Federal Reserve System
Community and Economic Development, Early Care and Education Work Group

A Late Start: Understanding Public Investments in Education to Inform Supply-Side Investments for Early Learning

About the authors

The Federal Reserve's Early Care and Education (ECE) Work Group supports the Federal Reserve System's mandate to pursue maximum employment by researching the role the ECE sector plays in supporting labor force participation and, by extension, thriving economies.

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Suggested citation

Federal Reserve's Early Care and Education Work Group. 2023. "A Late Start: Understanding Public Investments in Education to Inform Supply-Side Investments for Early Learning." Federal Reserve Bank of San Francisco Community Development Research Brief 2023-03. doi: 10.24148/cdrb2023-03.

Summary

This is one of two research briefs by the Federal Reserve's Early Care and Education (ECE) Work Group exploring the ECE sector's role in supporting the nation's workforce along with a blog post introducing the series. In this brief, we give an overview of the factors that limit the supply of early education and care. We offer a data exercise comparing public investments in public education and public child care subsidies to illustrate how the ECE sector's dominant financing model has contributed to the sector's supply constraints. Addressing constraints will require innovations and partners to address them, which is why part two of this brief offers a description of innovative and partner-dependent strategies in different stages of implementation at the state, county, and city level. In a complementary brief, we focus on how affordable and available ECE programs are necessary[1] to facilitate parents' participation in the workforce. Combined, this work aims to be informative for closing gaps in access to high-quality child care to further support the Fed's goal of maximum sustainable employment.

Contents

Part One: Context

In the United States, more than half (53 percent) of the labor force are parents and over a third of these parents (37 percent) have young children. Regardless of persistent demand for licensed child care, a tension between what parents can afford to pay and what most providers need for operations results in very narrow profit margins. This in turn results in significant supply challenges that manifest as employment barriers for low- to moderate-income parents: limited ECE slots that are challenging to access can make it difficult for parents to participate in the workforce.

As of 2019, the median hourly wage for a child care worker was $11.65 per hour or $24,230 annually.

Child care providers did not meet a living wage in any state for a single adult with one child. The low wages greatly constrain the supply of accessible, high-quality ECE.

Early childhood education (ECE) is mostly provided by privately owned small businesses. They are often run by single owner-operators and financed primarily by private tuition paid by parents. Businesses in the ECE sector often struggle to be profitable due to the labor-intensive work and the low child-to-staff ratios needed for infants and toddlers. These fixed aspects of ECE contribute to low pay for the ECE workforce. As of 2019, the median hourly wage for a child care worker was $11.65 per hour or $24,230 annually. Child care providers did not meet a living wage in any state for a single adult with one child. The low wages greatly constrain the supply of accessible, high-quality ECE.

To help eligible low-income parents access licensed ECE, public child care subsidies may be available, as section two of this brief describes. However, these public subsidy amounts tend to cover a fraction of market rates, leaving parents to make up the difference in the form of copayments. As a result, providers who serve families using public subsidies are not always paid for the full cost of providing care, which can disincentivize them from accepting families on subsidies. This further limits options for low- to-moderate income families.

Beyond the durable, chronic challenges described here, the COVID-19 pandemic created a major disruption in child care. While child care operators were allowed to remain open and the sector received specific federal or state aid, the licensed child care supply still declined significantly. The child care workforce had decreased 11 percent—a loss of 98,200 workers from the industry—as of 2021, a loss that illuminated a vulnerability within the ECE sector that existed even before the pandemic, and which deserves further attention. The following analysis sheds light on how the historical financing model for ECE presents supply challenges and is followed by examples of innovative approaches that address supply constraints.

Comparative examination of public investments on a per-child basis

While the financing models for ECE and K–12 education fundamentally differ, analysis of the public investment portion can shed light on some of the supply side challenges the ECE sector faces. These include challenges related to recruitment,

retention, and compensation of an ECE workforce.[2] ECE is mostly financed through out-of-pocket payments by parents with supplemental funding for eligible lower-income families through the federal- and state-funded Child Care and Development Fund (CCDF). The public education system is mostly financed through state and local sources, with supplemental federal funding for at-risk children. Given evidence that links quality early childhood development to better school readiness and more educated workers, the data exercise may provide insight into to how states' expenditures vary across the continuum of education for the developing child at different ages.

