

**Overview of the Infant-Toddler Workforce
White Paper for NIEER
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Purpose of this White Paper:

This paper is a summary of the characteristics of and issues related to the current infant-toddler caregiver/teacher workforce. The goal is to highlight key findings and issues to inform NIEER's development of an Infant Toddler Policy Research Center. Topics include:

- a rationale for why the infant-toddler workforce matters
- characteristics of the current infant-toddler workforce in the U.S.
- needed improvement to build the infant-toddler workforce
- some insights from Tulsa, OK, a community striving to improve infant-toddler care quality and access
- selected recommendations for NIEER to consider as they move forward in planning a policy research center devoted to topics related to infants and toddlers

Portions of this paper were presented and discussed at a two-day summit hosted by NIEER on December 10 and 11, 2019.

Why does the Infant-Toddler Workforce Matter?

Multiple factors have placed infant-toddler nonparental care in the spotlight (Horm, Goble, & Branscomb, 2012; Horm, Hyson, & Winton, 2013; Horm, Kwon, & Laurin, 2019) and, as a consequence, increasing attention has focused on the infant-toddler workforce. The factors placing infant-toddler care in the spotlight include the number of infants and toddlers experiencing nonparental care; a growing body of research demonstrating the impacts of infant-toddler care; recognition of the uniqueness of the infant-toddler period and the skills needed to appropriately care for and educate infants and toddlers; and the increasing attention to this topic by the general public and in policy arenas. Each of these factors will be briefly considered below.

Nonparental Care for Infants and Toddlers: More Babies, More Time Spent in Care

A large and growing number of infants and toddlers are in out-of-home care for significant amounts of time (Child Trends, 2013). Based on data from the National Survey of Early Care and Education (NSECE), a nationally representative study of American households and early care and education providers conducted in 2012, 50% of infants and toddlers experienced regular nonparental care in 2012 (Forry, Madill, Shuey, Halle, Ugarte, & Borton, 2018a). This percentage is just slightly less than the percentage of 3-to-5-year-olds in regular nonparental care (63%), with regular nonparental care defined as a child attending at least 5 hours per week excluding K-8 schools (Forry et al., 2018a).

In addition to the increased number of infants and toddlers in regular nonparental care, it is noteworthy that infants and toddlers are spending significant amounts of time in nonparental care arrangements. Data from NSECE suggest the 2012 average was approximately 33 hours per week for infants and toddlers; and 29 hours per week for preschoolers (Forry et al., 2018a). It is

somewhat surprising that when considering paid nonparental care arrangements, the NSECE found that infants and toddlers spent more time per week in care, on average, than did 3-to-5-year olds (Forry et al., 2018a). This was true for all the types of care arrangements (Forry et al., 2018a). Surprisingly, given the perception that families do not prefer centers for their young children, infants and toddlers averaged 31 hours per week in center-based care only while the contrasting number for preschoolers was 26 hours per week. See appendix for more details. While the explanations for this difference are not fully documented, it may be related to the reasons families seek care for their young children with families of infants needing care to permit their work, while preschool programming is sometimes elected for various reasons including enrichment purposes. Also, it has been reported that preschoolers are more likely than infants and toddlers to be in combinations of care arrangements, such as a combination of center-based and unpaid individual-based care (Forry et al., 2018a). Again, the reasons behind this are not clear. Potential reasons might be that parents are more prone to patch together arrangements for the older preschoolers while being mindful of minimizing transitions for the youngest children. The patterns of care arrangements that young children experience have not been fully researched, especially when family characteristics including race, ethnicity, income and similar demographic variables are considered. This is a gap in the research that NIEER could help address.

Early Experiences Matter: Research Findings Demonstrating Short- and Long-term Impacts of Infant-Toddler Care

A growing body of research documents that high-quality infant-toddler care can have significant short- and long-term effects on children's development (Vandell et al., 2010; Yazejian et al., 2017). Findings from Educare research show the impact of starting early, while an infant, and staying enrolled in a high-quality early childhood program in terms of making a difference by narrowing the achievement gap often demonstrated with young children growing up in poverty (Educare, 2017; Yazejian, Bryant, Freel, Burchinal, and Educare Learning Network, 2015; Yazejian et al., 2017). This deepening research base, viewed in the context of persisting reports of the low to moderate quality of much of the available care (La Paro, Williamson, & Hatfield, 2014; Phillips & Lowenstein, 2011; Vogel et al., 2011), highlights the critical need to monitor and improve the quality of infant-toddler group care. To that point, Ruzek, Burchinal, Farkas, and Duncan (2014) found, in an analysis of the ECLS-B sample focused on toddlers, that toddlers in nonparental care were more likely to experience medium quality care (61%) than high quality (26%) or low quality (13%) care. Additionally, they reported that low-income children were more likely than non-low-income children to be cared for by their parents and, when in care, were more often in lower quality care. This type of research that shines a light on the quality of care is important for all children and families, but especially for young children growing up in poverty who have been shown to gain the most from high-quality care (La Paro et al., 2014).

That said, there are many unanswered research questions related to the nature and impacts of infant-toddler care. As noted by Ruzek et al. (2014) much less is known about infant-toddler nonparental care than about preschool care. They emphasize that most child care research focuses on the preschool period and thus relatively little is known about the impact of nonparental care during the infant-toddler period, especially at the national level. This is another gap in the research that NIEER can help address.

Recognition of the Developmental Characteristics of Infants and Toddlers and Implications for Care

There is growing recognition that birth to age 3 is a distinct developmental period that is the foundation for later development (Chazan-Cohen et al., 2017; Horm, Norris, Perry, Chazen-Cohen, & Halle, 2016). The unique developmental characteristics of infants and toddlers, in concert with the malleable nature of their development, requires the adults in their lives, including nonparental caregivers, are aware of and knowledgeable about how best to support their development across all developmental domains. Additionally, infant and toddler development is very individualized and embedded in family, culture, and other societal influences. Children under age 3 are diverse and cultural identities are shaped during the infant-toddler years (CLASP, no date). However, many infants and toddlers are in nonparental care with providers who may or may not reflect their cultural or linguistic backgrounds (CLASP, no date). Caregivers, programs, and policies should acknowledge, respect, and respond to these multiple needs and influences on infants' and toddlers' development in nonparental care. These multiple factors demand that caregivers possess comprehensive knowledge about young children and families and demonstrate a wide array of competencies. For more discussion about the uniqueness of the infant-toddler age group and the implications for their care, the reader is referred to a White Paper prepared by Rachel Chazen-Cohen on this topic for NIEER and an OPRE Brief authored by Rachel and colleagues (Chazen-Cohen et al., 2017).

