full-time student that is a pre-kindergarten program, whereas, our normal full-time weekly tuition for that kid is \$156 a week. Honestly, morally, the owners believe that if they could accept \$80 for one student, they should be able to accept \$80 for all of their students.

[Another center:]

Director: We have been participating in state Pre-K since it began in, I think, 2001 [...] We have always participated in the CCDF subsidy program [...] They cover seven hours a day. If the child needs more than seven hours a day of care, we have before and after wrap around care fees that we charge.

Interviewer: Do you manage to keep your cost at the rate of reimbursement?

Director: To be honest, no! That's the problem we are facing in the state of Arkansas right now. The reimbursement rate for our state Pre-K has not kept up with the cost.

Interviewer: How far is it from the actual cost?

Director: I can tell you that state Pre-K pays us monthly for each child. Right now that rate of reimbursement is \$486 a month per Pre-K child. If we were serving that same child at the center in a private pay setting, that would be \$640 a month versus \$486. That's quite a difference.

Interviewer: How do you cover that difference?

Director: Right now it's very difficult. Right now we are doing our best to increase the number of private pay children that we do have in our facility. We had to increase the cost of wrap around care in order to help us with our overall cost and unfortunately, it's a matter of keeping wages at a point we can afford and not necessarily what we want to pay our staff. It's what we have to do right now.

Enrollment

What do center directors report about enrollment?

Coexistence of undersubscription and waiting lists

The overwhelming majority of interviewed centers reported serving fewer children than they would like to serve. Center directors reported they would prefer to have between 10 and 25 additional children enrolled, which amounts to 16-42 percent of the centers' overall enrollment. It is very common for centers to be undersubscribed in some classrooms and have waiting lists in other classrooms within the center. This means a center may not be enrolled at full capacity and yet have a waiting list.

Interviewer: Is your center currently oversubscribed or undersubscribed? By how much?

Director: Overall we are under, but some classes are over. We are oversubscribed of 18 months to 2 year-olds children (2 classrooms of that age). We rarely have all the kids on the same day. We overenroll so the classroom is full. If everybody comes (rarely), we can just have the older ones in a different classroom. 75 percent are Walmart kids. Depends on the schedule of Walmart. Sometimes parents work full weeks and sometimes they don't.

Only two of the centers in this study were enrolled at maximum capacity. The only similarity between these two centers was that they did not participate in Better Beginnings and expressed no interest in joining the program. In all other respects, these two centers were quite different, especially regarding the number of children enrolled, the ages of children served, and the schedule of services offered to parents. One center served approximately 25 three- and four-year-old students, organized in two different classrooms. It only offered part-time services, two and three mornings per week, for two-thirds of the year. The center did not have a waiting list but enrollment was not a problem. Expansion was not expected, since the center did not have additional facilities or staff. The other center with full enrollment had approximately 150 students, and served children 0 to five years old, from five to 10 hours per day, Monday through Friday, for two-thirds of the year. This center did have waiting lists in all nine classrooms. The longest waiting list was for the three-year-old classroom, and it included 27 families.

In most centers, waiting lists cannot be equated with guaranteed enrollment. We asked center directors to estimate how many children currently on the waiting list would enroll if they were offered a spot. Center directors provided a wide range of answers. In one center, the waiting list only included subsidy children, since the center could not accommodate additional subsidy children but could enroll additional private

pay children. Studies in various parts of the country have found that some providers cap the number of subsidy children they serve at any one time, since most providers receive less to care for subsidized children than they receive from parents paying privately. Similarly, in most parts of the country, parents eligible for child care subsidies often report difficulty finding a center willing to accept the subsidy. In this case, the center director estimated that “close to 100 percent” of children on the waiting list would enroll if offered a spot. Most center directors estimated that between 50 and 70 percent of children on the waiting list would enroll if they were offered a spot. The estimate was lower for infant and toddler classrooms, since waiting lists for those classrooms include unborn babies (whose parents place their name on the waiting list while they are still expecting) and, once babies are born, it is common for parents to find alternative care arrangements. Waiting lists for infant and toddler classrooms were more common among our sample but also less certain in terms of guaranteed future enrollment. Our purposive sample does not allow us to estimate the overall prevalence of waiting lists in the two-county area.

Both undersubscription and waiting lists vary over time, sometimes related to the school-year calendar. For example, three centers reported a large variation in enrollment over the summer. While one reported a large increase in enrollment because of the different programs the center offered during the summer, the other two reported a large decrease in enrollment because, in one case, children whose parents are teachers transition from full time to part time hours over the summer, and in another, the state subsidy did not cover children over the summer.

Interviewer: In the past year, have you had a change in enrollment numbers, either an increase or decrease in enrollment? How do you explain this change?

Director: Summer is always low. The past summer we probably served half of the kids we are serving now. We did not have subsidy money for summer. The state of Arkansas they did not offer subsidy money last summer. Very few (15 percent) decided to pay. The others found other care and then they came back in the fall. The same will happen next summer.

Interviewer: How much does your enrollment change in the summer?

Director: Around 50 percent. We didn’t have to lay off staff. Most of them would plan that they would not be working on summer. We accommodated staff across classrooms.

One center director reported that waiting lists changed daily. Most commonly, directors reported updating waiting lists weekly and monthly.

Interviewer: Do you have a waiting list for families or children who want to enroll in the program?

Director: At the beginning of this year, we did have a waiting list for 3s. Some of the children left and then the people on the waiting list came on board. We have a waiting list, but we don't have one right now.

Enrollment and quality tradeoff: “Full enrollment” below licensed capacity

Half of the centers in this study reported that their ideal for full enrollment was below their licensing capacity. These centers ranged from one to three stars in Better Beginnings, but, importantly, they all participated in the program and were well aware of the tradeoffs between enrollment and the quality of the services they offered. As the following director indicated, enrolling as many children as her license allows would have a negative impact on quality. She is currently undersubscribed and wishes she had all classrooms full and with waiting lists, but her idea of a “full classroom” is 28 percent lower than licensing capacity would allow.

Interviewer: Do you have any control over how many children you can serve?

Director: Yes. Our classrooms size allows us to have 14 children, but we only have 10. We don't think it is ideal to have 14. Our licensing capacity is beyond what we think is our maximum number of children we can accept.

Interviewer: Is your center currently oversubscribed or undersubscribed? By how much?

Director: Undersubscribed. Because we could be maxing out our square footage, but we think that is too crowded and has an impact on quality.

Interviewer: In which sense do you think quality would suffer?

Director: There would be more chaos, more behavior issues, the staff more stresses out, less good quality teachable moments with the children, higher turnover of the staff and families themselves.

Interviewer: Are you expecting to receive more children next year? If not, why?

Director: We expect to be in the same position we are this year. Hopefully we will have all our spots filled and have waiting lists for the rooms.

“Competition” from state Pre-K program

Half of the centers reported that their enrollment had decreased because parents had moved their children to the free Pre-K program, which was expanding. This has affected the centers’ capacity to enroll three- to five- year-olds, which for centers in this study represented about 60 percent of their overall enrollment. National efforts to understand the effects of public Pre-K expansion on community-based center enrollment are ongoing but not yet conclusive.

Interviewer: Are you expecting to receive more children next year? If not, why?

Director: A lot of the issue is that the public school district has been having a large number of four-year-olds and they have continued to expand. A few blocks away there is an elementary school that serves Pre-K (with state Pre-K). This means that there is competition with the school district for the same children. Some parents want to take their children to the same school where their older children are going. It depends year to year on what the school district is going to do with the funds. If they decide that they’re going to put three more classrooms over at the elementary schools we may have to close Pre-K classrooms and focus more on infant and toddlers. Right now I would say there is a saturation of slots for three- to four-year-olds. But the need for infant and toddlers is very great. We have more infant and toddlers than we have ever had.

Not all children are equal. Not all teachers are equal

Half of the centers referred to the challenges associated with enrolling special needs children or children with behavioral problems. Center directors reported that when there is a special needs child in the classroom, they purposely try to stay below the mandated teacher:child ratio because these children need special attention. As the following center directors indicated, special needs children factor into their decisions about how to allocate children across classrooms and across teachers.

Interviewer: If so, how do you decide how many children you can serve? How often do you review your decision and what factors do you take into account in revising that decision?

Director: Depends on the teachers we have and the confidence we have for them to manage them. Depends on the needs of the class, some classes have multiple special needs children and don’t want to put too many kids in the classroom

[Another center:]

Interviewer: How did you decide on that response? What factors did you take into account to come up with that estimate?

Director: It depends on the classroom. If there are children with special needs or if it is a group that needs a lot of attention, we will not add children to that classroom, until the teacher is ready. As long as the budget can handle it, the enrollment is hold off. This year we have a lot of one age group but not others. We could add more of the 4s.

[Another center:]

Interviewer: If so, how do you decide how many children you can serve? How often do you review your decision and what factors do you take into account in revising that decision?

Director: We review the decision every time we get a new kid or we lose or get new staff.

It depends on the teachers that we have (our confidence in them to manage the classroom) and it also depends on the other children of the class (we don't want too many special needs children in one class).

Center directors made a similar case about children with behavioral problems. One center in particular explained that it was challenging for them not be able to cancel the enrollment of children with behavioral problems, which according to the director, was not permitted given the fact that they received subsidies.

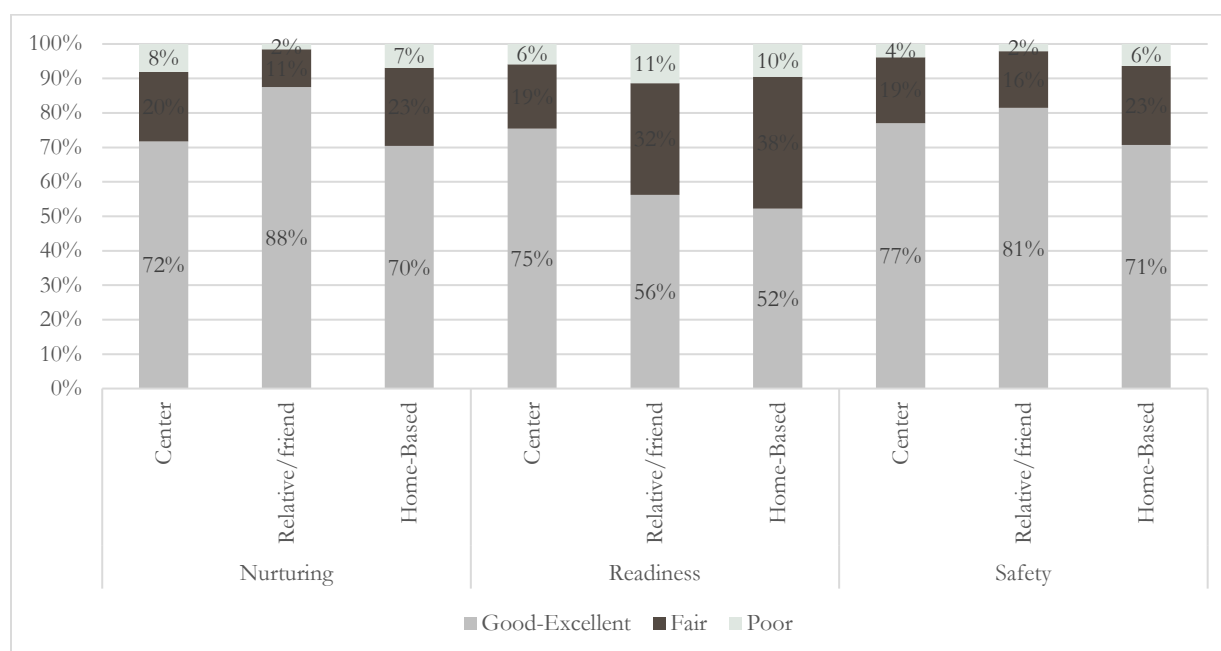
One thing we struggle with a little bit: in the past if we had children enrolled who were violent towards other children we were able to drop enrollment for them. However, as of just recently we are no longer allowed to do that, because we do accept state funding through the vouchers. It has affected our enrollment. We have children who are very violent towards other children and it has upset parents. We have had a couple parents pulled their children because of a violent children in the classroom. Parents expect that we take the child out of the classroom and we explain them that we can't. They get frustrated and they go somewhere else. My understanding is that if we wouldn't accept the Head Start funding, we would be able to drop enrollment. But we really like being able to serve families from many different income brackets.

Quality

Parents' perception of ECE quality

Household survey respondents rated three different aspects of ECE providers: providing a nurturing environment, preparing children to be ready for school, and safety. Respondents rated these characteristics for three-year-old children and for three different types of care: center care, relative or friend care, and home-based child care. Exhibit 25 summarizes these ratings. The first column on the left indicates that 72 percent of households with a child under six rated center care as excellent or good in terms of nurturing, while 20 and 8 percent of households rated center care as fair or poor in terms of nurturing, respectively. While care provided by relatives or friends has the highest proportion of good or excellent ratings with respect to nurturing, center care is evaluated as best with respect to school readiness. 88 percent of parents rated the care provided by relatives or friends as good or excellent in terms of nurturing, which is between 16 and 18 percentage points higher than the rating of other types of care in terms of nurturing. On the other hand, 75 percent of parents rated center care as good or excellent with respect to school readiness, a proportion that surpasses other types of care by around 20 percentage points. Parents rated all types of care similarly with respect to safety.