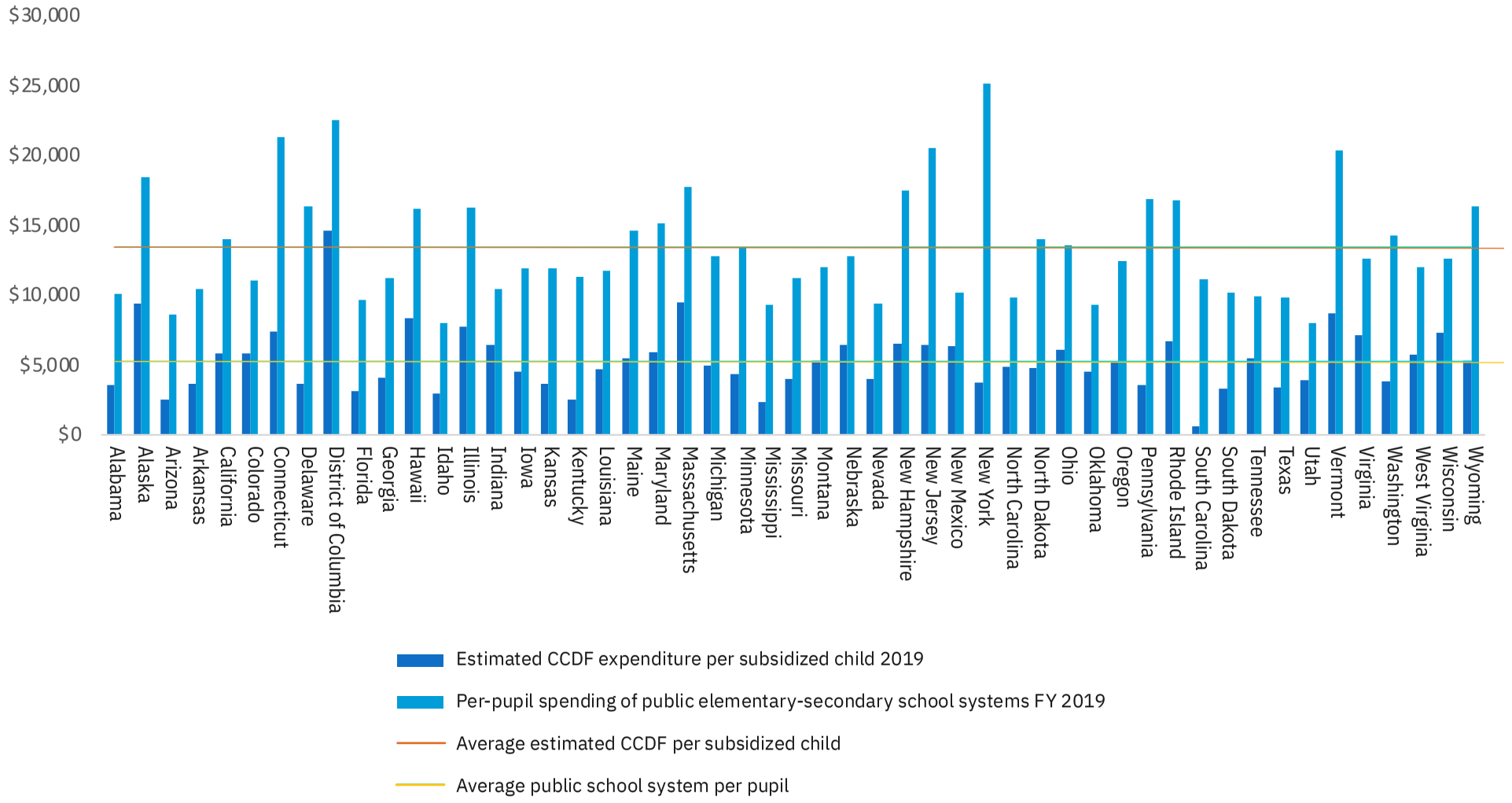
When the cost of care is too high, many parents opt for informal care or exit the labor force. This can limit child care providers' ability to pay high enough salaries to support being fully operational.