Increasing Attention by the Public and Policy Makers

Although the developmental capabilities of infants and toddlers were starting to be discussed in the popular press in the 1980s, as evidenced by Time Magazine's cover story on August 15, 1983 entitled "*Babies: What do they know? When do they know it?*", popular press coverage of brain science in the early 2000s increased and informed the general public about how early experiences shape development. This, in conjunction with families' growing needs for child care as both parents participated in the labor force, and the growing recognition that the quality of the care mattered, produced greater discussion in the general public beyond developmental researchers. As the needs for increased access to and improved quality of care garnered public attention, it became the focus of public policy. Currently, policy makers continue to demonstrate increasing interest in investments in early childhood education, including enhancing the availability, accessibility, and quality of programs for infants, toddlers, and their families (Administration for Children and Families [ACF], 2014). For example, with the goal to improve quality, increasingly federal and state policies have required programs to demonstrate use of an empirically-based curriculum in infant-toddler programs. Examples of mandates requiring this include Early Head Start at the federal level, and state-level Quality Rating and Improvement Systems (Chazan-Cohen et al., 2017).

As noted above, these factors have led to increased visibility of infant-toddler nonparental care among families, providers, the general public, and policy makers. Woven through the discussion above were several references, both overt and implied, to the characteristics of nonparental caregivers, including the importance of their knowledge and skills. What does the current literature tell us about the workforce who cares for and educates infants and toddlers in nonparental care arrangements?

Characteristics of the Current Infant-Toddler Workforce in the US

Size of the Infant-Toddler Workforce

Two conclusions about the workforce providing nonparental care to infants and toddlers are that it is a large workforce and the work occurs in varied settings. Relative to numbers, 6.25 million U.S. infants and toddlers experienced regular non-parental care in 2012; with 3.29 million cared for by paid providers (NSECE Project Team, 2013, 2016). This translates to 3 million (paid and unpaid) members of the infant-toddler workforce. When compared to other fields, the 3 million paid and unpaid members of the infant-toddler care workforce is comparable in size to the 3.2 million members of the architecture and engineering professions combined (Bureau of Labor Statistics, U.S. Department of Labor, 2018).

Settings Where the Infant-Toddler Workforce Work

Based on NSECE data, families used a variety of care arrangements for their infants and toddlers (Forry, Madill, & Halle, 2018b). Relative to setting, the NSECE data indicated there were 430,000 center-based and 2.5 million home-based providers in 2012 (NSECE Project Team, 2013, 2016).

Among children in regular nonparental care, infants and toddlers were more likely than 3-to-5-year-olds to only experience care provided by an individual, such as a family member, friend, or family child care home; while 3-to-5-year-olds were more likely than infants and toddlers to be in center-based care only (Forry et al., 2018a). Specifically, compared to 3-to-5-year-olds, infants and toddlers in nonparental care were more likely to rely on care provided by a paid individual only, such as a family child care home. Infants and toddlers were also more likely than 3-to-5-year-olds to rely on care from an unpaid individual only, such as a family member or friend. In contrast, 3- to 5-year-olds were more likely than infants and toddlers to be in center-based early care and education only. As noted earlier in this paper, 3- to 5-year-olds were also more likely than infants and toddlers to be in combinations of care, such as center-based services combined with unpaid individual-based care (Forry et al., 2018a).

Cost and its Impact Related to the Workforce

It is also worth noting that infant-toddler care costs more than care for older children. Considering only children who had paid care (about half of infants and toddlers), the NSECE found that the median weekly cost of care in 2012 was about \$100 for an infant or toddler, and about \$80 for a 3-to-5-year-old (Forry et al., 2018a). Workman and Jessen-Howard (2018), based on a state-by-state analysis, note that, on average, a family making their state's median income would have to spend 18% of their income to cover the cost of licensed child care for an infant, and 13% for a toddler. They also report that in no state does the cost of center-based infant or toddler child care meet the federal definition of affordable—no more than 7% of annual household income. In 12 states, the cost of child care for just one infant exceeds 20% of the state median income.

Given its cost, it is not surprising that the types of care families use differ by family income. As found by Forry, et al. (2018a), across all income levels, use of only individual-based care for infants and toddlers was quite common. What differed by household income was whether these arrangements were paid or unpaid. Among poor and low-income households with infants and

toddlers in regular nonparental care, most individual-based arrangements were unpaid. Among higher-income households with infants and toddlers in nonparental care, however, those relying on a single care type used paid and unpaid individual-based arrangements at about equal rates.

Costs paid by families for infant-toddler care are only one piece of a complex puzzle related to the overall financing of infant toddler care. Another White Paper focused on financing infant-toddler care was commissioned by NIEER for the December 2019 meeting. The reader is referred to that paper by Karen Schulman of the National Women’s Law Center for more details about the myriad of issues related to cost and financing infant-toddler care.

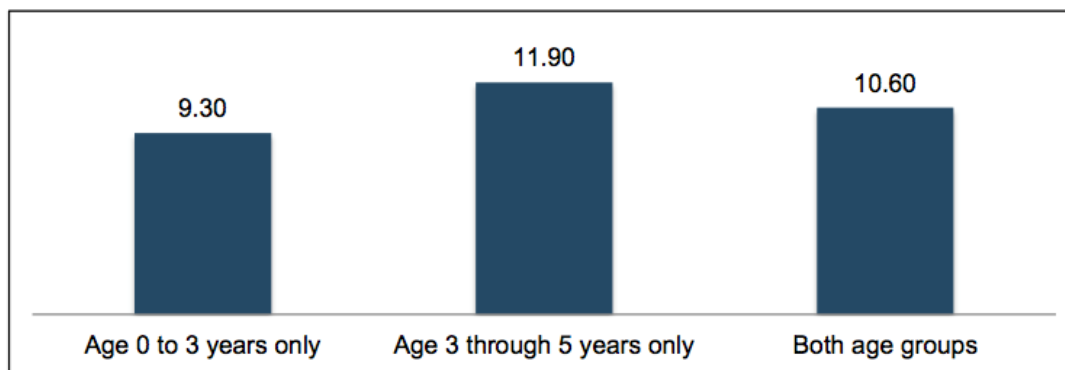
The cost of care is raised in this White Paper because it does have implications for the workforce. For example, did the unpaid providers intend to select into the infant-toddler workforce? Do they view themselves as part of a workforce that requires specialized skills? What is their motivation or benefit for providing infant-toddler care? As will be discussed more fully in the next section, the infant-toddler workforce receives limited financial compensation including benefits, which can be seen as counter-intuitive given that families pay the most for infant-toddler care. The next section focuses on what we know about the compensation of the infant-toddler workforce.

Compensation of the current infant-toddler workforce

Teachers who work with young children have long been undervalued (Workman & Jessen-Howard, 2018) and their compensation is evidence of this. Child care is one of the lowest-paid professions in the U.S. (Whitebook, Phillips, & Howes, 2014). Teachers and caregivers of infants and toddlers fare even worse, earning approximately \$2 less per hour, on average, than teachers serving children ages 3 to 5, even when they have the same credentials (Whitebook et al., 2018). In addition, the gender and racial inequities that exist in the broader U.S. labor force are reflected in the early childhood field: 40% of the workforce are women of color, and African American teachers are disproportionately more likely to work with infants and toddlers (Hanks, Solomon, & Weller, 2018; Whitebook et al., 2018).

The figure below, taken from NSECE (2013), provides details about average salaries and differences by age of children taught and auspices of center-based programs.