Exhibit 25: Proportion of Households that Rate Different Quality Characteristics between Excellent and Poor for Different Provider Types

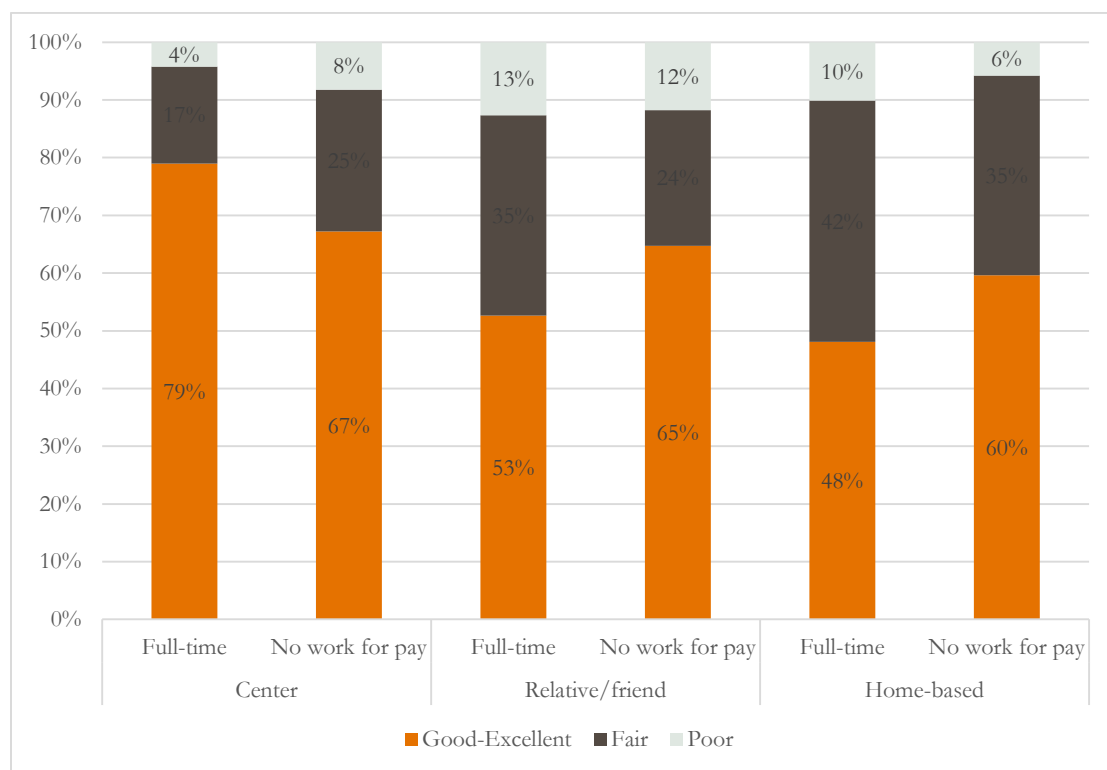


Note: Only households with children under the age of six

Source: Arkansas ECE Household Web Survey.

Exhibit 26 displays parents' ratings of different types of care with respect to school readiness by mothers' work status. Among households with child under six, 79 percent of households where the mother works full time and 67 percent of households where the mother does not work for pay rated center-based care as excellent or good in terms of helping three-year-old children get ready to learn in school. Households with working mothers see centers as stronger on school readiness promotion than relative/friend care or home-based providers, while households with non-working mothers do not perceive much school readiness difference in the different types of care. It may be that non-working mothers have less exposure to the different types of care and so less information on which to base perceptions.

Exhibit 26: Perceptions of School Readiness Promotion among Types of Care, by Maternal Work Status

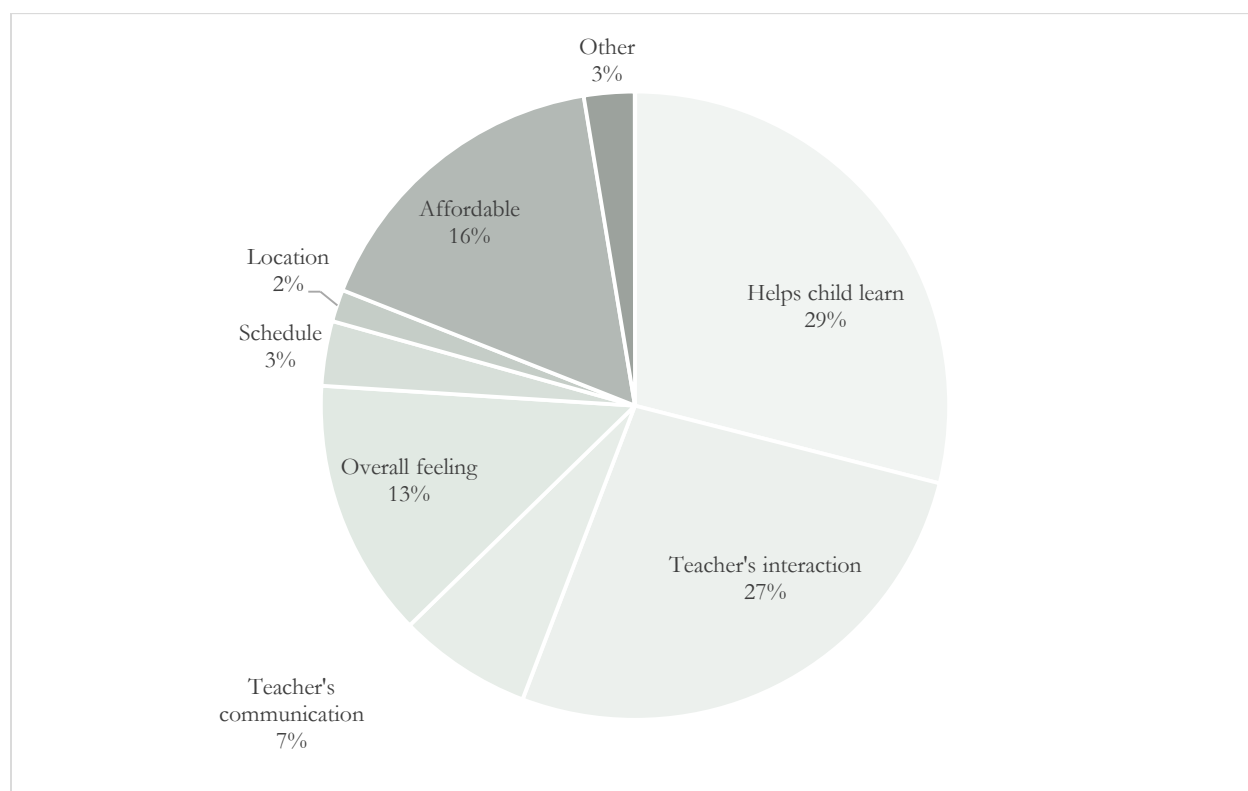


Note: Only households with children under the age of six. The part-time category was omitted because there are not enough observations.

Source: Arkansas ECE Household Web Survey.

The survey questionnaire also presented respondents a list of eight attributes of child care centers and asked them to select two attributes that would be most important to them if they were considering placing their three-year-old child in center care (see question B4 in the household survey in Appendix I). Exhibit 27 below summarizes these responses. The two features selected most often were “how it helps my child learn” and “how my child’s teacher interacts with my child”. These two attributes accounted for more than 50 percent of responses. “Cost is affordable for my family” and the “overall feeling I get about the center” were selected more than 10 percent of the time each. The least important attributes were the location and schedule of the facility.

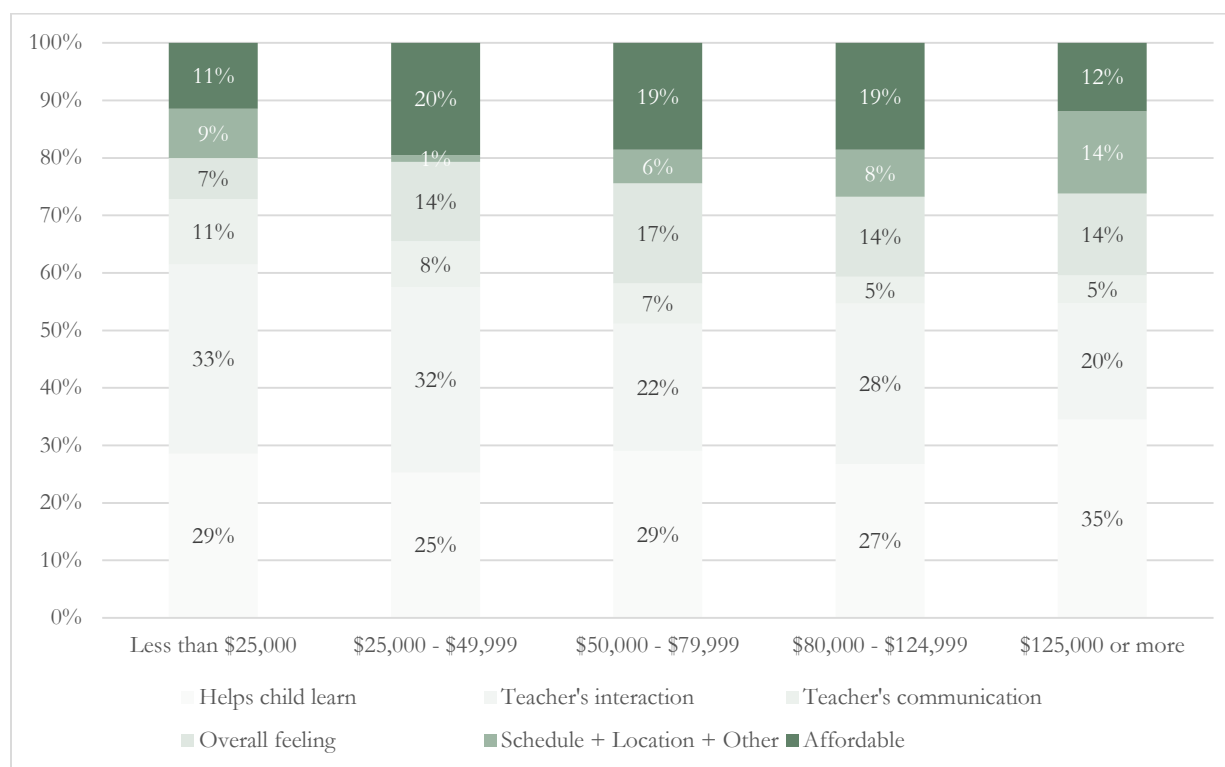
Exhibit 27: Most Important Attributes of a Child Care Center



Note: Only households with children under the age of six
Source: Arkansas ECE Household Web Survey.

Exhibit 28 shows the two most important attributes of a child care center selected by households for different income brackets. Both poorest and richest households are less likely to choose affordability as an important attribute if they were considering placing their three-year-old child in center care. Another aspect worth noting is that the two characteristics related to teachers, teachers' interaction and communication, show a decreasing trend with income. While for households earning less than \$25,000 the teachers attributes account for 44 percent of the responses, for households with income of \$125,000 or more the proportion is 25 percent.

Exhibit 28: Most Important Attributes of a Child Care Center, by Household Income



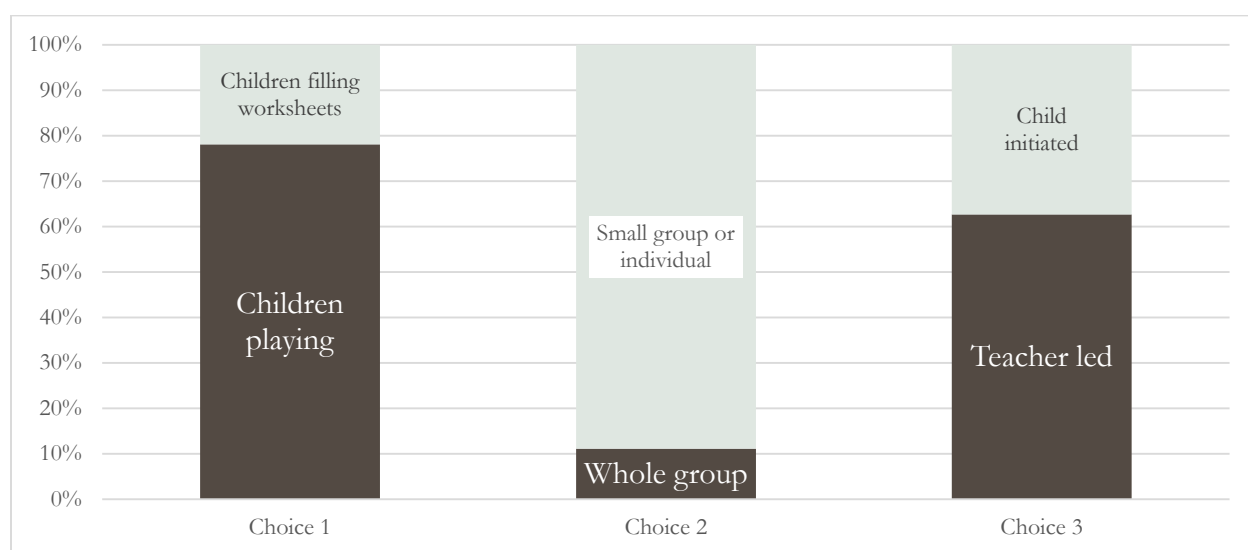
Note: Only households with children under the age of six

Source: Arkansas ECE Household Web Survey.

To further understand parents' definition of high quality ECE providers, the survey presented respondents three pairs of pictures, each depicting a hypothetical classroom setting where young children may be receiving care. Pictures in each pair were labeled classroom A or classroom B. For each of the three pairs of pictures presented to parents, parents were asked to select a classroom that would best fit with their three year old child (for the specific pictures used, see questions B2_intro, B2, and B3 in the household survey, included in Appendix I). The specific wording of the question was "Please think about your youngest child and what type of center care might be good for that child at age 3 years. If your youngest child is older than 3 years, think about what type of care might have been good for your child at that age."