Compensation differences between the ECE workforce and educators in the public education system reflect their different financing models.[3,4] In 2021, the median annual earnings for workers defined as child care workers were 34 percent less than those defined as preschool and kindergarten teachers, and 123 percent less than elementary and middle school teachers.[5] The wage differential undermines a stable ECE workforce, for which turnover increases as wages decrease.[6] Turnover has also been shown to be higher when subsidized children are served. The main source of subsidies, through the federal CCDF, tends to reimburse providers below their market rates, leaving little opportunity to enhance wages of the ECE workforce.[7] When the cost of care is too high, many parents opt for informal care or exit the labor force. This can limit child care providers' ability to pay high enough salaries to support being fully operational.

Early educators and educators in the K–12 public system face a significant wage penalty relative to similarly credentialed workers with comparable experiences and characteristics. However, teachers in the public education system make persistently higher wages than do early educators.[8] Both types of educators are critical to the economy—one supports parental work and child development and the other supports academic development while providing supervision, yet they are financed differently. Both types of educators require unique skills based on the developmental needs of the children they serve, yet we see different patterns of educational attainment, with public school educators being three times more likely to hold a bachelor's (or higher) degree than early educators.[9] This pattern, however, is likely due to the persistently low pay of early educators that makes attracting and retaining a credentialed ECE workforce challenging as opposed to a reflection of the skill level required of workers in this sector. In contrast to the ubiquity of access to public education, the public component of early education and care is severely limited: in 2018, 15 percent of the 24 percent of children between 0 and 12 who were eligible for child care subsidies under the federal rules received them.[10] And there are persistently large differences in the per-child expenditures of public funds used to cover public education versus the public component of early education and care as the ensuing analysis of 2019 data reveals, leaving parents with young children responsible for covering the financial difference.