Figure 6. Median Hourly Wages of Center-Based Teachers and Caregivers by Age of Children Served



As can be seen above, the average wage for caregivers of both age groups equals \$10.60 per hour; if working full-time that is equivalent to approximately \$22,000 per year. As is also evident from the figure, infant-toddler caregivers earned less than those working with just slightly older children. The \$9.30 average per hour earned by infant-toddler caregivers is equivalent to roughly \$19,300 per year. As a point of reference, census data indicate that the average hourly wage across all occupations for workers with a BA degree is about \$27 an hour; with an annual salary equivalent of roughly \$56,000. So, infant-toddler caregivers with a bachelor’s degree earn, on average, just about 1/3 of their college-educated peers in other fields of work.

The figure also highlights disparities within the field of early care. Wages earned by teachers and caregivers serving children ages 3 to 5 were 28% higher than those for teachers and caregivers serving younger children. As will be discussed below, this was related partly to differences in education level and partly to differences in the type of center sponsorship or funding. However, even when those differences were taken into account, teachers and caregivers serving the older children received higher pay (NSECE, 2013).

As shown below, (NSECE, 2013) for each type of center sponsorship/funding, teachers and caregivers serving children age 3 through 5 years were paid more than those serving younger children. This was true across those with bachelor’s and associate’s degrees. Overall, teachers and caregivers with a BA or higher serving children age 3 through 5 years earned \$15.50 an hour, more than \$4 an hour more than those with the same level of education but caring for infants and toddlers who were paid, on average, just \$11.30. The differences were not as large for teachers and caregivers with AA degrees—\$11.30 an hour for age 3 through 5 vs. \$10 an hour for infants and toddlers. However, even that \$1.30 per hour difference is equivalent to about \$2,700 a year for full-time employees, an amount that is meaningful.

Table 1. Median Hourly Wages of Center-Based Teachers and Caregivers by Age of Children Served and Sponsorship and Funding of Center-Based Program of Employment

	BA Degree or Higher	BA Degree or Higher	AA degree	AA degree
	Staff serving 0 to 3 only	Staff serving 3 through 5 only	Staff serving 0 to 3 only	Staff serving 3 through 5 only
School-sponsored	‡	20.60	‡	13.00!
Head Start-funded	10.00!	15.90	11.40!	12.20
Public pre-K-funded	11.90	16.20	9.00	9.80
All other ECE	11.40	13.90	9.90	11.00
Total teachers and caregivers, all center types	11.30	15.50	10.00	11.30

Source: Appendix Tables 14-28

Note: ‘Head-Start funded’ category excludes school-sponsored programs; ‘Public pre-k funded’ category excludes school-sponsored and Head Start-funded programs.

‡ Value suppressed due to small n.

! Interpret data with caution due to small n.

From: NSECE, 2013

This low level of compensation documented for the infant-toddler workforce does not align with the important and challenging nature of their work. The infant-toddler workforce:

- cares for children during a unique, formative period
- experiences the challenges of working with pre-verbal, and often pre-mobile, children
- works as much with families and the infants and toddlers in their care
- needs to integrate care, education, and relationship-based work in a seamless manner (Vallonton & Brophy-Herb, 2019)
- performs physically demanding movements such as lifting infants, getting up and down from the floor, and bending repetitively during the day (Kwon et al., 2019)

Thus, another conclusion that can be drawn is that infant-toddler caregivers are not only under-compensated, but under-valued.

Educational Attainment

As demonstrated above, the level of educational attainment does impact compensation. The NSECE (2013) also documented the educational attainment of infant-toddler caregivers and provided comparison data with those working with preschool-age children. This information is displayed in the first figure below for center-based caregivers.

Figure 5. Educational Attainment of Center-Based Teachers and Caregivers by Age of Children Served

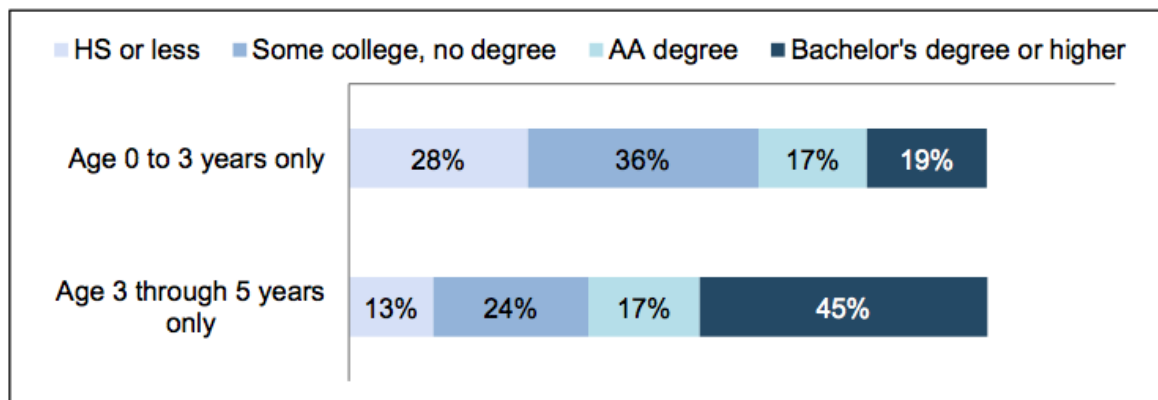
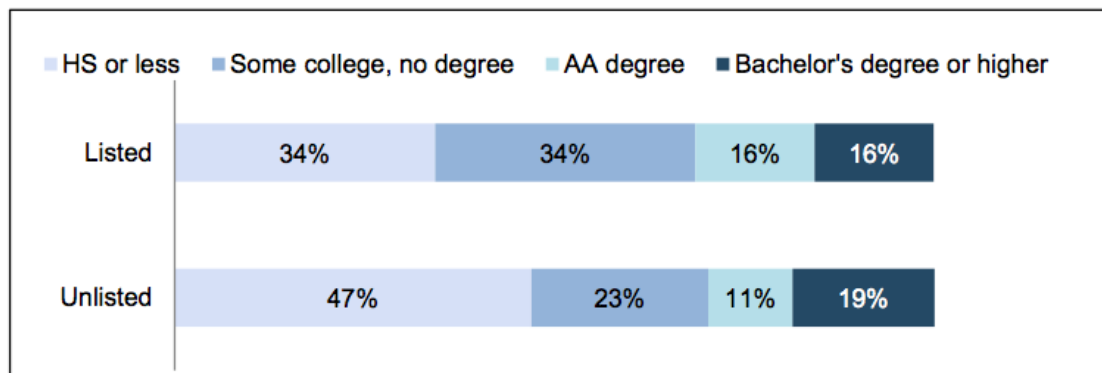


Figure 9. Educational Attainment of Home-Based Teachers and Caregivers



From: NSECE, 2013

As shown in the first figure immediately above, the differences in education attainment between infant-toddler and preschool caregivers is large in center-based programs. Although 45% of caregivers of preschoolers in center-based programs are reported to have the bachelor's degree, the analogous percent for infant-toddler caregivers is 19%. The most common level of education for infant-toddler caregivers in centers is "some college with no degree" at 36%, followed by 28% with a high school education or less. Roughly equal percentages of infant-toddler caregivers in centers are reported to have degrees, with 17% having AA and 19% having BA degrees.