Exhibit 29 shows households' preferences for each pair of classroom depictions. The first column on the left indicates that 78 percent of households with a child under six reported they preferred a classroom where children are playing than a classroom where children were completing worksheets. Consistent with this preference, the middle column shows that a majority of respondents did not think that a classroom where all children are engaged in the same activity would fit their child's needs (as part of choice set 2, 89 percent preferred a classroom where children were engaged in a variety of activities). Respondents, however, did not always prefer a setting where children were playing. When presented with the third choice set, only 37 percent of households thought that children playing on their own would suit the needs of their child and most parents thought that a classroom where a teacher reads to children sitting in a circle would better fit their child's needs.

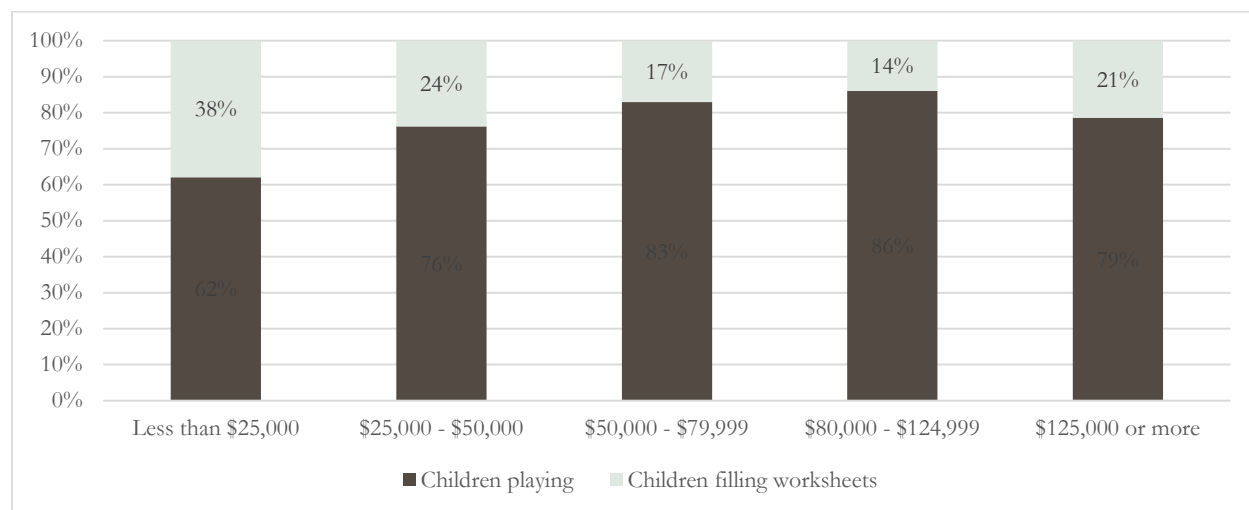
Exhibit 29: Households Preferring a Particular Classroom Setting for a Child at Age Three



Note: Only households with children under the age of six
Source: Arkansas ECE Household Web Survey.

Exhibits 30 and 31 show the proportion of households that choose between classroom settings for different income levels. Exhibit 30 indicates that for the first four income brackets, the lower the income the lower the proportion of households that prefer children playing over children filling worksheets. Households earning less than \$25,000 exhibit the lowest proportion (62 percent) which is 16 percentage points less than the average. Exhibit 31 shows that while on average 89 percent of households prefer a setting where children are in multiple activities, only 68 percent of the poorest households have the same preference.

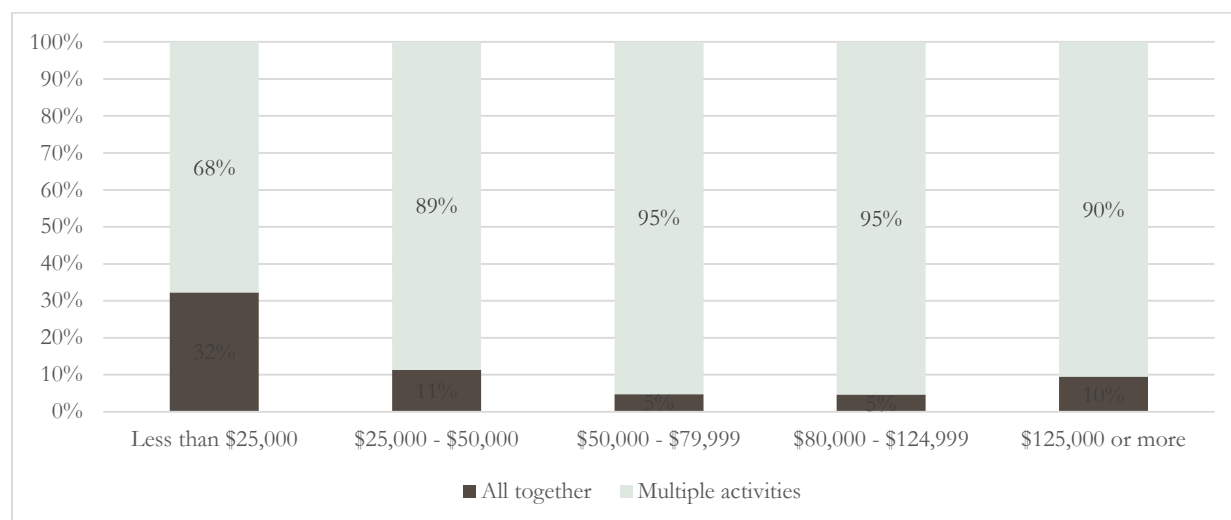
Exhibit 30: Households Preferring Academic Worksheets to Play in Classrooms (at Age 3), By Household Income



Note: Only households with children under the age of six

Source: Arkansas ECE Household Web Survey.

Exhibit 31: Households Preferring Whole Group Classroom Settings to Classrooms with Small Group or Individual Activities (at Age 3), By Household Income

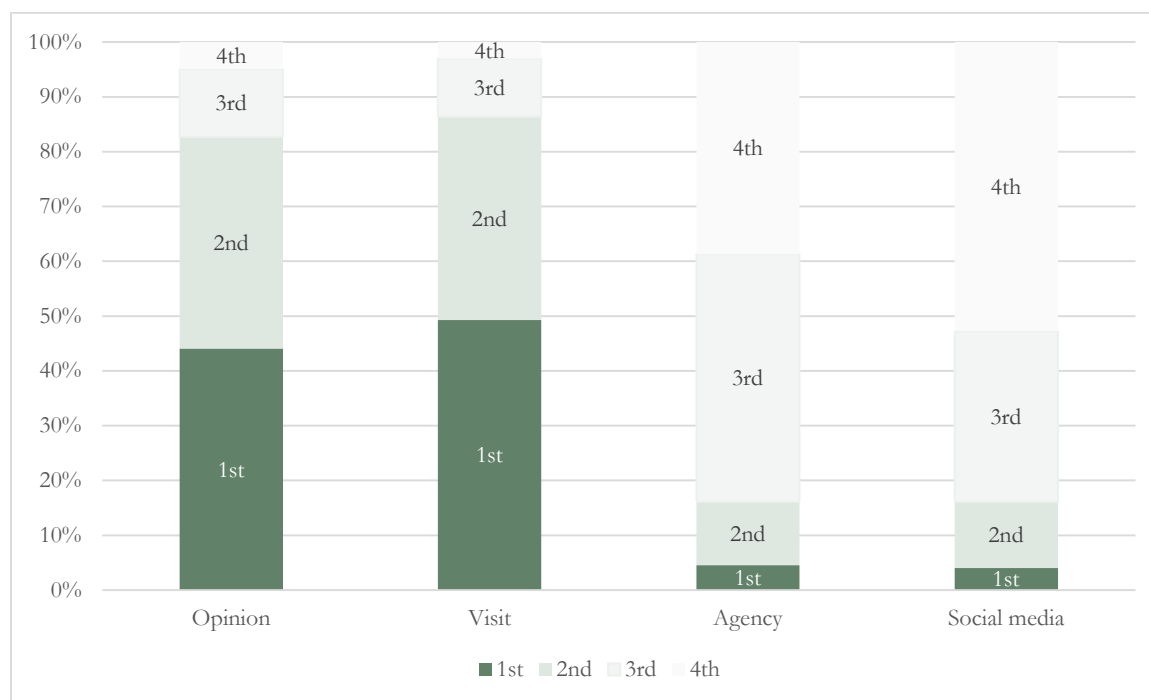


Note: Only households with children under the age of six

Source: Arkansas ECE Household Web Survey.

The household survey also asked respondents about the sources of information they might consult to obtain information about child care options. Respondents were presented four different sources and were asked to rank their usefulness in terms of how they would help them make a decision about a center for their child. Exhibit 32 shows that the majority of respondents perceived that opinions of friends and family and their own visit or phone call to a center were most useful, ranking these sources of information first and second more than 80 percent of the time. In contrast, respondents thought that an agency that provides objective ratings of a center’s quality of care and websites or social media with comments from people in their community were least useful, ranking these sources of information in third and fourth place most of the time. Social media was ranked fourth by more than 50 percent of the respondents.

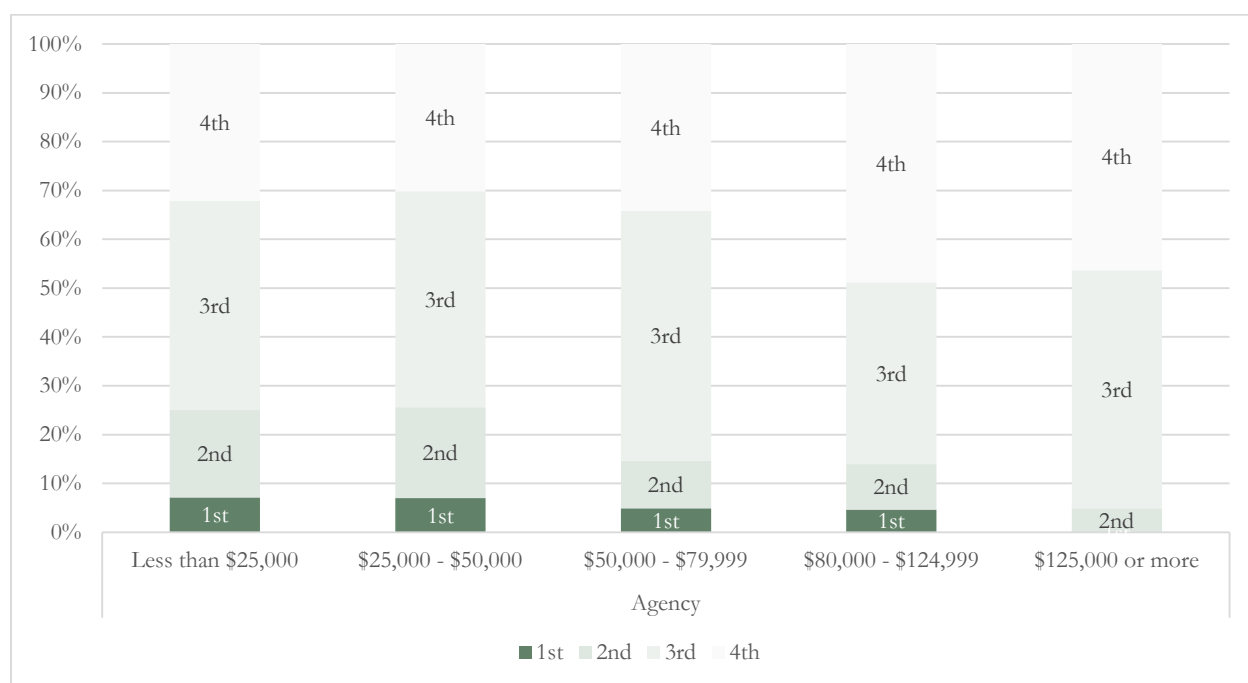
Exhibit 32: Ranking the Usefulness of Information Sources to Make Decisions about Centers



Note: Only households with children under the age of six
Source: Arkansas ECE Household Web Survey.

Exhibit 33 shows how households of different income levels ranked one specific information source, namely, agencies providing objective ratings of a center's quality of care. The first column on the left indicates that for households with annual income lower than \$25,000, the information from an agency's quality rating was ranked first, second, third, and fourth by 7, 18, 43 and 32 percent of respondents respectively. The proportion of respondents that ranked agencies providing quality ratings first and second decreases as household income increases. While more than 20 percent of parents in the two lowest income brackets thought agencies were useful sources of information, ranking them first and second, less than 5 percent of respondents from the highest income bracket thought agencies useful information sources. It is unclear how to reach the highest income households with information about available options given their low rankings of quality rating system-type agencies whose primary function is to improve consumer information, especially by web.

Exhibit 33: Ranking of Agencies that Provide Quality Ratings Among Information Sources, by Household Income



Note: Only households with children under the age of six. Household annual income received in 2016 across all sources.
Source: Arkansas ECE Household Web Survey.

What do center directors report about quality?

Priorities for quality improvements

The overwhelming majority of center directors indicated that teaching staff is the key priority for quality improvement. While some center directors emphasized the need to increase compensation for current staff, others emphasized the need to hire additional staff in order to improve staff and children's classroom experience. Other directors highlighted specific characteristics they associate with high quality staff, such as faith, knowledge of curriculum, and regular use of observations and assessments of children that may inform teachers' lessons plans.