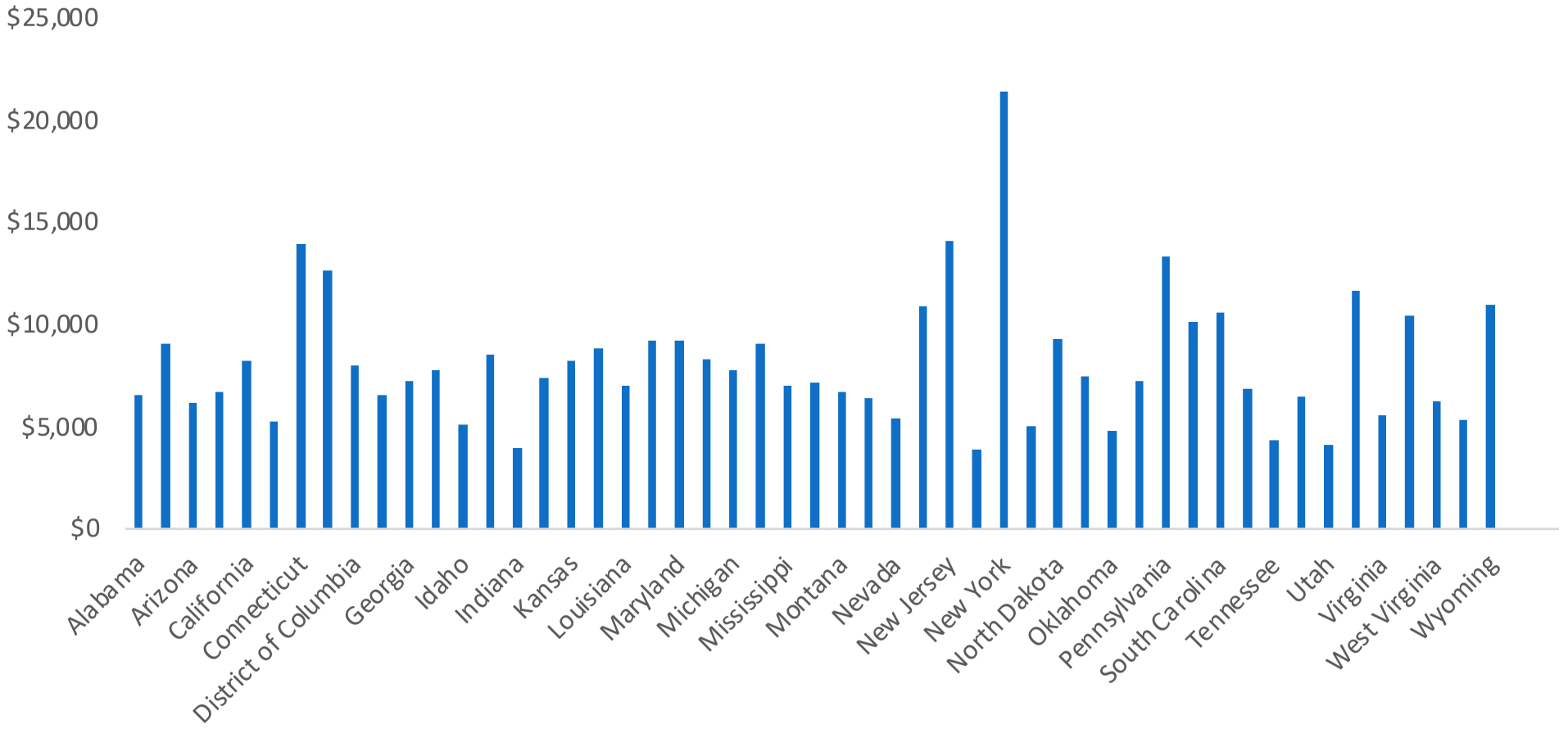
Following is an analytical exercise comparing estimates of per-child expenditures that demonstrates the vast differences in the amount of public dollars for early education and care relative to the public education system.[11] The point of this exercise is to provide insight into the current financing model of ECE, which could benefit from alternative approaches, as exemplified in this brief's "Part Two: On the Ground Innovations." The comparison is not an exact apples-to-apples comparison given that there are different expenses related to each and the nature of the schedules and administrative responsibilities can vary considerably. However, the sources of funding are somewhat consistent in that they are public, though it should be noted that parents using child care subsidies are required to cover a portion of the tuition in the form of a copayment, which varies by state.[12] It should also be noted that the per-child expenditures for children in ECE are limited to just those children who receive subsidized care. Most children in ECE are unsubsidized, with their parents paying out of pocket, and these children are not reflected in this analysis. On average, in 2019, the estimated per pupil spending at the public elementary-secondary school system level was approximately $13,400 (SD=$3,900). This estimate is 2.5 times greater than the per-subsidized child expenditure at the early education and care level of $5,300 (SD=$2,300).[13] The average difference between public education spending and public expenditures on CCDF at the child level exceeded $8,000 in 2019.[14] While figure 1 reveals tremendous variability in both types of expenditures, consistent across all 50 states and the District of Columbia are the higher per-pupil expenditures at the public elementary-secondary school level. Figure 1 shows the relative amounts by state and DC, with the differences in figure 2 revealing the largest gaps in New York ($21,400), and the smallest in New Mexico ($3,900).

Figure 1. Comparison of child care and public school expenditures per child by state in FY 2019



Source: Based on calculations provided by Sarah Savage, Federal Reserve Bank of Boston, using US Census 2019 Public Elementary-Secondary Education Finance Data, US Department of Health and Human Services Child Care and Development Fund Expenditure Data, and US Department of Health and Human Services Child Care and Development Fund Statistics for FY 2019