For caregivers working in home-based settings with all young children birth through age 8, the largest difference in educational attainment was found between those who are listed (listed on a state or national administrative record) or unlisted (essentially unregulated). This is displayed in the second figure immediately above. It is important to note that this information, provided by NSECE (2013), represents caregivers working with children birth through age 5 and is not disaggregated by infants-toddler vs. preschool caregivers. That said, this figure shows that the educational attainment of home-based caregivers was lower than that for those staffing center-based programs. About a third of listed home-based providers (34%) and almost half of unlisted home-based providers (47%) had no more than a high school education. However, it is noteworthy that approximately 30% of both listed and unlisted birth to age 5 caregivers in home-based settings had either AA or BA degrees, rates that are higher than previous estimates (NSECE, 2013). The reasons for this are unclear but the authors of the October 2013 NSECE Brief speculate it would be due to the more comprehensive sampling frame used with the NSECE than with previous samples, to the impact of Head Start and public pre-K programs requiring college degrees, or to the greater share of the population with college degrees.

In conclusion, across center- and home-based programs, infant-toddler teachers and caregivers tended to have low levels of education. However, most of the infant-toddler workforce had some exposure to college coursework. Although this is the case, as reported by Madill, Blasberg, Halle, Zaslow & Epstein (2016), endorsements such as the Child Development Associate Credential (CDA) or state certifications were uncommon.

In-service Professional Development

The attainment of formal degrees has been part of the drive to increase the quality of settings and to professionalize the early childhood field. Beyond formal education, in-service professional development is thought to play a critical role in workforce development—for those with and without degrees. However, the available research suggests in-service professional development is not available to those who may need it the most, and tends to be offered in formats that are not the most effective (Madill et al., 2016).

For both center- and home-based infant-toddler caregivers, participation in professional development is the most common for staff with higher levels of education. For example, Madill et al. (2016) report that in center-based infant-toddler programs, 25% of infant-toddler staff with bachelor's degrees in ECE experienced individualized coaching, mentoring, or consultation over the past 12 months. This type of professional development, which is recognized as among the most effective, was available to only 18% of infant-toddler caregivers with high school

education, and 16% of those with some college. Similarly, for home-based programs, it has been found that only those at the highest-level of education met regularly with colleagues caring for young children. More common were one-shot workshops with 67% of home-based caregivers reporting this was the type of professional development they experienced over the past year.

Release time and other supports for in-service professional development, including financial support, was found to also vary by education level for both center- based and home-based infant-toddler caregivers (Madill et al., 2016). For example, only 15% of home-based infant-toddler workforce reported receiving financial support for professional development in the past 12 months.

Relative to content, health and safety topics were found to be the most frequently covered in in-service professional development for both center- and home-based infant-toddler caregivers (Madill et al., 2016). Other topics offered through professional development included promoting children's social-emotional development for center-based, and curriculum for home-based infant-toddler caregivers (Madill et al., 2016).

It is widely perceived that there is lack of focus on infant-toddler content in in-service professional development offerings. Relatedly, in an extensive literature review on effective early childhood professional development, Zaslow, Tout, Halle, Whittaker, and Lavelle (2010) conclude, "There is limited research focusing specifically on professional development for those working with infants and toddlers" (p. 87).

Health: Mental and Physical Well-being

Recently, increased attention has turned to early childhood caregivers' well-being as an important factor potentially impacting classroom quality and the experiences of young children in care. This growing body of research generally supports the hypothesis that the well-being of caregivers is an important factor. For example, Buettner, Jeon, Hur, and Garcia (2016) found that preschool teachers' psychological load (depressive symptoms, stress, and job-related emotional exhaustion) was associated with teachers' responsiveness toward children and their own professional engagement, including job satisfaction and work commitment. This body of research is relatively new, has generally focused on social-emotional variables and mental health, with limited research attention focused on infant-toddler caregivers.

However, well-being is multidimensional and as Kwon and colleagues (2019) note, physical health is an often-neglected aspect of caregiver well-being. Kwon et al. (2019) have launched a multidisciplinary project to investigate teacher well-being involving perspectives and research techniques from early childhood education, interior design, physical therapy, public health, nutrition, and educational policy. Their initial findings from a sample drawn from center-based programs in Tulsa, OK indicate the infant-toddler workforce demonstrates multiple characteristics that indicate lack of well-being. Their research shows the infant-toddler workforce is overweight (21%) or obese (54%), below average in cardiorespiratory fitness (60%), and report musculoskeletal pain (62%) and urinary tract infection (33%). When compared to preschool teachers, Kwon et al. (2019) found infant-toddler teachers reported more physical demands associated with their positions (for example, lifting babies from cribs) and

demonstrated higher rates of cardiac health issues than preschool teachers with 60% performing below average on a step test administered by a physical therapist.

Relatedly, relative to working conditions, some infant-toddler caregivers in the Kwon et al. (2019) study reported they had no designated breaks (reported by 36%), no separate space for relaxation (34%), and no access to adult-size furniture (20%). Kwon et al. (2019) also found that infant-toddler teachers were less likely to have health insurance provided by their employer than preschool teachers. These findings support the conclusion that the infant-toddler workforce is also under-supported, often lacking basic workplace supports beyond compensation.

In this context, it is interesting to note that infant-toddler teachers responded to a survey question about why they stay in infant-toddler care by providing responses such as: “It’s my calling”; “way to help children and families in my community” (Kwon et al., 2019). This echoes findings by Madill et al. (2016) and suggests they may strive to provide care while ignoring or minimizing their own needs.

Conclusions about the Current U.S. Infant-toddler Workforce: Under-valued, Under-compensated, Under-professionalized, and Under-supported

The current infant-toddler workforce in the U.S. has many challenges. As evidenced by the discussion above, it can be concluded that this workforce is under-valued, under-compensated, under-professionalized, and under-supported (Kwon et al., 2019; NSECE Project Team, 2013; Vallonton & Herb-Brophy, 2019; Whitebook et al., 2016). With the common view that the work is just “babysitting,” infant-toddler caregivers experience a lack of respect related to the lack of understanding of the complexity and demands of the work which is related to the lack of understanding about the importance of infant-toddler development. An ongoing challenge is compensation and the lack of funding in infant-toddler setting to offer workplace supports. The conclusion that the workforce is under-compensated is best illustrated by noting that infant-toddler caregivers are the working poor with 46% receiving public assistance despite the growing recognition of the importance of the work. Beyond compensation for individual caregivers, many infant-toddler settings lack adequate workplace supports such as staff break rooms and a few pieces of adult-size furniture to allow relaxation during breaks. The importance of the work in supporting infants and toddlers to develop a solid foundation, underlying all future development, is in contrast to the fact that the field is under-professionalized. As discussed above, the infant-toddler workforce has lower formal education levels than preschool, PreK, K-12 teachers. There are relatively few professional development opportunities and those available tend to be offered in formats that have questionable effectiveness and focused on very basic skills. Relative to pre-service preparation, there are few infant-toddler focused courses, practica, degrees available in higher education (Horm et al., 2013). In addition, there are no agreed-upon competencies or qualifications for the field, and wide variation in education requirements across states.