Center directors thought that teacher retention was directly linked to increased wages and benefits. As two center directors noted, teacher retention was linked to quality, for it allowed children to get consistency of care and the center to benefit and build upon the initial investment in their staff.

Interviewer: If you were to receive any help you wanted to improve the care you provide to children, what would you prioritize?

Director: My first priority would be some way to help subsidize my teachers' pay or benefits, because we have had some amazing teachers who left to go into retail or some other area that was really not truly their passion but paid better. We could have better consistency in care and retain some of those teachers who are really passionate about working with kids if we could afford to pay them better than we can. [...] We have lost several, fantastic staff for those reasons in the past. That is why I would prioritize that first of all. But also we could be more selective about who we hire. If we have a staff member who is okay but not fantastic, I wouldn't feel so bad about letting that person go. I feel I could have higher expectations on my staff if I could pay them better.

Interviewer: Is it more challenging to recruit or retain?

Director: It's not challenging to recruit but it is challenging to find quality caregivers, quality teachers who can afford to live off of the pay that we offer. So, I would say retaining is more difficult than recruiting.

[Another center:]

Interviewer: If you were to receive any help you wanted to improve the care you provide to children, what would you prioritize?

Director: I would say one of my main things would be to be able to pay the staff how we would like to. With pay and benefits come retention, so that would definitely be a big priority. [...] Part of quality is your turnover rate. The more you can keep your staff retained that looks better on you and you are pouring into them so they have the training and the skills that you have poured into them, which just keeps building a higher quality”

As the following two quotations illustrate, center directors argued that having additional staff in the classroom would help them better address children’s educational and socioemotional needs, as well as help with varying needs of children and staff, such as the integration of new children, children who need special attention on a particular day, or coverage for staff’s absences.

[Another center:]

Interviewer: If you were to receive any help you wanted to improve the care you provide to children, what would you prioritize?

Director: Having more staff on hand. It would be nicer to have lower ratios, to have more teachers or teacher aides in the classroom. I think that would be my number one. If I had the option of... what could we change or where could we look at, that would be something that would be top priority for me, to have more staff or aides in the classroom to just help out.

Interviewer: In which sense would that improve the care you provide to children?

Director: It would give more one on one. I think that’s so vital. When they are little like this... We forget that children are humans. They have the same emotions. Just because we are adults it doesn’t mean we are entitled to have a bad day or be in a grouchy mood and they are not [...] For them, it may be on different scale, about what worries them or what bothers them or what affects them. Just to be available, to have more teachers in all areas. Whether that is sitting down and working with a student who is struggling to learn the alphabet sounds. Maybe just having an extra teacher that... maybe we have a student in the classroom who is just having a bad day. They are having a rough day, they are super emotional. Maybe that teacher can just sit by them, hug on them, talk with them, just pour into them. It would be nice to have those extra hands. Because when you have 25 students in a classroom and two teachers, even that, it’s really hard to get a lot of one on one with every student in one solid day. [...] That would in turn significantly improve the program. You would notice the difference within the children, both in the social aspect and in the educational aspect.”

[Another center:]

Interviewer: If you were to receive any help you wanted to improve the care you provide to children, what would you prioritize?

Director: If I could have anything, I would be an extra person in each room or just a few more hands available for busy days or helping when someone is especially upset or a new child that the teacher needs to focus on for a while. Sometimes that gets a little hard if I'm short on people. More people would be great if I had the budget for more people. [...] If someone is out for the day, then I become the teacher. I'll go in and be the teacher, which I love, I've been a teacher for 14 years, but it leaves a blank, a hole outside the classroom of things I could be doing or things I could help with. Just to have extra hands is nice if you have someone who is absent. That also helps the teacher know that they are not causing a problem if their child is sick or they are sick or have had a flat tire or something. It lends a little more security during the day.

As noted, staff-related issues are central to directors' understanding of the level of quality they currently offer or could offer in the future. Three center directors also mentioned facilities as an important priority for quality improvement, including the availability of an indoor gross motor room or updates to the outdoor playground. Directors indicated that improvements in facilities would increase children's safety and allow them to develop new activities and learning opportunities.

[Another center:]

Director: [I would want] a new playground, with a big tall privacy fence, because the neighborhood kids jump over the fence and tear up stuff or take our balls or things like that. [...] The outdoors is an area in which we need to have increased safety, increased curriculum, increased activity [...] That is where the increase in quality would be focused on.

Perception of Better Beginnings

Centers that are not participating in Better Beginnings (0 stars) expressed strong arguments for not participating in the program and had no short-term plans to join the program. Some of the arguments were “philosophical” in nature, such as not sharing Better Beginnings’ pedagogical approach. Other arguments were financial, meaning that joining Better Beginnings would result in a required increase in prices because of the need to purchase additional materials, such as a curriculum. On the other side, centers participating in Better Beginnings had a clear vision about what it would take for them to maintain or increase their rating. Participation in Better Beginnings seems to allow centers to focus on key, measurable, next steps. For these centers, directors’ understanding of quality aligned with that of Better Beginnings.

Two center directors reported that they were not participating in Better Beginnings because they wanted to maintain their independence and be able to implement their own pedagogical approach.

Director: ...right now it has not been one of our focuses. I have been to one of the [Better Beginnings] classes to get the ratings...I’ve got the booklet, it says you have to have this, you have to have that and there was very few things that we didn’t have. So I just have not pursued that any further. One of the things that here at our church we want to make sure that we can do things the way we need to do them. We do want to provide the best care and we want them to understand but we also want to be independent.

[another center, not rated in Better Beginnings:]

They call me every year. They call me every year and they say ‘We know you are a good center. We need you do the Better Beginning.’ My issue is that I’m just old. I’m getting old and I hear it’s a tremendous amount of paperwork. I’m old fashioned. I probably don’t teach my class the way they want me to. They don’t like me to teach writing. They don’t like me to teach phonics. I’m just very old fashioned. I like to teach my class the way I like to teach my class. Sorry, it sounds so bad but I feel confident that I do a very good job with my kids. When they leave, they are more than prepared for Kindergarten. That’s all I ever hear. I have teachers in the public school system calling me and saying ‘I want my child at your center.’ I’m not ready for someone to come in and tell me to do it their way. Funding or no funding.

Center directors both participating and not participating in the program indicated that increasing their rating in Better Beginnings would have implications for their costs and the prices they charge parents.

Most center directors reported that quality increases have a cost attached to them in terms of additional materials or higher wages for more qualified staff.

[center not rated in Better Beginnings:]

Interviewer: If it were possible to increase this rating, what would be the implications for the prices you charge?

Director: Again probably none. If it became evident that we were going to have to increase our financial resources to maintain that rating then I might have to increase tuition. But I would then probably not seek that rating unless I had to...keeping tuition low is really a priority.

[another center, not rated in Better Beginnings]

Interviewer: If it were possible to increase this rating, what would be the implications for the prices you charge families?

Director: I don't know. I'll have to get items for each room and each classroom. I think [the price] would probably go up because we would have to have materials for each room to meet the needs of the Better Beginnings program.

[another center, 3 stars in Better Beginnings]

Director: ... We started as a Level 1, and then went to Level 2. We sat at a Level 2 for a while just trying to train our staff to make sure we could get that Level 3. We had to do so much educating our parents, about why Level 3 was important and why they want that for their child. We had people that left when we increased our rates by \$10 per week. We tied in that increase with our Level 3. So, hey, here is indication that we're growing our quality and there is a cost attached to that, but for some parents either it's not important or they cannot afford that cost increase attached to quality. There is a cost increase. Either they will have to pay it or it has to be subsidized and I don't get that. I don't get any of that.

Interviewer: So if it were possible to increase this rating further, what would be the implication for the prices you charge?

Director: They would definitely go up! Because there is a possibility to increase that because I could become NAEYC accredited but that cost increase is going to fall directly into staffing because you have to compensate for those masters degrees.

This director's comment references the accreditation process of the National Association for the Education of Young Children (NAEYC), perhaps the most rigorous and widely respected indicator of quality in early childhood centers.

Only one center director indicated that a higher rating in Better Beginnings might benefit the center financially, mostly stemming from additional enrollment. Because of the low reimbursement rate, this center was not currently accepting subsidized children. The director indicated that once they moved from a one to two-star rating, they would be able to enroll subsidized children because they would be allowed to charge a co-pay.

[center with 1 star in Better Beginnings]

Interviewer: So if it were increase the rating from one to two stars, would there be the implication for number of children you can serve?

Director: No. Well, actually, maybe. The reason why we don't take any subsidy children is because we lose money, because they have a cap on how much they will pay and it doesn't match, it's less than our regular tuition. But once we get our second star we are able to charge the difference to the parents so then we would be able to accept the subsidy kids

Directors of centers already participating in Better Beginnings reported alignment between their own definition of high quality and Better Beginning's definition. Furthermore, some center directors indicated Better Beginnings had allowed them to think more widely about quality and looked for alternative quality standards, even higher than those implemented by Better Beginnings.

[center with 1 star in Better Beginnings]

Interviewer: Is your own definition of quality similar to the definition of quality in Better Beginnings or is it different?

Director: I would say similar. My expectations are a little higher for infants and toddlers because, mostly, that's my thing.

Interviewer: You mean higher than Better Beginnings?

Director: Yes. Just because I've worked for an NAEYC accredited school as a toddler teacher and expectations are way higher, but I felt like it was really best practice so that what I encourage my teachers to do.

Interviewer: Could you give an example of how the NAEYC expectations would be higher than the Better Beginnings expectations for infants and toddlers?

Director: Let me think. So, for Better Beginnings, for ITERS, they require a certain level of interaction with the babies and they require certain types of interactions as far as the use of language and things like that. I feel like NAEYC takes it to another level as far as the details of the interactions that they are looking for. Even the portfolio that you have to put together, for Better Beginnings it's one per school, but for NAEYC is one per classroom and I think it's better for those teachers to keep that accountability than to make the director do it for them. It always keeps those things in their minds.

[another center with 2 stars in Better Beginnings]

Interviewer: How would you define the quality of the service you offer families? Is that definition similar to Better Beginnings?

Director: Yes, it is I think mostly because I've been going through the Better Beginnings program it has really helped me shape my idea of what quality centers look like. For me it's something I work towards. I work towards Better Beginnings ideal for what a quality center looks like. However I've recently also been looking at NAEYC requirements for their accreditation and because once we hit level 3 in better beginnings I don't just want to stop there I would like to look at ideally NAEYC accreditation someday. I have been looking at that as well as a long term goal and have adapted a lot of their quality ideals as well.

Interviewer: In your mind, do the NAEYC ideals are those different than Better Beginnings?

Director: Many of them align I just feel like many of these requirements for Better Beginnings program are things that you can display a quality center one time, get your Better Beginnings level and then everything can backslide and retain that accreditation. With the NAEYC accreditation it's more of ingrained philosophy in your center and I don't feel like it's something you can display one time, get your ratings and go back to what you were doing before. It involves a whole lot more of your philosophy.

Parents' and Providers Perspectives on Tradeoffs with Quality

Parents' Perspectives on Tradeoffs with Quality

This section explores the relative importance of different attributes of ECE that may influence parents' choices of center-based providers. In the household survey, respondents were asked to choose between two hypothetical center-based providers that varied in terms of price, quality, distance and schedule (Appendix I includes the actual tables that respondents of the household questionnaire were asked to choose from). Respondents could choose between two alternative centers or select a "Neither Center" option. When "neither center" was selected, the respondent might have been considering alternatives to centers, such as care provided by a relative or family member. Each comparison included combinations of four different attributes of center-based providers (price, quality, distance, and schedule). In each comparison, two attributes were held constant and two varied. The level of the attributes were the following: (1) quality: poor, average, and excellent; (2) cost per week: \$0, \$50, \$100; (3) distance: 10 minutes from home (near) and 30 minutes from home (far); (4) schedule: meets your preferred schedule (convenient) and an hour a day mis-match with your desired schedule (not convenient).

The median weekly listed full-day price in Benton and Washington counties ranges from \$135 for preschoolers to \$170 for infants, and the 25th percentile of weekly prices ranges from \$125 to \$150 for the same age categories. When interpreting the results, readers can keep in mind that current listed prices appear to be higher than options given to parents in the questionnaire. At the same time, we know that most parents pay a portion of the listed prices, since they get discounts, subsidies, or attend less than full-time. One challenge might be how parents would identify differences in quality, since many of the quality investments mentioned by providers in their interviews might not be visible to parents seeking child care arrangements.

Quality versus other attributes

A majority of parents were willing to accept a center far away, with higher prices, or an inconvenient schedule in exchange for better quality. Between 50 and 70 percent of parents preferred a center with better quality to a center with other attributes, such as a lower weekly price or a location closer to home. Among parents who prefer attributes other than quality, they were willing to accept a decrease in quality only if they traded an excellent quality center with an average one, but not quality below that. Less than 5 percent of parents were willing to choose a center that is closer, cheaper or had a more convenient

schedule, if quality decreased from average to poor. The data indicate that as perceived quality declines, parents are more likely to opt for other (non-center) types of care or perhaps not use non-parental care.

Exhibit 34 shows the proportion of respondents in the household survey that chose different combinations of distance and quality, for different prices. The first column on the left shows the tradeoff between distance and quality for two center-based providers that cost \$0 to the parents. Estimates show that, holding price constant, 70 percent of households with a child under six preferred a center of excellent quality to a center of average quality that was closer to home. This means a majority of parents was willing to accept a center that was further from their home in exchange for higher quality care for their child. Depending on the price and quality tradeoffs, between 50 and 70 percent of parents preferred a better quality center to one that was nearby.