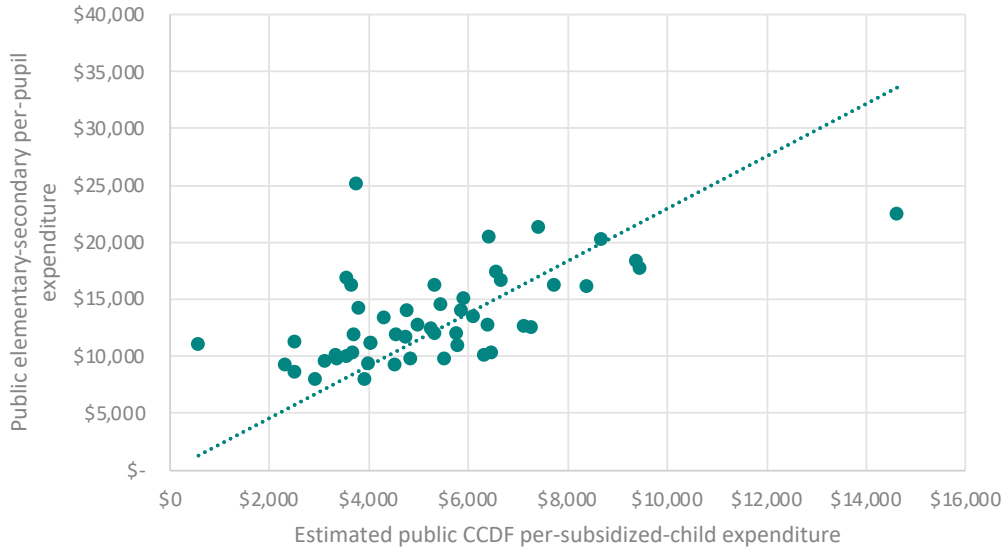
Figure 2. Difference between K-12 public school spending and child care by state in FY 2019



Source: Based on calculations provided by Sarah Savage, Federal Reserve Bank of Boston, using US Census 2019 Public Elementary-Secondary Education Finance Data, US Department of Health and Human Services Child Care and Development Fund Expenditure Data, and US Department of Health and Human Services Child Care and Development Fund Statistics for FY 2019

To further shed light on how these spending patterns relate to one another, we ran a correlation between public K-12 expenditures per pupil and estimated Child Care and Development Fund (CCDF) expenditures per subsidized child. The spending levels are strongly correlated with a positive coefficient of 0.60.[15] This suggests that states that spend more on public education per pupil also spend more per subsidized child on child care subsidies as illustrated in figure 3.

Figure 3. Scatterplot of per-child expenditures by setting and state in FY 2019



Source: Based on calculations provided by Sarah Savage, Federal Reserve Bank of Boston, using US Census 2019 Public Elementary-Secondary Education Finance Data, US Department of Health and Human Services Child Care and Development Fund Expenditure Data, and US Department of Health and Human Services Child Care and Development Fund Statistics for FY 2019.

In summary

At a high level, this simple comparison reveals the stark differences in public investment per child in K–12 public schools versus in early education and care settings, despite the evidence linking child care settings to brain development in babies and toddlers.[16] A missing piece from the CCDF expenditures data is the copayments paid out of pocket by parents on subsidy receipt. However, given the intention of making copayments affordable, the amounts paid by parents would do little to reconcile the magnitude of difference between these public investments. When limiting the analysis to children who received subsidies, we see that the per-child amounts and differences vary by state but are consistently higher across all states for K–12 public school spending. There are some major differences in how expenditures are decided that might help explain this pattern. For example, in FY 2019, federal sources accounted for 71 percent of CCDF expenditures[17] but only 7 percent of public elementary and secondary school expenditures. Most of the latter came from state (47 percent) and local (46 percent) sources.[18] Federal funds allocated to K–12 public school are mainly for programs to help "at-risk" children such as those from lower-income families or those with special needs. Similarly, CCDF targets children in this category as they must be low income to be eligible. These children are disproportionately from families of color: average monthly estimates of children served by CCDF show that 40 percent of these children are Black and 24 percent are Hispanic.[19]