What Change is Needed? New Solutions for Some of the Issues

The issues raise in this White Paper demonstrate that there are many concerns impacting the infant-toddler workforce and multiple solutions on multiple levels, including system-level changes, are needed. For the purposes of this paper, the discussion of needed changes will focus on defining the knowledge and skills deemed necessary for the infant-toddler workforce and how this content is delivered.

Competencies

One feature that defines a profession is agreed-upon standards of practice ((Professional Standards Councils [PSC], 2016). As mentioned above, the infant-toddler workforce lacks a set of agreed-upon competencies and there is substantial variation in required qualifications for the infant-toddler workforce across programs and states. However, over the last decade, several groups have been working on competencies to help define the infant-toddler workforce.

One example is the work of Claire Vallotton of Michigan State University who has convened a group of academics who teach infant-toddler courses in higher education settings since the mid-2000s. The group is called CUPID—Collaborative for Understanding the Pedagogy of Infant/Toddler Development—and it involves more than 50 scholars from over 25 universities. One of their activities has been to develop competencies. Based on research literature and recommended practice, CUPID competencies for infant-toddler providers have been developed through the following process:

1. Nomination of competencies by researchers and practitioners
2. Nominated competencies analyzed to identify common themes; and then categorized into domains
3. The themes and domains were vetted through review by additional practitioners and researchers
4. The resulting competencies were organized into an overarching structure
5. Next, they were aligned with other frameworks, including:
 - i. NAEYC
 - ii. Zero to Three
 - iii. CEC/DEC
 - iv. Infant Mental Health
6. The resulting product included 9 CUPID Competency Domains for Infant/toddler Professionals (Vallotton, Brophy-Herb, Chazan-Cohen, & Roggman, 2019; Vallotton, Peterson, Cohen, Cook, Herb, & Ipsa, 2019).

The 9 CUPID Competencies are:

1. Reflective Practice
2. Building and Supporting Relationships
3. Partnering with and Supporting Diverse Families
4. Guidance of infant-Toddler Behavior
5. Supporting Development and Learning
6. Assessing Behavior, Development, and environments
7. Including Infants and Toddlers with Special Needs
8. Professionalism

9. Leadership, Mentoring, and Coaching

The CUPID group has developed foundational and advanced levels of these nine competencies. At a recent conference, Vallotton and Brophy-Herb (2019, NAEYC presentation) reported that Zero to Three had aligned their competencies to those developed by CUPID.

As noted above, several other groups have articulated competencies or standards for the infant-toddler workforce. These include those mentioned above—NAEYC, Zero to Three, and Infant Mental Health. A brief summary of each is below:

NAEYC Professional Standards and Competencies for Early Childhood Educators (2020).

NAEYC has recently updated the 2010 Professional Preparation Standards with a 2020 version. As before, the six standards apply to the entire early childhood profession, regardless of the age group served. The six standards are: 1. Child development and learning in context; 2. Family-teacher partnerships and community connections; 3. Child observation, documentation, and assessment; 4. Developmentally, culturally, and linguistically appropriate teaching practices; 5. Knowledge, application, and integration of academic content in the early childhood curriculum, and 6. Professionalism in early childhood education. Each of these six standards have three to five key competencies that convey, in specific terms, the expected knowledge or skills.

Zero to Three's Critical Competencies for Infant-Toddler Educators. Mayoral, LeMoine, and Dean (2020) crafted competencies designed to support staff who work in group settings, including center-based and family child care home. These competencies articulate teaching methods and practices that support three major developmental areas—social-emotional, cognitive, and language and literacy development; and the sub-areas under each developmental area. A wide variety of associated materials are available through Zero to Three including: Critical Competencies Model eBook; various modes of professional development including online courses, in-person professional development institutes, and training-of-trainers; hybrid (online and onsite) coaching; faculty institutes; a reflection tool; and technical assistance. The focus of Zero to Three's competencies is pedagogy with special attention to supporting high-needs populations and dual-/multi-language learners.

Infant, Toddler, and Early Childhood Mental Health Competencies (ITECMH). In 2008, the Herr Research Center for Children and Social Policy at Erikson Institute published the first review of early childhood mental health competency systems from six states (Korfmacher & Hilado, 2008). In a more recent update, Korfmacher (2014) continued to find considerable similarity in purpose and content of competencies across the six states reviewed. Similarities included a relationship-based, strength-based, family-centered approach to helping families, with an emphasis on understanding cultural and contextual factors affecting families and service provision. All included a focus on understanding normative infant-toddler development as well as the risk and protective factors that may thwart or support development. Interestingly, there was little emphasis on child health or specific early childhood mental health challenges, concerns, or disorders. The reviewed competency systems emphasized the variety of roles ITECMH may play. In summary, Korfmacher noted that his current review suggests increasing convergence in the content of the competencies in infant mental health.

Attention to Infant-Toddler Content in High Education

In 2001, Early and Winton reported that only 29% of U.S. colleges and universities offered an early childhood teacher education program including specialized content on children 4 years of age and younger; and only 40% of these programs offered at least one course dedicated to infants and toddlers. A follow-up study conducted by Maxwell, Lim, and Early in 2006 found that the percentage of programs offering a stand-alone infant-toddler course had increased to 46% by 2006. Additionally, they reported that both 2-year, 4-year, and master's early childhood teacher education programs were less likely to require a practicum in infant-toddler compared to preschool-aged care and education (Maxwell et al., 2006). Updated information is needed about current rates of dedicated infant-toddler course offerings, field placements, and overall coverage of the development, care, and education of the birth to 3 age group in contemporary ECTE programs (Horm et al., 2013).

Beyond simple "coverage," the nature and depth of infant-toddler courses and practica as well as the qualifications of the teacher education faculty who staff them are relatively unknown (Horm et al., 2013). Past research found that faculty who teach infant-toddler courses often lack specialized academic preparation and direct or recent experience working with this age group (Maxwell et al., 2006). This is one of many research gaps relative to preparation of the infant-toddler workforce.

Model Higher Education Programs

The recognition of the lack of attention to infant-toddler development and care in higher education and in other forms of professional development, including in-service programming (Zaslow et al., 2010), combined with the growing demand for bachelor's-level teachers to staff programs designed for infant and toddlers has prompted some colleges and universities to develop or revise their programs to focus more attention on infants-toddler care and development. One example is the program at the Tulsa Campus of the University of Oklahoma (OU).

In the mid-2000s, an endowed faculty position was created at OU with the goal to start a bachelor-completion program in early childhood education (ECE) in Tulsa. George Kaiser, a local philanthropist, had been supporting the CDA and Associate's-degree programs in ECE at Tulsa Community College (TCC) to provide staff for the Head Start and Educare programs Mr. Kaiser and his foundation (GKFF) were developing and expanding in Tulsa. Influenced by seminal reports published in the early 2000s, including *Eager to Learn* (NRC, 2001) and *From Neurons to Neighborhoods* (IOM & NAP, 2000), GKFF was interested in expanding and enhancing services for infants and toddlers and staffing these programs with highly-qualified teachers striving to implement the recommendation for bachelor-level lead teachers in all classrooms, including those serving infants and toddlers. OU provided other supports including a tenure-track faculty position and tuition waivers for students. GKFF added a loan-forgiveness program that supports students during their junior- and senior-years of study, structured so the loan can be forgiven after 4 years of work in Oklahoma in an approved early childhood setting. This feature enables students who might not otherwise be able to afford a college degree to pursue it and serves to keep graduates in the Tulsa area because they are employed. In fact, the

majority of student are “non-traditional” including individuals already working in the field of early childhood as assistant teachers or classroom aides.