This pattern of tradeoff between distance and quality changes when the price of care increases. As Exhibit 34 shows, as price increases, fewer parents were willing to accept a center that was further from their home in exchange for higher quality care. As the price increases, a higher proportion of parents selected neither center when asked to make a choice between quality and distance, suggesting that they were unhappy with both options presented to them.

Exhibit 34: Parents' Preferences Trading Off Quality and Distance, by Price (Only Convenient Schedule)



Note: Only households with children under the age of six. Options presented to respondents did not change the schedule attribute and only included centers that meet the respondent's preferred schedule.

Source: Arkansas ECE Household Web Survey.

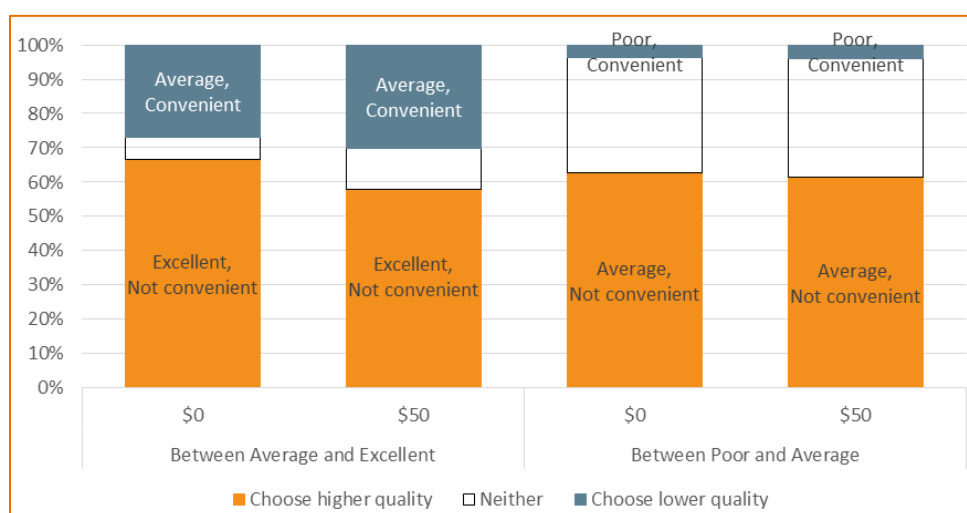
Exhibit 34 also shows that when asked to make a tradeoff between an average and poor quality center, fewer parents were willing to choose any center-based provider. For example, the column on the far right shows that among centers with a high price (\$100 per week), around 50 percent of parents preferred a

center of average quality that was further away, but less than 5 percent selected a center of poor quality that was closer to home. The remaining 45 percent preferred neither of the alternatives presented.

The household survey also presented respondents with centers of different combinations of quality (excellent, average, or poor) and schedule (meets preferred schedule or one hour mis-match with desired schedule) at different weekly costs and asked them to choose between two options. As Exhibit 35 shows in the first column on the left, when the cost to parents is \$0, 67 percent of households with a child under six preferred a center of excellent quality with an inconvenient schedule to a center of average quality with a convenient schedule. Six percent of households were unwilling or unable to select either center. In general, a majority of respondents were willing to accept a center with an inconvenient schedule in exchange for an increase in the quality of care for their child.

When presented with tradeoffs between quality and schedule at higher price points, around 60 percent of parents selected a center of better quality regardless of price or convenience. On the other hand, approximately 30 percent of parents were willing to accept a lower quality center with a convenient schedule if quality decreased from excellent to average. The proportion of parents willing to accept a decrease in quality dropped to five percent when the level of quality decreased from average to poor. When quality decreased from average to poor, parents were more likely to abstain from choosing either center (and therefore, selected the option ‘neither center’) than to accept poor quality or an inconvenient schedule.

Exhibit 35: Parents’ Preferences Trading Off Schedule and Quality, by Price (Only Centers Located Nearby)

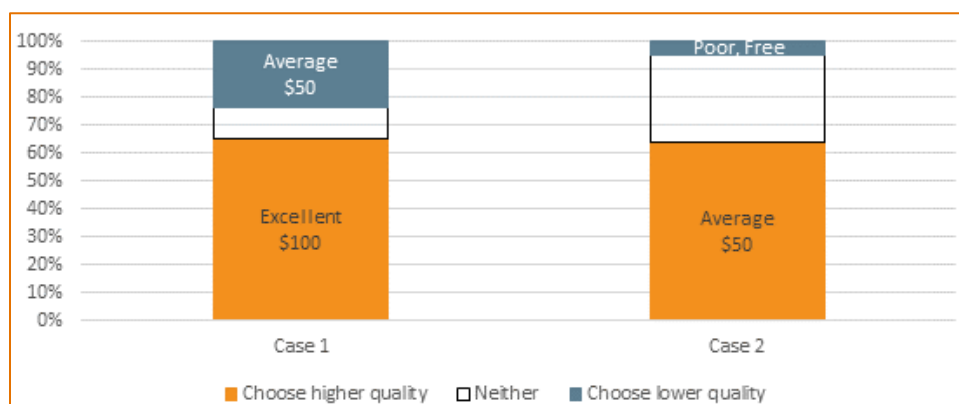


Note: Only households with children under the age of six. Options presented to respondents did not change the distance attribute and only included centers located nearby, that is, 10 minutes from home.

Source: Arkansas ECE Household Web Survey.

When presented with tradeoffs between price and quality alone, households were generally willing to accept a higher price in exchange for better quality. The first column on the left in Exhibit 36 shows that 65 percent of households with a child under six preferred a center of excellent quality and a price of \$100 a week to an average-quality center with a price of \$50 a week. Eleven percent of the households were not willing to make this tradeoff between price and quality and selected neither of these two centers. The column on the right shows that although nearly two-thirds of households had been willing to accept a high price in exchange for high quality care, in this scenario 25 percent opted for an average quality center when the price decreased to \$50 a week. Notably, less than 5 percent of respondents were willing to select a center with poor quality even when its price was \$0. The large portions of households on the right side who choose neither option illustrate why many families opt for home-based care or no non-parental care rather than center-based care; in these responses, they are saying that they will not choose center care at all if their only affordable price point is associated with unacceptably low quality.

Exhibit 36: Parents' Preferences Trading Off Price and Quality, by Distance (Only Convenient Schedule)



Note: Only households with children under the age of six. Options presented to respondents did not change the schedule attribute and only included centers that meet the respondent's preferred schedule.

Source: Arkansas ECE Web Household Survey.

Distance and price

The household questionnaire also asked respondents to choose between two hypothetical centers with various combinations of price per week (\$0, \$50, \$100) and distance (10 minutes from home or 30 minutes from home) at different levels of quality. Exhibit 37 shows that, if the quality of care were excellent, 43 percent of households with a child under six preferred a center that was farther from home and free to a center that was closer to home and cost \$50 a week. Roughly 5 percent of the households were unwilling to select either option. In general, the proportion of respondents that prefer price over distance is similar to the proportion of respondents that value distance more than price. As quality decreases or price

increases a higher proportion of respondents are unwilling to choose any of the options presented to them. For example, as mentioned above, when quality is excellent and the tradeoff is between a nearby center with a price of \$50 and a distant center with a price of \$0, roughly 5 percent of respondents abstain from making choice. However, when quality is poor, around 65 percent of respondents are unwilling to choose any of the two presented options. This is consistent with parents' strong preference for quality.

Exhibit 37: Parents' Preferences Trading Off Distance and Price, by Quality (Only Convenient Schedule)

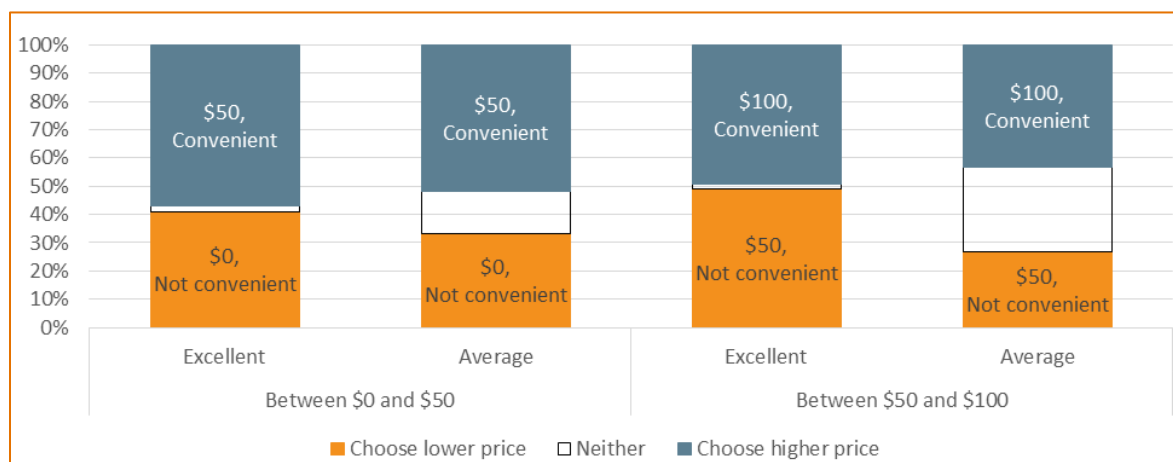


Note: Only households with children under the age of six. Options presented to respondents did not change the schedule attribute and only included centers that meet the respondent's preferred schedule.

Source: Arkansas ECE Household Web Survey.

Schedule and price

When asked to make a tradeoff between different combinations of price and schedule for centers of different quality levels, between 43 and 60 percent of parents were willing to accept a higher price in exchange for a convenient schedule. As the first column in Exhibit 38 indicates, if the quality is excellent, around 60 percent of households with a child under six preferred a center with a convenient schedule and a price of \$50 per week to a free center with an inconvenient schedule. Two percent of the households were unwilling to select either option. In general, the proportion of respondents that prefer a convenient schedule over price is similar or higher than the proportion of respondents that value price more than a convenient schedule. Additionally, as quality decreases, a higher proportion of respondents are unwilling to choose any of the options presented to them. For example, when quality is excellent and the tradeoff is between a center with a price of \$50 and an inconvenient schedule and a center with a price of \$100 and a convenient schedule, 2 percent of respondents indicate that they would choose neither center. However, when quality is only average, 30 percent of respondents abstain from making a choice.

Exhibit 38: Parents' Preferences Trading Off Schedule and Price, by Quality (Only Centers Located Nearby)

Note: Only households with children under the age of six. Options presented to respondents did not change the distance attribute and only included centers located nearby, that is, 10 minutes from home.

Source: Arkansas ECE Household Web Survey.

Providers' perspectives on the cost of high quality

Maintaining high quality services is an expensive proposition for most centers. High quality teaching staff is perceived as a central component of high quality services and yet high quality staff are expensive to recruit and retain. It should be noted that labor costs constitute centers' largest expense. On average, centers in this study reported that labor costs amount to two-thirds of their overall direct costs. The cost of high quality staff seems even higher. A couple of directors mentioned that staff turnover required them to have strong training and mentorship programs in place so that new teachers could get up to speed in a short timeframe.

Offering high quality services often involves tradeoffs with prices charged to parents and the number of children served. The following exchange illustrates the challenge one center director faces, as she attempts to maintain high quality care while keeping prices affordable. She reported that if she were to achieve the level of quality she envisions, she would need to charge 20 percent more than what she is currently charging parents. This price increase would allow her center to serve only well-off families in the area, an alternative she does not favor.

Interviewer: Can you please let me know how does your center balance (i) the prices you charge with (ii) the number of children you serve, and (iii) the quality of care you are able to provide to children?

Director: It's difficult. It's very difficult to balance all that. Ideally, we would need to charge far more than we do charge. I feel like we would be out of line for this area if we were actually charging the amount that I feel would help us to achieve the level of quality that I would like to see happening. I read about early childhood education in big cities, about the much lower ratios, and the much higher standards. Many of those lower ratios and higher standards are just part of their minimum licensing, it's not even a quality accreditation. I see that but there is no way we can charge the rate in this area of Arkansas to achieve the same low ratios and high level of teachers' degrees that they have elsewhere. So, it's very difficult. I feel like it's a money issue. I hate saying that because we are not in this business for the money. But I do feel it's a money issue, and there is not a good answer to it, aside from raising your rates or lobbying your government for changes and I don't have time for lobbying the government.

Interviewer: In a hypothetical world, how much more would you need to charge in order to achieve the quality of care that you would like to offer?

Director: I feel like we would need to charge probably about 20 percent more than we are right now to achieve that high level of quality that I see elsewhere, that I would like to be able to also achieve. I have staff that would be perfectly willing to go get their bachelor's degree in early childhood education if it was paid for, and I don't have the means to help them pay for it. I have classrooms that would be functioning beautifully (you know, like that picture-perfect classroom that you see in those YouTube videos online) if we had lower ratios in the classroom or if we had more classroom support, if we could afford to hire more support, more aides. Ideally, those classroom-support and aides would not just be minimum wage positions, but they would be people who have masters in child development who can step in and help in the classroom with those behavior issues and can help guide the teachers. Right now we pay higher than minimum wage, but they are much like entry-level low wage positions. Ideally, those aides would be the people who have their masters on child development who have all of this experience and knowledge to help guide and mentor the teachers. I feel it's very flip flop right now. It's very hard to recruit people who have their master's or even their bachelor's in child development or early childhood education because there are not many people getting those degrees, and when they do, they are usually directors, not teaching staff. I feel that many people are deterred from getting

their degree because there is no big payoff. What is the point of getting a degree if I will get paid about the same as I would without the degree?

Interviewer: If you were to charge 20 percent more, that would put you way above what other centers in your area charge?