Because CCDF is a federal government program, its funding levels are decided by federal legislators' appropriations and are then distributed to states using allocation formulas.[20] By contrast, in K–12 public schools, which are funded mostly through state and local funds, funding is conventionally determined by the number of children that must be served. Typically, total per-student funding is determined once resources are assigned. In the ECE realm, there is a tendency to take the number of young and low-income children into consideration for allocation purposes. At the K–12 public school level, there tends to be a convention to base funding levels on a minimum of what is needed to serve the number of students. Inadequate funding of ECE can result in insufficient reimbursement rates for providers. Reimbursing providers who participate in the subsidy system below what they typically charge parents who pay privately makes it challenging to accept many subsidies and provide high-quality care. This can disincentivize providers from participating in the subsidy system and at the same time constrain the ability of those who do participate from paying competitive wages.[21]

It is important to recognize that since these data were recorded, states have received federal pandemic-induced relief funding for investments that in many instances has resulted in supply-side investments and innovations. Some states will continue to fund these changes using state dollars after seeing successful

outcomes such as increased stabilization of the child care sector, attributed to how relief dollars were used.[22] These experimental uses of federal relief funds that have been continued by states in some instances along with the pattern of underinvestment in the ECE sector are evidence that there are opportunities to improve the financing model of the child care sector. Solutions require investments from sources other than parents' pockets along with some combination of innovations and partners who understand the economic imperative of accessible high-quality early education and care.

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Part Two: On-the-Ground Innovations

Community and state innovations in development may inform efforts to address supply-side challenges. We share details of three strategies at the state, county, and city levels. These strategies focus on supply-side improvements or include supply-side components of larger initiatives to close child care access gaps, both of which support the Fed's goal of maximum, sustainable employment. By improving ECE financing, these interventions increase the capacity, supply, and quality within the sector.

State-level effort to increase economic opportunities for early care and education providers

Delaware's new Early Childhood Innovation Center (ECIC) aims to support ECE workers' success by increasing their access to educational and economic opportunities. ECIC will provide ECE workers, such as teachers and administrators, with access to programs that offer post-secondary degrees and will also provide comprehensive supports and incentives that increase retention for educational programs within the ECE sector. The additional education will provide ECE workers with more occupational opportunities. Through such efforts, ECIC aims to help ECE workers provide children with higher-quality early childhood experiences, particularly for the betterment of Delaware's working families and children who are facing poverty.

The strategy

The ECIC is currently redesigning and implementing a statewide scholarship program for current and aspiring ECE workers to obtain nationally recognized credentials, associate degrees (such as the child development associate, or CDA, degree), and bachelor's degrees. The scholarship program includes a robust cohort model that provides innovative wraparound supports for participants, including stipends for child care, technology as well as transportation though the ECIC Navigator program. This approach can open doors for additional early care workers of various socioeconomic backgrounds and help support a seamless pathway to a degree.

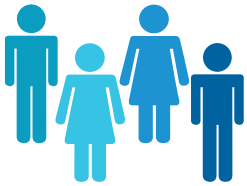
While additional credentials will create opportunities for increased wages for early care workers, the ECIC operates on the principle that increasing economic opportunities for early care workers will lead to longer retention rates and higher quality care whether or not a participant remains in the field for the duration of their career. The program is intended to be fully implemented in the summer of 2023.

Additionally, the ECIC is scheduled to open with a newly constructed building in 2024 to serve as a central hub for the ECIC team and as a research and placement hub for Delaware's current ECE workers and ECE students. The center will also feature a full service, world-class child care center to serve infant, toddler,

preschool, and pre-K children and includes an outdoor classroom and nature-based playground experiences.

The investment

The ECIC is funded with 10.6 million from the American Rescue Plan Act and an additional $31.6 million from the State of Delaware governor's office and the Delaware Department of Education. The program has sustained funding through 2026 and will continue seeking support from the state while also pursuing other grant opportunities (private and federal) to increase funding and implement additional programming.



The ECIC program designers focus on bringing a variety of diverse voices from across different racial and socioeconomic backgrounds to the table in the planning, design, and implementation processes of their supportive programming.

The core partners

The ECIC program designers focus on bringing a variety of diverse voices from across different racial and socioeconomic backgrounds to the table in the planning, design, and implementation processes of their supportive programming. ECE teachers and administrators, who do this work daily, also play a key part in the ECIC's strategic planning. Participants in the ECIC's operations include the governor's office, the state Department of Health and Social Services, and the state Department of Education. Delaware State University will develop a statewide infrastructure for Delawareans seeking early care careers and will work with all four Delaware institutions of higher education who offer degrees in ECE.