These resources supported the faculty to develop a program that builds on the 2-year AA program offered by TCC. Given the demand for infant-toddler lead teachers in Tulsa, the program was intentionally designed to “cover” infant-toddler content in equal proportions to preschool and PreK/K/early elementary in terms of required courses and practica. The program is designed for working adults, with courses offered in the evenings and some weekends. The program is “practicum intense” with students having a major field experience each of the five semesters of the program. In May of 2019, the OU-Tulsa ECE Bachelor-completion Program celebrated the 100th graduate. These graduates are working in diverse settings, mostly in the greater Tulsa area. They have the reputation for being excellent teachers and are highly recruited by prospective employers.

Those of us affiliated with the OU-Tulsa ECE Bachelor’s-Completion Program now have 13 years of experience with the program. Lessons learned include:

- A few students “discover” infant-toddler care as their preferred age group through the required field experiences; but, the majority of students state their career goal is to work with preschoolers or in PreK/K settings.
- Regardless of salary/compensation (no differential between infant-toddler, preschool, and public school pay in many places in Tulsa), over time OU-Tulsa graduates migrate to work with older children. Although they may start their careers working in Birth to 5 settings, many migrate towards public schools and away from Birth to 3 and 3-5 settings/positions.
- Their stated reasons for leaving infant-toddler positions run counter to common assumptions: It’s not all about the money! As noted above, there are many workplaces in Tulsa where pay is equalized across public schools, Head Start, and Tulsa Educare so the typical differential in pay does not drive employment decisions. When asked why they change positions to work with older children, the most frequently given reason is that their family moved and they changed positions to be closer to their home. Other reasons include: their satisfaction with their supervisors and the nature of the work and the relative respect it is granted. Although it was not apparent in the program’s survey of graduates, informal conversations also strongly suggest that the opportunity settings affiliated with the public-school offer to have the summers off are important to some graduates, especially those who are mothers of young children.
- Students responses for why they stay in workplaces tend to cluster in two to three categories including: Personal alignment with the program’s educational philosophy; dedicated to working with the children and families served by the program; and positive administrative support.

OU-Tulsa’s Program is one example of a bachelor-level program designed to emphasize infant-toddler knowledge and skills. Other undergraduate programs with reputations for focusing on infant-toddler content include the University of Connecticut and Michigan State University, (Personal Communication, Rachel Cohen, January 2020). Graduate programs with long-standing reputations for offering an infant-toddler emphasis include Bank Street Graduate School of Education and The Erikson Institute. While not a comprehensive list, the features that these

programs share in common include a focus on basic child development knowledge, courses that focus on care and pedagogy, and practica or field experiences all focused on the infant-toddler age group.

Relative to in-service professional development hosted by higher education institutions, an increase in offerings focused on infants and toddlers is evident. An early example is The Infancy Institute hosted by Bank Street College. Over 30 years ago, the Infant & Family Development and Early Intervention Program at Bank Street recognized a lack of professional development opportunities specifically designed to improve the practice of those working with infants and toddlers. The Infancy Institute was created to address this void and to support professionals in the many settings where they interact with infants, toddlers, and families. Through an annual conference, The Infancy Institute disseminates information about recent developments in research, relationship-based practice, and family-centered care. A quick online search revealed similar programs offered by several universities across the US.

Moving Forward: Focus on the Workforce

To build the workforce, several groups have issued recommendations that emphasize building the knowledge of caregivers and building a career or profession. Two examples of recommendations issued recently in the field include those from *Transforming the Workforce* (IOM/NRC, 2015) and Whitebook et al. (2016).

The following recommendations offered in *Transforming the Workforce* (IOM/NRC, 2015, pages 51-57) were generated to apply to the birth to age 8 workforce:

1. Strengthen competency-based qualifications requirements for all care and education professionals
2. Develop and enhance programs in higher education for all care and education professionals
3. Develop a new paradigm for evaluation and assessment of professional practice for those who work with young children
4. Build a better knowledge base to inform workforce development and professional learning services and systems

Whitebook et al. (2016) offer similar recommendations including:

- Ensure current workforce has access to PD
- Develop career pathways linked to requirements
- Establish educational requirements that reflect foundational knowledge

In summary, the last decade has witnessed an increase in attention to the knowledge and skills expected for the infant-toddler workforce. Several groups have developed competencies that show overlap in content and convergence on key skills, knowledge, and behaviors. Growth in attention to and inclusion of infant-toddler content in higher education has also been seen in both pre- and in-service offerings. Although much remains to be done, progress over the last 10 years suggests a trajectory of continued steady progress.

Recommendations for NIEER

Based on my reading, experience, and participation in the December 10 and 11 meetings in New Jersey, I offer the following recommendations/suggestions for consideration by NIEER as they plan an Infant Toddler Policy Research Center. I have divided my recommendations into the two board categories of applied research and policy.

Applied Research:

- As noted earlier in this paper, relatively little is known about the impact of nonparental care during the infant-toddler period, especially at the national-level (Ruzek et al., 2014; Norris & Horm, 2018). NIEER could partner with other researchers to design and conduct studies to answer some of the unanswered question with a focus on New Jersey, but with partners from across the nation who would broaden the scope to generate national implications.
- Infants and toddlers of color and their families have been systematically denied opportunities and access to resources (Cosse, Schmit, Ullrich, Cole, Colvard, Keating, 2018). Launch work to paint this picture for New Jersey. Be sure to include an equity lens in all research and analyses.
- It appears that a current description of infant-toddler care used by New Jersey's children would be valuable. Variables to consider include family needs, access to available programs, and quality of existing programs. What data are currently available and can these data sources be linked to paint a more comprehensive picture. How could NIEER play a role in assembling existing or collecting new data to drive the state's knowledge and action?
- Do a survey of salary/compensation, credentials/education levels, and characteristics of the infant-toddler workforce in New Jersey. Although national statistics are good, those currently available are a bit dated. Plus, my experience suggests that to have the most impact, state policy makers prefer state-specific data (with national data as context).
- Consider conducting a current and detailed cost of quality study for New Jersey.
- Do a scan of what is available in New Jersey higher education institutions related to infant-toddler content. Assess courses and content, practica and field experiences, as well as issues related to student access such as course scheduling, scholarships, etc.
- More research is needed to help us better understand the role of early childhood program administrators, especially related to staff satisfaction, retention, and program quality. This would be a fruitful program of research to launch with colleagues preparing infant-toddler caregivers.
- Although interest in early childhood teachers' health, well-being, and self-care is growing, more research is needed, especially with caregivers who work with infant and toddlers. Research needs to be focused on both understanding teachers' well-being in a comprehensive and interdisciplinary way and exploring ways to best support teachers' mental health. Launch a study of these factors in New Jersey, perhaps with other research partners across the US.