Director: Yes.

Interviewer: You may have no family able to pay at that price point...

Director: Right. We don't want our tuition rates to be so high that we only serve the extremely well-to-do families in the area. That's another reason we do have a Head Start classroom and we do accept vouchers. As we want to hit all those different socioeconomic brackets.

References

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- Zaslow, M., Tout, K., & Martinez-Beck, I. (2010). *Measuring the Quality of Early Care and Education Programs at the Intersection of Research, Policy, and Practice*, OPRE Research-to-Policy, Research-to-Practice Brief OPRE 2011-10a. Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

Appendices

Appendix I: Household Questionnaire

Sections of questionnaire

Section A – Introduction and Screener
 Section B1 – General Perception of Quality of Care
 Section B2 – Quality of Care Images
 Section C – Pairwise Comparisons on Quality Attributes
 Section D – Demographics

<PROGRAMMER NOTES: GLOBAL SURVEY REQUIREMENTS:

- Respondent can skip all questions (unless otherwise specified). Please fill with 98 “SKIPPED”
- All response options are radio buttons unless otherwise specified.>

Section A – Introduction & Screener

WELCOME SCREEN:

Enter your Survey Personal Identification Number (PIN) into the field below and click 'Submit'.

_____ [PIN Number]

WEB_INTRO. Welcome to the Arkansas Care in Our Community survey. NORC at the University of Chicago is conducting a survey on how families use and think about quality of care for members of their household. Your participation will help local organizations and agencies look for ways to help families find the care they need.

This survey is private and confidential. Taking part is up to you. You don't have to answer any question you don't want to, and you can stop at any time. Almost everyone will be able to finish the survey within 10 to 15 minutes.

Please have the adult in your household (18 years or older) complete this survey.

If you agree to participate in this survey, please click “Next” to continue.

REENTER. [INTRO TEXT FOR RE-ENTRY AFTER WEB BREAKOFF]

Welcome back to the Arkansas Care in Our Community survey!

Thank you for the time you have spent answering the survey so far. We still have a few more questions. Click "Next" to resume the survey.

To complete the survey by telephone, or to learn more about the survey, you may call NORC toll free at 800-294-1988.

INSTRUCT. Instructions:

- Please use the 'Next' and 'Back' buttons at the bottom of the page to navigate between screens within the survey.
- Use the 'Exit' button at the top of the page to stop the survey at any time. When you resume, the survey will pick up where you left off. You will need to enter your PIN to re-enter the survey.

- The responses you provide are being collected with software that is designed to secure your data and provide you with confidentiality. However, no one can guarantee complete confidentiality for data that is sent over the Internet.

S1. Are you 18 years or older?

(01) Yes

(02) No **[GO TO EXIT_18]**

EXIT_18. This survey must be completed by an adult (18 years or older) who lives in this household.

If an adult household member is available, please choose "Continue" and click "Next". Otherwise, please have an adult household member complete the survey at a later time. Thank you.

(01) Exit Survey

(02) Continue **[GO TO S1]**

S2. **<PROGRAMMER: IF S2 = DK/REF THEN SKIP TO S5>**

Are there any youth or children age 17 or younger living in this household?

(01) Yes

(02) No **[GO TO S5]**

S3. **<PROGRAMMER: S3 IS A REQUIRED QUESTION; RESPONDENT CAN'T SKIP PAST. PROMPT LANGUAGE SHOULD SAY: "An answer is required to move forward.">**

How many children under the age of 6, including babies, live in this household?

____ [Number]

S4. Does anyone in this household regularly care for a child under the age of 6 who is not the adult's own? The child may live in this household or another.

(01) Yes

(02) No

S5. Are there any adults age 18 or over in this household who require assistance with daily activities such as eating or walking?

(01) Yes

(02) No

S6. Does anyone in this household care for an adult who requires assistance with daily activities such as eating and walking? The care could be in this household or another.

(01) Yes

(02) No

S7. To what extent do you agree with these statements about your neighborhood or community?

*** S7_A. People in this neighborhood help each other out.**

- (01) Definitely agree
- (02) Somewhat agree
- (03) Somewhat disagree
- (04) Definitely disagree

*** S7_B. When we encounter difficulties, we know where to go for help in our community.**

- (01) Definitely agree
- (02) Somewhat agree
- (03) Somewhat disagree
- (04) Definitely disagree

*** S7_C. This community has adequate resources to help families care for their children.**

- (01) Definitely agree
- (02) Somewhat agree
- (03) Somewhat disagree
- (04) Definitely disagree

*** S7_D. This community has adequate resources to help families care for their elderly and disabled.**

- (01) Definitely agree
- (02) Somewhat agree
- (03) Somewhat disagree
- (04) Definitely disagree

S8. How far is your workplace from where you live?

- (01) I don't have a job right now
- (02) I work from home
- (03) I do not have a set workplace
- (04) Less than 3 miles from home
- (05) Between 3 and 8 miles from home
- (06) More than 8 miles from home

QUEX_END. <PROGRAMMER: IF S2 = 2 or S3 = 0 or DK/REF THEN DISPLAY AND EXIT>

Those are all the questions we have. Thank you for participating in this survey. We appreciate your time.

INTRO_QUEX. <PROGRAMMER: IF S3 >0 THEN DISPLAY >

The next set of questions focuses on the services and opportunities available for young children in your community.

Section B1 – General Perception of Quality Care

B1_INTRO. We would like to know how you view different types of childcare for three year old children. Please think about each type of care in general, not any specific program you know of. The types of care you will be asked about are: center care, relative or friend care, and home-based child care.

FOR THE B1 LOOP, X INDICATES QUESTIONS ON THE FOLLOWING TYPES OF CARE:

1=CENTER CARE

2=RELATIVE OR FRIEND CARE

3=HOME-BASED CHILD CARE FACILITY

B1_1_X (X=1 to 3; [TYPE OF CARE])

B1_1. [Let's start with **center care**. Examples of center care include preschools, Head Start, public pre-kindergarten programs like Arkansas Better Chance, or a child care center. /Next, consider **relative or friend care**, where a relative or close family friend cares for a child in the provider's home or at the child's home. /Lastly think about **home-based child care**, where an individual has a child care business in his or her own home and cares for a few or several children there.

How would you rate it on having a nurturing environment for 3-year old children? Would you say it is...

- (01) Excellent
- (02) Good
- (03) Fair
- (04) Poor
- (05) No opinion

B1_2_X (X=1 to 3; [TYPE OF CARE])

B1_2. How would you rate (**center care/relative or friend care/ home-based child care**) on helping 3-year old children be ready to learn in school? Would you say it is...

- (01) Excellent
- (02) Good
- (03) Fair
- (04) Poor
- (05) No opinion

B1_4_X (X=1 to 3; [TYPE OF CARE])

B1_4. How about safety for 3-year olds in center care/relative or friend care/ home-based child care? Would you say it is...

- (01) Excellent
- (02) Good
- (03) Fair
- (04) Poor
- (05) No opinion

B1_5_X (X=1 to 3; [TYPE OF CARE])

B1_5. How about affordability of (center care/relative or friend care/ home-based child care)?
Would you say it is...

- (01) Excellent
- (02) Good
- (03) Fair
- (04) Poor
- (05) No opinion

B1_6_X (X=1 to 3; [TYPE OF CARE])

B1_6. How about flexibility for parents who use (center care/relative or friend care/ home-based child care)? Would you say this type of care is...

- (01) Excellent
- (02) Good
- (03) Fair
- (04) Poor
- (05) No opinion

THE INSTRUMENT LOOPS THROUGH B1_1 TO B1_6 FOR ALL TYPES OF CARE; THEN MOVES TO NEXT SECTION.

Section B2 – Making Choices about Center Care

B2_INTRO. Please think about your youngest child and what type of center care might be good for that child at age 3 years. If your youngest child is older than 3 years, think about what type of care might have been good for your child at that age.

Classroom A:	Classroom B:
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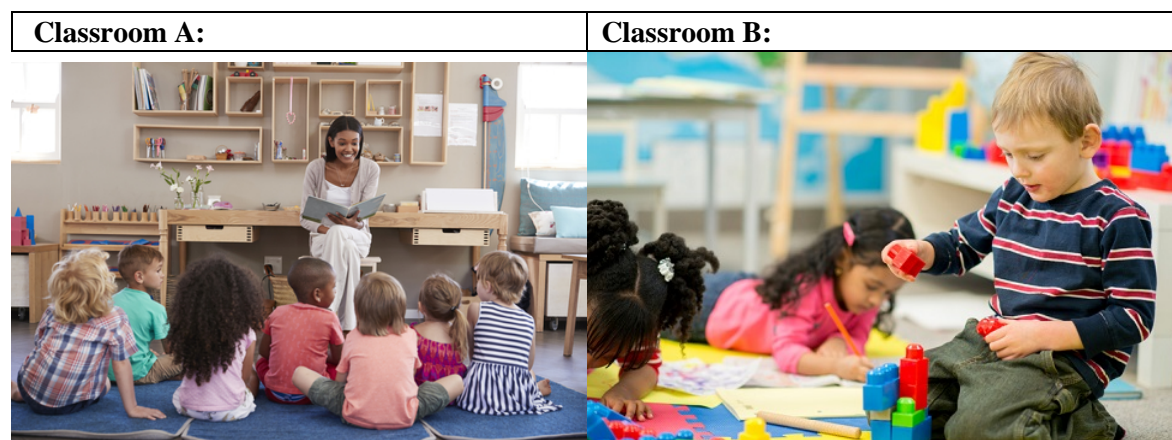


B2. Which of these two pictures shows a classroom that you think would better fit your child's needs? Please select an image.

- (01) Classroom A
(02) Classroom B

Classroom A:	Classroom B:
--------------	--------------





B3. Which of these two pictures shows a classroom that you think would better fit your child's needs? Please select an image.

- (01) Classroom A
- (02) Classroom B

B4. If you were considering putting your 3-year old child in a child care center, which **two** of the following would be most important to you:

- (01) How it helps my child learn
- (02) How my child's teacher interacts with my child
- (03) How my child's teacher communicates with me about my child
- (04) The overall feeling I get about the center
- (05) How well it works with my schedule
- (06) The location of the care
- (07) That the cost is affordable for my family.
- (08) Other, please specify. [OPEN END TEXT BOX]

<PROGRAMMER NOTES: We would like our respondents to be able to choose a maximum of 2 responses. Prompt respondents that do not choose two options with: "Please select two options before moving forward">

B5. **<PROGRAMMER NOTES: THIS IS A RANKING QUESTION. WE WOULD TO BE ABLE TO IDENTIFY RESPONDENT PREFERENCES BASED ON HOW THEY RANK THE OPTIONS.>**

People get information about child care options from different sources. Please rank the following four sources of information from most useful to least useful in terms of how they would help you make a decision about a center for your child?

- 1) The opinions of friends or family
- 2) Your own visit or phone call to a center
- 3) An agency or organization that provides objective ratings of centers' quality of care
- 4) Websites or social media with comments from people in your community

Section C – Pairwise Comparisons on Quality Attributes

In these next questions, we describe different child care centers and ask you to choose between them. There are no right or wrong answers. We are trying to better understand how families like yours make decisions about child care.

<PROGRAMMER NOTES:

- (1) Randomly select 4 pairs out of the 12 pairs listed in this section. Which means each respondent will receive 8 questions total per interview.
 - (2) Randomize the sequence in which the A and B tables appear for each pair within the series. For example some respondents might see 3B appear first and others would see 3A appear first in the #3 question pairing.
 - (3) Randomize and display Center I and Center II panels within each pair side by side. So within 3A (for example), some respondents might see the panel associated with Center II on the left side whereas other respondents will see the panel associated with Center I on the left side of their screen.
- Ask the respondent to choose which of the two centers they prefer.
Please highlight characteristics that are different (.e.g, the two rows with different values). >

	Quality	Distance	Schedule	Cost
1	Poor	30 minutes from home	An hour a day mis-match with your desired schedule	\$100/week
2	Average			\$50/week
3	Excellent	10 minutes from home	Meets your preferred schedule	Free

[REMAINING TIMES] Please compare the two centers with slightly different features displayed below. Which of the two centers would you choose?