The opportunity

Key stakeholders prioritized ECE when they saw the impact of the pandemic on the already-fragile sector. This paved the path for a new and different type of support model for ECE workers. Once the core elements of the program are implemented, the ECIC will continue to establish other opportunities for workforce supports. These might include a substitute pool or partnerships with higher education institutions to integrate business elements into early care program curriculum.

If you'd like to learn more about the Early Childhood Innovation Center, please contact the executive director, Dr. Kim Krzanowski at kkrzanowski@desu.edu.

County-level effort to increase the supply of quality ECE

The Children's Trust (The Trust) in Miami-Dade County analyzed data on the local ECE market. They determined that their county did not have a generalized ECE supply challenge. Instead, they found that the biggest ECE challenges came for families with low- to-moderate incomes, who struggled to access and afford high-quality ECE programming. This struggle was particularly acute for families living in neighborhoods with a high concentration of poverty.

The Trust developed the Thrive by 5 Early Learning Quality Improvement System (QIS)—a system of supports designed to incentivize the availability of high-quality ECE programs. In the QIS's framework, high-quality programs are those that support children's development and increase kindergarten readiness. The Trust's goal is twofold. First, increase the number of children in Miami-Dade County who have equitable access to high-quality early learning experiences. Second, provide ECE owners and operators with the resources necessary to achieve and maintain high-quality learning experiences.

The strategy

The Trust implemented the QIS in 2018 with several key partners and community stakeholders. The model includes multiple components that involve children, parents, early learning practitioners, directors, and owners, as well as policymakers. Components include:

- **High-quality tiered payment differentials** that compensate programs based on their quality level. Payments are made for all children ages birth through 5 years old attending their program (both subsidized and private pay). The differential payments build on the tiered reimbursement rates provided by the Florida Department of Education's Division of Early Learning and provide for up to a 20 percent higher reimbursement rate. Program quality is measured by classroom observations using the CLASS tool, which assesses teacher- child interactions.
- **Child scholarships** that are awarded to parents who do not qualify for a state child care subsidy but still cannot afford the high cost of quality ECE. While initial eligibility for a child care subsidy in Florida is 150 percent or below the federal poverty level, Trust scholarships cover families with incomes up to 300 percent of the federal poverty level. These scholarships can be used at participating Thrive by 5 programs and help provide a consistent revenue stream for participating providers.
- **A$CEND salary supplements**, which are intended to increase ECE providers' retention in the field and improve teaching practices by bolstering compensation. The A$CEND program rewards early childhood providers by collectively recognizing education, ongoing professional development, teacher-child interactions, and longevity as demonstrated pathways of competency in their roles. Through A$CEND, ECE providers may earn up to $6,000 annually based on their CLASS observation composite score, placement on a knowledge scale, and longevity in the field.

Participating programs must serve children birth to 5, be accredited, and meet CLASS score expectations. The current investment for the Thrive by 5 QIS initiative is over $27 million annually, supporting more than 1,000 children and 300 ECE programs.

Lessons learned include the need to work strategically on incremental change given limited and finite resources.

Protective factor during COVID

In March 2020, the ECE industry experienced great challenges. Providers stayed open to meet the needs of essential workers but faced revenue instability as attendance changed rapidly, often tracking with local COVID case counts. To support stability for ECE programs and assist them with the additional costs of providing care during the pandemic, the Trust continued to pay high-quality tiered payment differentials through September 2020 based on February 2020 enrollment numbers. Beginning in October 2020 payments reverted to being based on enrollment.

Over the course of the next year, the Trust and its partners heard anecdotes suggesting that the Thrive by 5 programs demonstrated more economic resiliency than other ECE programs in the community and were able to continue to serve children and retain teaching staff, helping to protect them from the workforce shortages other ECE programs reported. Thrive by 5 programs are all located in high-poverty census tracts. The stabilization and accessibility of ECE programs was essential for many hourly wage earners and "essential workers" who were not able to transition to work from home.