Policy Work:

- Continue to disseminate research findings to multiple audiences through varied methods including print, video, and social media. Continue tailoring platforms and crafting messages to be most relevant for your multiple intended audiences.
- Work with advocates to ensure their messages are research-based, or research-informed.
- Work with relevant colleagues in New Jersey to reduce wage disparities and track associated variables such as turnover, program quality, workforce stress, and other variables.
- Partner with relevant colleagues in New Jersey to reform higher education to include more infant-toddler content; reduce barriers to attainment of higher education by infant-toddler workforce (e.g., make sure courses are offered on a schedule that works for this population of students, scholarships)
- Prepare a policy document that shows the gap between subsidy coverage and the cost of infant-toddler care in New Jersey, licensed and modeled high-quality care. Workman and Jessen-Howard (2018) report that this gap is \$482/month for New Jersey for minimal licensing standards based on 2017/2018 estimates. As suggested above, first conduct a detailed and current cost of care and high-quality care for New Jersey.

In closing, NIEER's plan to contribute to research and policy related to infant-toddler care is a worthy endeavor. As documented in this paper, which focused on just one aspect of the current needs and challenges, much work needs to be done to better understand and inform infant-toddler services. NIEER can position itself to contribute to the state of New Jersey, and with strategic collaborators also contribute needed information to the national dialogue.

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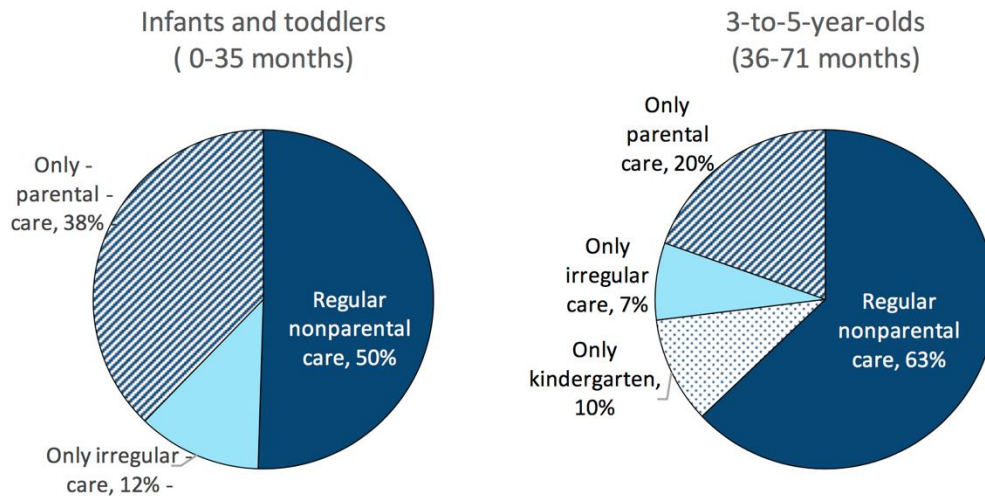
Appendix

Share of children in various types of child care arrangements, by child age (From: Forry, Madill, Shuey, Halle, Ugarte, & Borton, 2018).

How many children under age 6 were in some form of regular nonparental care arrangement in 2012?

Figure 1 shows that fifty percent of infants and toddlers (ages 0-35 months) were in regular nonparental care in 2012. Regular nonparental care was more common for 3-to-5-year-olds: Sixty-three percent of 3-to-5-year-olds attended regular nonparental care, and another 10 percent attended kindergarten but had no regular nonparental care.

Figure 1. Share of Children in Various Care Arrangements, by Child Age.



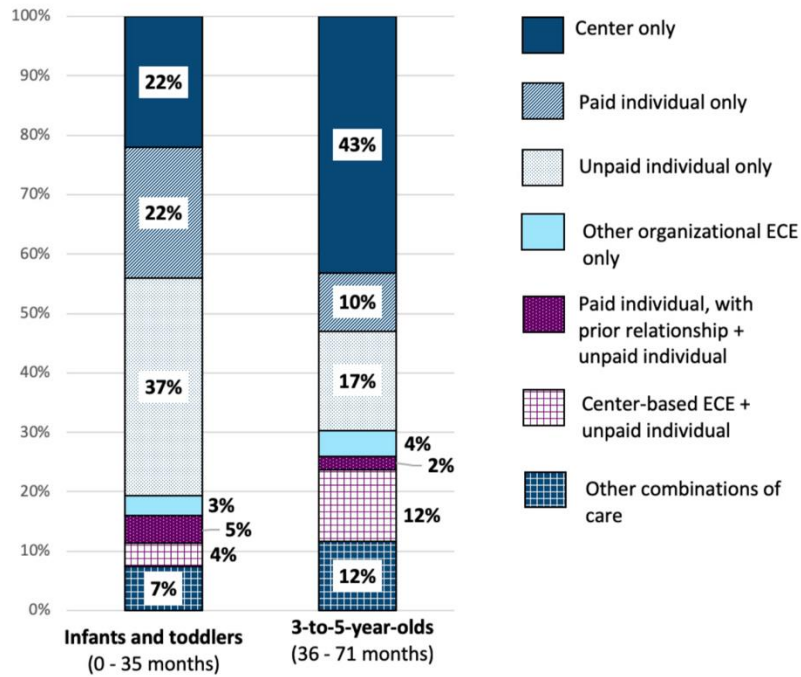
Source: NSECE Project Team, 2016. Table 13.1.1 (Common Combinations of Care, Child-Level Estimates, Age 0 through 35 months, by Household Poverty Ratio) and Table 13.2.1 (Common Combinations of Care, Child-Level Estimates, Age 36 through 71 months, by Household Poverty Ratio).

Note: Regular nonparental care arrangements are those that a child attended for at least 5 hours per week, not including K-8 schooling. Irregular care was used fewer than 5 hours per week. Due to the inclusion of 5-year-olds in kindergarten in these data, "only kindergarten" is included in this figure, and both "only irregular care" and "regular nonparental care" include care used by children in kindergarten, such as before-school and after-school care. Due to rounding, cumulative percentages may not equal 100 percent.

Appendix

Share of Children in Each Type of Care, Among Children with at least One Regular Nonparental Care Arrangement, by Child Age (From: Forry, Madill, Shuey, Halle, Ugarte, & Borton, 2018).