1. Center I
2. Center II
3. Neither center

1A	Center I	Center II
Quality	Poor	Average
Distance	10 minutes from home	30 minutes from home
Schedule	Meets your preferred schedule	Meets your preferred schedule
Cost	\$50/week	\$50/week

1B	Center I	Center II
Quality	Average	Excellent
Distance	10 minutes from home	30 minutes from home
Schedule	Meets your preferred schedule	Meets your preferred schedule
Cost	\$50/week	\$50/week

2A	Center I	Center II
Quality	Poor	Average
Distance	10 minutes from home	30 minutes from home
Schedule	Meets your preferred schedule	Meets your preferred schedule
Cost	Free	Free

2B	Center I	Center II
Quality	Average	Excellent
Distance	10 minutes from home	30 minutes from home
Schedule	Meets your preferred schedule	Meets your preferred schedule
Cost	Free	Free

3A	Center I	Center II
Quality	Poor	Average
Distance	10 minutes from home	30 minutes from home
Schedule	Meets your preferred schedule	Meets your preferred schedule
Cost	\$100/week	\$100/week

3B	Center I	Center II
Quality	Average	Excellent
Distance	10 minutes from home	30 minutes from home
Schedule	Meets your preferred schedule	Meets your preferred schedule
Cost	\$100/week	\$100/week

4A	Center I	Center II
Quality	Excellent	Excellent
Distance	10 minutes from home	30 minutes from home
Schedule	Meets your preferred schedule	Meets your preferred schedule
Cost	\$50/week	\$0/week

4B	Center I	Center II
Quality	Excellent	Excellent
Distance	10 minutes from home	30 minutes from home
Schedule	Meets your preferred schedule	Meets your preferred schedule
Cost	\$100/week	\$50/week

5A	Center I	Center II
Quality	Average	Average
Distance	10 minutes from home	30 minutes from home
Schedule	Meets your preferred schedule	Meets your preferred schedule
Cost	\$50/week	Free

5B	Center I	Center II
Quality	Average	Average
Distance	10 minutes from home	30 minutes from home
Schedule	Meets your preferred schedule	Meets your preferred schedule
Cost	\$100/week	\$50/week

6A	Center I	Center II
Quality	Poor	Poor
Distance	10 minutes from home	30 minutes from home
Schedule	Meets your preferred schedule	Meets your preferred schedule
Cost	\$50/week	\$0/week

6B	Center I	Center II
Quality	Poor	Poor
Distance	10 minutes from home	30 minutes from home
Schedule	Meets your preferred schedule	Meets your preferred schedule
Cost	\$100/week	\$50/week

7A	Center I	Center II
Quality	Excellent	Average
Distance	10 minutes from home	10 minutes from home
Schedule	Meets your preferred schedule	Meets your preferred schedule
Cost	\$100/week	\$50/week

7B	Center I	Center II
Quality	Poor	Average
Distance	10 minutes from home	10 minutes from home
Schedule	Meets your preferred schedule	Meets your preferred schedule
Cost	Free	\$50/week

8A	Center I	Center II
Quality	Excellent	Average
Distance	30 minutes from home	30 minutes from home
Schedule	Meets your preferred schedule	Meets your preferred schedule
Cost	\$100/week	\$50/week

8B	Center I	Center II
Quality	Poor	Average
Distance	30 minutes from home	30 minutes from home
Schedule	Meets your preferred schedule	Meets your preferred schedule
Cost	Free	\$50/week

9A	Center I	Center II
Quality	Excellent	Average
Distance	10 minutes from home	10 minutes from home
Schedule	An hour a day mis-match with your desired schedule	Meets your preferred schedule
Cost	Free	Free

9B	Center I	Center II
Quality	Average	Poor
Distance	10 minutes from home	10 minutes from home
Schedule	An hour a day mis-match with your desired schedule	Meets your preferred schedule
Cost	Free	Free

10A	Center I	Center II
Quality	Excellent	Average
Distance	10 minutes from home	10 minutes from home
Schedule	An hour a day mis-match with your desired schedule	Meets your preferred schedule
Cost	\$50/week	\$50/week

10B	Center I	Center II
Quality	Average	Poor
Distance	10 minutes from home	10 minutes from home
Schedule	An hour a day mis-match with your desired schedule	Meets your preferred schedule
Cost	\$50/week	\$50/week

11A	Center I	Center II
Quality	Excellent	Excellent
Distance	10 minutes from home	10 minutes from home
Schedule	An hour a day mis-match with your desired schedule	Meets your preferred schedule
Cost	Free	\$50/week

11B	Center I	Center II
Quality	Excellent	Excellent
Distance	10 minutes from home	10 minutes from home
Schedule	An hour a day mis-match with your desired schedule	Meets your preferred schedule
Cost	\$50/week	\$100/week

12A	Center I	Center II
Quality	Average	Average
Distance	10 minutes from home	10 minutes from home
Schedule	An hour a day mis-match with your desired schedule	Meets your preferred schedule
Cost	Free	\$50/week

12B	Center I	Center II
Quality	Average	Average
Distance	10 minutes from home	10 minutes from home
Schedule	An hour a day mis-match with your desired schedule	Meets your preferred schedule
Cost	\$50/week	\$100/week

Section D – Demographics

<PROGRAMMER NOTES: Prompt respondents who skip try to skip each of the demographics questions (D1 – D4) that they hadn’t provided an answer)>

- D1. How many adults currently live in this household?
_____ Number
- D2. How many adults in this household have a 4-year college degree?
_____ Number
- D3. What is the work status of the mother or mother figure of the young child(ren) in this household?
 (01) Works full time
 (02) Works part time
 (03) Does not work for pay
 (04) There is no mother or mother figure in this household.
- D4 About how much income did your household receive in 2016 across all sources?
 (01) Less than \$25,000
 (02) \$25,000 - \$50,000
 (03) \$50,000 - \$79,999
 (04) \$80,000 - \$124,999
 (05) \$125,000 or more

CLOSEOUT. If you have any comments or suggestions then please enter them below. After you have finished, press SUBMIT to record your responses.

Thank you for participating in the Arkansas Care in Our Community survey.

If you have questions about this study or need assistance, please contact NORC by...

- Calling toll free at 800-294-1988, or
- Sending an email to ARCARE@norc.org.

If you have questions about your rights as a study participant, you may call the NORC Institutional Review Board Administrator, toll free, at 1-866-309-0542.

Appendix II: Center-based Provider Questionnaire

Center Director Consent

INTRODUCTION SCRIPT

My name is _____ and I am from NORC at the University of Chicago. We are conducting a study that assesses the supply of early care and education available for children under the age of six. The study is funded by the Walton Family Foundation. Your center's participation will help us better understand some of the common challenges you face with providing early care and education services in your area. We recognize that each center's experience can also be unique. Your perspective as director will help us to get a better picture on how centers make decisions within the constraints they face in this particular county.

This interview will take about 75 minutes, and your participation is voluntary. You may choose not to answer any questions you don't wish to answer, or end the interview at any time. We have systems in place to protect your identity and keep your responses private. For added protection we will also avoid asking any sensitive questions.

You should understand, however, that we would need take necessary action to prevent serious harm to children, including reporting to authorities.

We would like to audio record the interview for our own quality control purposes. The recording allows us to more carefully study our questions and your responses and will be destroyed at the conclusion of the study. This will not compromise the strict confidentiality of your responses. If you agree, you may ask to stop the recording at any time, and we will turn off the machine. May I continue with the recording?

CONSENT OPTIONS:

R AGREES TO PARTICIPATE—PLEASE CHECK ONE OF THE FOLLOWING OPTIONS:

- ☐ R CONSENTS TO PARTICIPATE IN THE SURVEY → **TURN ON RECORDER AND CONTINUE**
- ☐ R CONSENTS TO PARTICIPATE IN THE SURVEY BUT DOES NOT WANT TO BE RECORDED → **CONTINUE WITHOUT RECORDER**

R DOES NOT AGREE TO PARTICIPATE

Structured Interview

A. INTRO:

In this interview, we use the term 'program' to describe all early care and education services for children under age 6 offered by your organization at this address. Please do not include regular elementary school (that is, grades kindergarten through 6th), but do include pre-kindergarten as well as any before or after school services for children in grades K through 6.

A1. Is your program for profit, not for profit, or is it run by a government agency?

- 2a. 1 ☐ For profit
 2b. 2 ☐ Not for profit
 2c. 3 ☐ Run by a government agency
 2d. 4 ☐ Other (specify _____)
 2e. -1 ☐ Don't know/Refused



B. Ages Served and Enrollment

B1. How many children are currently enrolled in your program at this site?		Number	I don't have an answer
1	0 year-olds?	_____	-1 <input type="checkbox"/>
2	1 year-olds?	_____	-1 <input type="checkbox"/>
3	2 year-olds?	_____	-1 <input type="checkbox"/>
4	3 year-olds?	_____	-1 <input type="checkbox"/>
5	4 year-olds?	_____	-1 <input type="checkbox"/>
6	5 year-olds?	_____	-1 <input type="checkbox"/>
7	School-age?	_____	-1 <input type="checkbox"/>

C. Schedule

C1. Do you provide care for children under age 6 during any of the following hours?		Yes	No	I don't have an answer
1	During weekends?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
2	During evenings, between 7pm and 11pm?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
3	During overnight, between 11pm and 6am?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>

C2. How many weeks per year does your program provide care for children under age 6?


Number of weeks

C3. How many hours per week do you consider full-time enrollment for a 3 year old in your program?

Number of hours per week


D. Sources of Revenue

These next questions are about sources of revenue for your program.



D1. Does your program receive any revenues from these sources?

	Yes	No	I don't have an answer
1 Tuitions and paid by parents - including parent fees and additional fees paid by parents such as registration fees, transportation fees from parents, late pick up/late payment fees.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
2 Tuitions paid by state government (vouchers/certificates, state contracts, transportation, Pre-K funds, grants from state agencies)	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
3 Local government (e.g., Pre-K paid by local school board or other local agency, grants from county government)	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
4 Federal government (e.g., Head Start, Title I, Child and Adult Care Food Program)	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
5 Revenues from community organizations or other grants (e.g., United Way, local charities, or other service organizations, not including anything you've mentioned earlier)	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
6 Revenues from fund raising activities, cash contributions, gifts, bequests, special events.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
7 Other (specify _____)	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>



D2. How many children in your program are funded by dollars from programs or government programs?

	Number <i>[Range: 0-999]</i>	I don't have an answer
1 State pre-kindergarten	_____	-1 <input type="checkbox"/>
2 Head Start	_____	-1 <input type="checkbox"/>
3 Local Government (e.g., Pre-K funding from local school board or other local agency, grants from city or county government)	_____	-1 <input type="checkbox"/>
4 Child Care subsidy programs such as CCDF or TANF (including voucher/certificates, state contracts)	_____	-1 <input type="checkbox"/>
5 Title I	_____	-1 <input type="checkbox"/>
6 Community organizations (e.g., United Way, local charities or other services organizations, not including anything you've mentioned earlier)	_____	-1 <input type="checkbox"/>
7 Other types of government funded program including Child and Adult Care Food Program	_____	-1 <input type="checkbox"/>

E. Ancillary Services

E1. Children and their families sometimes need other services in addition to basic early care and education. Do you help children and their families get any of these services, either by providing it on-site or by providing referrals?	Yes	No	I don't have an answer
1 Health screening, such as medical, dental, vision, hearing or speech screening?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
2 Developmental assessments?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
3 Therapeutic services, such as speech therapy, occupational therapy or services for children with special needs?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
4 Counseling services for children or parents?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
5 Social services to parents such as housing or food assistance, access to medical care, or help getting assistance from government or private programs?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>

F. Staffing

F1. What is the total number of staff employed in your program at this site who work directly with children under 6? Please include full-time and part-time workers, but only those who work in the early care and education activities we are discussing in this survey.

Number of staff

Next are questions about staff who work directly with children under 6 at your center.



F2. We will use four categories of staff: aides, assistant teachers, teachers/lead teachers, and specialists. These four categories may not be the terms used in your program. Please do your best to put staff working directly with children into one of these four categories.	Number	Don't know / Refused	Does not apply
1 First, how many aides work in your program?	_____	-1 <input type="checkbox"/>	
2 How many of these aides are full-time?	_____	-1 <input type="checkbox"/>	-2 <input type="checkbox"/>
3 How many assistant teachers work in your program?	_____	-1 <input type="checkbox"/>	-
4 How many of your assistant teachers are full-time?	_____	-1 <input type="checkbox"/>	-2 <input type="checkbox"/>
5 How many of your staff are teachers or lead teachers?	_____	-1 <input type="checkbox"/>	
6 How many of them are full-time teachers or lead teachers?	_____	-1 <input type="checkbox"/>	-2 <input type="checkbox"/>

7	How many specialists work in your program, including language specialists, or those who take care of children with special needs, or those who teach English as a second language?	<input type="text"/>	-1 <input type="checkbox"/>	
8	How many of these specialists work full-time?	<input type="text"/>	-1 <input type="checkbox"/>	-2 <input type="checkbox"/>



F3. Again, thinking only about staff who work directly with children, how many such individuals have left the program in the last 12 months?

[Range: 0-99, -1. Don't know/Refused]

Number of staff



F3a. What is the total number of staff employed in your program at this site who work directly with children between the ages of 6 and 13? Please include full-time and part-time workers, but only those who work in the early care and education activities we are discussing in this survey.

[Range: 0-99, -1. Don't know/Refused]

Number of staff



F4. What is the total number of staff who do not work directly with children? Include full-time and part-time workers, administrators, support staff, drivers, cooks, and anyone else on your program's payroll at this site.

[Range: 0-99, -1. Don't know/Refused]

Number of staff

F5. Some programs provide support for staff seeking training or professional development opportunities. Do you provide any of the following for your teachers, assistant teachers, or aides?	Yes	No	Don't know / Refused
1 Funding to participate in college courses or off-site training?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
2 Paid time off to participate in college courses or off-site training?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
3 Mentors, coaches or consultants who visit and work with staff in their classrooms?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>

G. COST

These next questions are about in-kind services or goods your program may have used-last year.