Important considerations

Lessons learned include the need to work strategically on incremental change given limited and finite resources. Dedicated time has also been spent developing partnerships with all ECE stakeholders to understand gaps in the community, streamline processes, and alleviate duplicative work to ensure the ECE system is seamless for families.

A critical next step is refining the evaluation framework and beginning to evaluate the Thrive by 5 supports, and understanding the direct outcome this work is having for all its constituencies, including children, families, individual ECE providers, and child care programs.

To learn more, see the Children's Trust website.

City-level effort to expand access and capacity to ECE services

Only one-third of third graders read on grade level in New Orleans, and 40 percent of children younger than six live in poverty. These statistics informed an effort to support the supply and affordability of quality ECE programs for infants and toddlers. In 2021, Orleans Parish passed a voter referendum on a property tax that would raise $21 million per year to provide access to high-quality care for 1,000 infants and toddlers. The effort aims to expand capacity by supporting the entirety of the ECE infrastructure, including ECE facilities, programs, practitioners, and directors.

The strategy

Of the $21 million, 70 percent pays ECE programs to provide slots for toddlers and infants from families with low incomes. This consistent funding will support ECE programs' ability to maintain high-quality care.

The remaining 30 percent is largely devoted to wraparound services for children, families, and providers. For children and families, services will include developmental screenings and hearing, vision, and dental services. For ECE providers, funding will support professional development, practice-based coaching, and teacher workforce supports. An initial investment in facilities and capacity grants is also being provided to address the need for additional ECE capacity and training to support the expansion of multi-site operations.

Importantly, the funding will also pay for an independent evaluation of the full effort.

Leveraging funding

New Orleans' effort may be able to leverage matching funds via the Louisiana Early Childhood Education Fund. That fund was established to provide matching dollars to incentivize local communities to invest in ECE. Based on the available state match, the fund could provide up to an additional $21 million for a total of $42 million in annual investments.

Other local funds are being leveraged to support a coordinated effort to improve access and quality for infants and toddlers. The City of New Orleans is contributing $2.4 million to help with workforce stabilization by funding retention bonuses to increase the annual salaries of providers. There are also significant commitments for in-kind services provided by community partners and philanthropy. State reimbursable tax credits will allow businesses to donate up to $5,000 annually toward ECE. Donated funds are then administered through a grantmaking process to support ECE programs with worker benefits, professional development, or purchasing supplies. Directors and practitioners are also eligible for a School Readiness Tax Credit with a value of up to $3,574 annually.

The core partners

A coalition of partners contribute to five core priorities to develop the infrastructure necessary for this effort:

- the ECE workforce
- ECE facility creation and expansion
- wraparound supports for all children
- enrollment
- governance, accountability, and communication

A committed group of 35 partners serve as core advisers. About two-thirds are ECE providers. The remaining partners represent parents, universities, city council members, social service providers, organizations serving children with exceptionalities, anti-poverty agencies, and other relevant stakeholders.

Additionally, a steering committee that operates as a public body has been established. The steering committee must comply with public transparency and open meetings laws. All members are early childhood stakeholders and 50 percent are parents and providers. These design features are intended to make the board as accountable and responsive to the communities they serve as possible.

Having families and providers at the table to inform decisions was very helpful in identifying the most compelling needs and priorities.

Lessons learned

The ECE field is receiving unprecedented levels of attention—and resources. This interest can foster pressure and an unachievable desire to try to address all system deficiencies and challenges at once. Some of the greatest tensions have been related to priority setting and decision making. Collective impact efforts are difficult when resources are constrained, amplifying the need for transparency, explanation, and opportunity for reflection. Having families and providers at the table to inform decisions was very helpful in identifying the most compelling needs and priorities.

If you'd like to learn more about the work in New Orleans, please see Agenda for Children.

This brief is part of a series produced by the Federal Reserve's Early Care and Education Work Group that explores the issues on both the demand and supply sides of the child care sector in order to support the Federal Reserve System's mandate to support maximum employment.

Endnotes

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