Figure 2. Share of Children in Each Type of Care, Among Children with at least One Regular Nonparental Care Arrangement, by Child Age



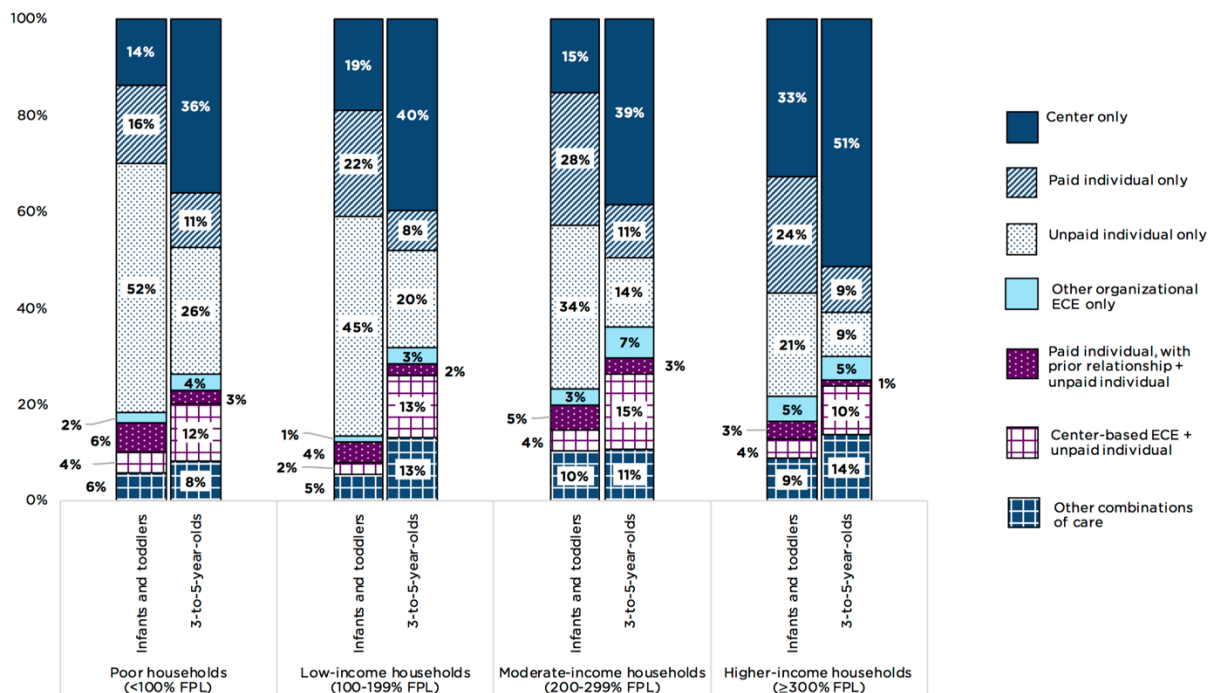
Source: NSECE Project Team, 2016. Table 13.1.1 (Common Combinations of Care, Child-Level Estimates, Age 0 through 35 months, by Household Poverty Ratio) and Table 13.2.1 (Common Combinations of Care, Child-Level Estimates, Age 36 through 71 months, by Household Poverty Ratio).

Note: Regular nonparental care arrangements are those that a child attended for at least 5 hours per week, not including K-8 schooling. The sample is limited to children who were enrolled in at least one regular nonparental care arrangement. The sample excludes children attending kindergarten who did not have a regular nonparental care arrangement. Due to the inclusion of 5-year-olds in kindergarten in these data, regular nonparental care includes care used by children who were in kindergarten, such as before-school and after-school care. For "paid individual" and "unpaid individual" arrangements, the child may or may not have had a prior personal relationship with the provider. For "paid individual, with prior relationship" arrangements, the child had a prior personal relationship with the provider. "Other organizational ECE only" refers to drop-in or single activity care or lessons, church child care during services, and recreational activities. Due to rounding, cumulative percentages may not equal 100 percent; however, the graphic is based on unrounded estimates.

Appendix

Share of Children Using Each Type of Regular Nonparental Care, by Child Age and Household Income (From: Forry, Madill, Shuey, Halle, Ugarte, & Borton, 2018).

Figure 4. Share of Children Using Each Type of Regular Nonparental Care, by Child Age and Household Income



Source: NSECE Project Team, 2016. Table 13.1.1 (Common Combinations of Care, Child-Level Estimates, Age 0 through 35 months, by Household Poverty Ratio) and Table 13.2.1 (Common Combinations of Care, Child-Level Estimates, Age 36 through 71 months, by Household Poverty Ratio).

Note. Infants and toddlers include children age 0–35 months. Three-to-five-year-olds include children age 36–71 months. Regular nonparental care arrangements are those that a child attended for at least 5 hours per week, not including K-8 schooling. The sample is limited to children who were enrolled in at least one regular nonparental care arrangement. The sample excludes children attending kindergarten who did not have a regular nonparental care arrangement. Due to the inclusion of 5-year-olds in kindergarten in these data, regular nonparental care includes before-school and after-school care that was used at least 5 hours per week. For “paid individual” and “unpaid individual” arrangements, the child may or may not have had a prior personal relationship with the provider. For “paid individual, with prior relationship” arrangements, the child had a prior personal relationship with the provider. “Other organizational ECE only” refers to drop-in or single activity care or lessons, church child care during services, and recreational activities. Due to rounding, cumulative percentages may not equal 100 percent; however, the graphic is based on unrounded estimates. FPL = federal poverty level.

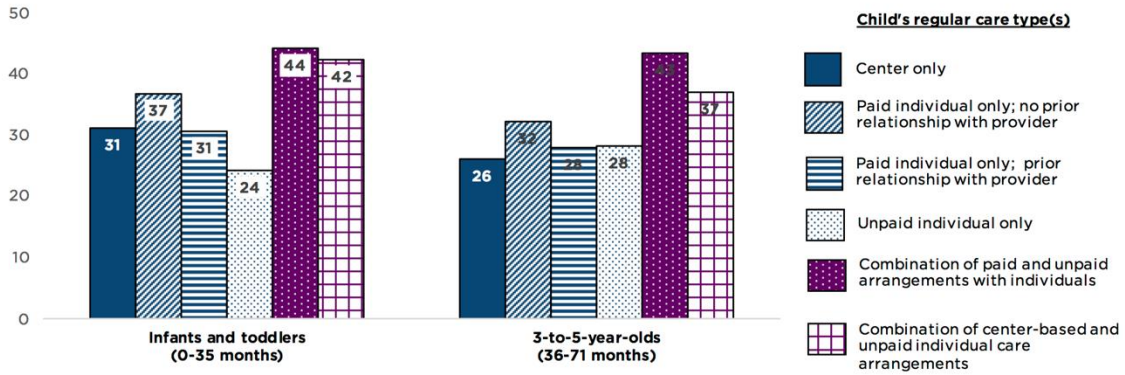
⁴ These data are also presented in a complementary resource in this series (Forry, Madill, & Halle, 2018).

Appendix

Average Weekly Hours Spent in Regular Nonparental Care, by Child's Age and Regular Care Type(s)

From: Forry, Madill, Shuey, Halle, Ugarte, & Borton, 2018

Figure 5. Average Weekly Hours Spent in Regular Nonparental Care, by Child's Age and Regular Care Type(s)



Source: NSECE Project Team, 2016. Table 16.1 (Hours in Type of Care in Reference Week, by Most Common Combinations of Care Used, Child-level Estimates, Age 0 through 35 Months) and Table 16.2 (Hours in Type of Care in Reference Week, by Most Common Combinations of Care Used, Child-level Estimates, Age 35 through 71 Months).

Note: Regular nonparental care arrangements are those that a child attended for at least 5 hours per week, not including K-8 schooling. Hours in irregular care arrangements (i.e., care used fewer than 5 hours per week) are not included in the total number of hours. Due to the inclusion of 5-year-olds in kindergarten in these data, regular nonparental care includes before-school and after-school care that was used by kindergartners at least 5 hours per week. Hours in kindergarten are not included in the total number of hours. Values are rounded.