G1. First, did your program receive any of the following <u>services</u> free or at a reduced cost last year? If your program is part of a network or sponsoring organization, you might have received some of these services from your network or sponsoring organization.	Yes	No	Don't know / Refused
1 Volunteers working with the children in the classroom, on field trips, or in the playground	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
2 Accounting/book keeping	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
3 Legal services	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
4 Special learning activities provided: music, art, sports, etc.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
5 Repairs/maintenance (labor and parts)	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
6 Clerical	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
7 Grant writer	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
8 Administrative, professional, contractual & support services provided	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
9 Professional development provided (e. g., trainer provides services at no cost or reduced cost to your program)	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
10 Supplemental services provided (speech & language therapist, physical therapist, health services)	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
11 "Other" in-kind services donated free or at a reduced rate	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>

G2. Did your program receive any of the following <u>goods</u> free or at reduced cost last year? If your program is part of a network or sponsoring organization, you might have received some of these services from your network or sponsoring organization.	Yes	No	Don't know / Refused
1 Reduced or no rent/no fee for classroom(s), administrative space, outdoor space	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
2 Utilities free or at reduced rate	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
3 Donated food for children	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
4 Educational expenditures provided (e.g. books, supplies, equipment, field trips)	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
5 Financial aid, scholarships for children provided by a group or individual other than your program.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
6 Office supplies and office equipment provided	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
7 Liability and/or other insurance provided	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
8 Professional development provided (e.g., fees for staff to attend courses)	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
9 Transportation for children provided	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>

10	"Other" in-kind goods donated free or at a reduced rate	1 <input type="checkbox"/>	2 <input type="checkbox"/>	-1 <input type="checkbox"/>
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G3. What proportion of your direct costs is made up of labor costs, including wages and fringe benefits? By total direct costs I mean labor costs, other direct costs, excluding facility costs & the value of donated time & other items.

[Range: 0-100, -1. Don't know/Refused]

Percent

Below, we've listed many common categories of expenses.



G4. Please indicate which two categories are your largest expenses other than labor. [Note that only one value per column must be marked.]	1 First largest non-labor expense	2 Second largest non-labor expense
A. Facility costs, including utilities and insurance for the facility	1 <input type="checkbox"/>	1 <input type="checkbox"/>
B. Costs of food and related goods for meals & snacks served to children (not cook's wages)	2 <input type="checkbox"/>	2 <input type="checkbox"/>
C. Educational materials & expenditures, program supplies (e. g. books, supplies, field trips), program equipment including program equipment depreciation.	3 <input type="checkbox"/>	3 <input type="checkbox"/>
D. Office supplies and office equipment, postage, office equipment depreciation	4 <input type="checkbox"/>	4 <input type="checkbox"/>
E. Telephone, printing, copying, duplicating, advertising, recruiting	5 <input type="checkbox"/>	5 <input type="checkbox"/>
F. Liability insurance	6 <input type="checkbox"/>	6 <input type="checkbox"/>
G. Other insurance (do not include health insurance for employee or facility-related insurance)	7 <input type="checkbox"/>	7 <input type="checkbox"/>
H. Transportation of children: vehicle expenses, gas and drivers if not listed with labor costs above	8 <input type="checkbox"/>	8 <input type="checkbox"/>
I. Subcontractors (fees for professional services, e.g. accountants, consultants, attorneys, auditing, payroll services; other services paid via contract, e. g. janitorial services, etc.)	9 <input type="checkbox"/>	9 <input type="checkbox"/>
J. Training / Professional development expenses (e. g., bringing a trainer to the program, fees for staff to attend courses, conferences)	10 <input type="checkbox"/>	10 <input type="checkbox"/>
K. Staff mileage or travel	11 <input type="checkbox"/>	11 <input type="checkbox"/>
L. Supplemental services for children (e. g., health screenings, speech therapy)	12 <input type="checkbox"/>	12 <input type="checkbox"/>
M. Administrative Allocation, Overhead, Indirect Costs (paid to sponsoring agency or parent organization). (This is only relevant for programs that have a parent/sponsoring agency, or are part of a larger organization, not a single stand-alone business.)	13 <input type="checkbox"/>	13 <input type="checkbox"/>
N. Miscellaneous/other	14 <input type="checkbox"/>	14 <input type="checkbox"/>

O. Don't know/Refused	-1 <input type="checkbox"/>	-1 <input type="checkbox"/>
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Unstructured Interview

Section I: Prices

1. First, can you please let me know how does your center decide what prices to charge parents?

2. We understand that your listed prices are \$X for Y children [fill in with data available on web]. Is that correct? If not, what is the highest rate without subsidy currently charged to families for full-time enrollment for each of the following age groups?

- a. Infants less than 12 months old _____
- b. 1-year olds _____
- c. 2 year olds _____
- d. 3 year olds _____
- e. 4 year olds _____

3. When did you last change the prices you charge parents?

3a. If prices have changed, by how much? What drove the price change? Under what conditions would you consider another change in price in the near future? What factors would you take into account in making that decision?

3b. If prices have not changed, are you considering a price change in the near future? Under what conditions would you consider a change in price? What factors would you take into account in making that decision?

4. What fraction of the children you are serving pay \$0?

5. What fraction of the children you are serving pay the listed price?

6. What fraction of the children you are serving pay a portion of the listed price because you provide a discount to them, such as one on a sliding scale, a sibling discount, or discounts for employees of certain organizations/business?

7. What fraction of the children you are serving pay a portion of the listed price because they receive a subsidy or voucher from government programs or an outside agency (e.g. community organization such as United Way, local charities or other services organizations)?

8. Are there other reasons why the children you are serving do not pay the listed price?

9. How do you finance subsidies or discounts (e.g. donations, revenue sources)?

10. Do you charge anything in addition to the listed price, such as lunch fees, diaper fees, or special fees for lessons?

11. Do you experience any challenges with parents' tuition payments? Are parents late or delinquent in their payments?

12. Is there anything else you would like to share with us about how you set prices in your center?

Section II: Enrollment

1. At this time, how many more children in your program would you be willing and able to serve?

1a. How did you decide on that response? What factors did you take into account to come up with that estimate?

2. If willing to serve more children:

2a. How would you serve those additional children? Would you use existing classrooms, staff, and sessions during the day? How would you secure additional classroom, staff, or sessions? How many additional classroom, staff, or sessions would you need in order to serve those additional children?

3. Do you have any control over how many children you can serve?

3a. If so, how do you decide how many children you can serve? How often do you review your decision and what factors do you take into account in revising that decision?

4. Is your center currently oversubscribed or undersubscribed? By how much?

4a. Are you expecting to receive more children next year? If not, why?

5. Does your center have any vacancies?

5a. How do you define a vacancy? Is that equivalent to slots in a waiting list?

6. Do you have a waiting list for families or children who want to enroll in the program?

6a. If so, how long is it, how does the list work, how often does it get updated, what is your estimate of how many of those children will actually enroll if they were offered a spot?

6b. Do waiting lists work differently for children of different ages?

7. Have you turned any children away because you did not have space for them?

7a. If so, how many?

8. In the past year, have you had a change in enrollment numbers, either an increase or decrease in enrollment? How do you explain this change?

Section III: Quality

1. If you were to receive any help you wanted to improve the care you provide to children, what would you prioritize? [Based on these additional resources, what would you tackle first? Some options may be facilities, teaching staff, administrative staff, classroom materials, food service, other]

1a. Why would you prioritize that?

1b. What would you prioritize the least and why?

1c. Would you focus on specific ages/classrooms and why?

2. We understand your center is [not rated/rated with X stars in Better Beginnings]. Is that correct? If not, what is the current rating?

- 2f. How could your center increase this quality rating (e.g. from no rating to one star, or from two stars to three stars)?

- 2g. If it were possible to increase this rating, what would be the implications for the number of children you can serve?

- 2h. If it were possible to increase this rating, what would be the implications for the prices you charge families?

3. Can you please let me know how does your center balance (i) the prices you charge with (ii) the number of children you serve, and (iii) the quality of care you are able to provide to children? How are these three factors related in the decisions you make about prices, number of children, and program quality?

Appendix III: Methodology for Analysis of Supply and Demand

ECE Supply: Characteristics of Providers

Provider List Acquisition. Publicly available provider information was extracted from the Arkansas Child Care Information website (dhs.arkansas.gov/dcece/ccclas/FacilitySearch.aspx#Child) using web scraping tools and methods. Web scraping refers to the automated process of extracting information from a web site's html structures. The extraction script downloads a targeted page's html and converts it to text and then the extraction script is able to select the desired elements of the target page. HTML web sites use a common frame work allowing for web scraping scripts using iterating scripts that were adjusted to suit the specific structures of different websites.

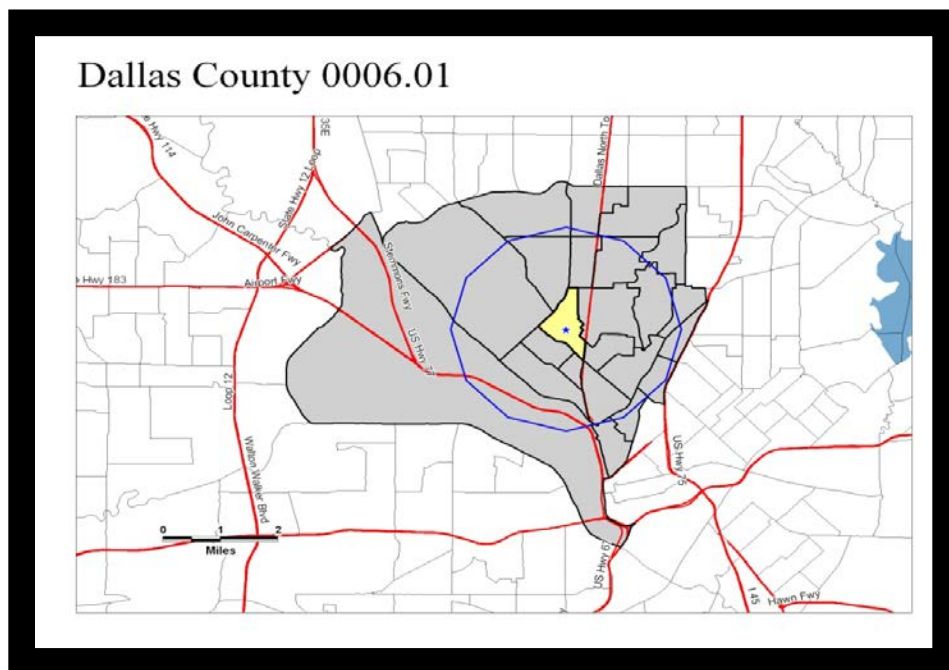
Provider data was acquired between June 20th and 21st, 2017. Information included provider names, addresses, and telephone numbers as well information regarding ages of children served, pricing, hours, and licensed capacity. A complete list of home-based, center-based, and after-school providers was assembled, though our analysis focuses on providers who care for children not yet enrolled in kindergarten.

Geocoding of Providers. Providers identified during list acquisition were geocoded using addresses scraped from the provider website in order to examine the relationships between population characteristics (demand) and provider counts and characteristics (supply) for local geographic areas, or ECE markets. Geocoding is the process of determining the longitude and latitude for an address so that they may be mapped using geographic information systems (GIS). Following geocoding, every address was associated with an appropriate census geography (county and tract) to facilitate assignment to the appropriate Provider Clusters (see below).

Cluster Formation. NORC developed the notion of the provider cluster in our work with the National Survey of Early Care and Education (NSECE) to help explore the connections of ECE supply to a relevant group of families demanding ECE. The provider cluster represents the area in which a central core of households likely seeks and perhaps receives ECE. The map below in Exhibit A3.1 depicts a hypothetical cluster, from an area near Dallas, Texas. The anchor tract is the central yellow area, which represents the cluster's core of households, and characterizes demand within the cluster. The gray portion comprises all census tracts that overlap within a circle of two miles centered at the population centroid of the (yellow) anchor tract, and represent the area supplying ECE for the anchor tract. The use of the provider cluster allows us to document the interaction of the supply of and the demand for early care and education where it occurs.

The provider cluster methodology was used for two purposes in this study. First, we used the methodology to characterize the supply of ECE in the general vicinity of each census tract in the two county area. Then we used it to create ‘distance weighted’ characteristics of the central or ‘anchor’ tracts of each cluster. The anchor tract represents the geographic center of the cluster and is the primary driver of demand characteristics for the cluster, but is not the sole source of demand. Distance weighting allows the surrounding ‘cluster’ tracts to contribute to the overall demand characteristics of the cluster. Supply characteristics are evenly weighted across the cluster as providers in all tracts within the cluster are assumed to contribute equally to the supply of child care in the markets serving the central cluster tract.

Exhibit A3.1: Hypothetical Provider Cluster



ECE Demand: Characteristics of Households

The ECE supply of an area can only be fully understood in the context of the local households with young children. Such factors as employment rates and work schedules of families, presence of younger and older children within the households, proximity of other family members to potentially provide care, the income levels of households, and family or child-specific factors such as dual-language learning or special needs all contribute to the types of ECE that will best meet the households' ECE needs, and thus the adequacy of available supply.

Distance Weighting. We construct distance-weighted characteristics to describe the demand for ECE for the anchor tract of each cluster. This method leverages the construct of the provider clusters to allow the tracts surrounding the anchor tract to influence the demand characteristics for the tract. The cluster tracts nearest the anchor tract have the most influence while tracts at the distant edge of the cluster have less influence. This allows factors affecting demand near the anchor cluster to be reflected in that cluster's demand characteristic. For example, if there is cluster near the anchor tract within the cluster with a large number of children under five years of age, a weighted portion of that demand will be applied to the demand description of that anchor tract. This helps to reflect more accurately the relationship between supply and demand of ECE for each cluster specific market.

Census Data. Various forms of data were obtained from the U.S. Census Bureau website (www.census.gov) to characterize the demand for ECE at the census tract level. The Census Bureau makes data available with varying levels of geographic specificity in order to control the disclosure risk of individuals contributing to the data. The geographic unit can vary from very small (block group) to much larger areas (aggregates of census tracts), depending on the nature of the data and the population of the area. NORC applies proprietary methods using 'small area estimation' to combine the information from various census data sources to make possible person-level analyses for specific census tracts.

Data Integration and Management. In addition to provider data and small area estimated household data noted above, several census tract level census data files for Washington and Benton counties were used in the analysis.