



Early Childhood Workforce Data Snapshots: State-Level Partnerships and Policy Drive Data for Impact

The United States is experiencing a critical shortage in the early childhood workforce. Data is an essential tool to help states and localities understand the early childhood (EC) workforce shortage and inform policy and program responses. Data can describe workers' demographic characteristics, wages, retention, and whether the supply of EC programs meets community demand. Data can help states and localities understand how impactful workforce policies or programs are and where there are inefficiencies or inequities. Yet, there is little understanding of how states are using data for impact (e.g., to support EC workforce policies; inform professional development opportunities; or guide investments in workforce-related resources, programs, and initiatives).

Many states face a “data deficit” without essential data on the size of the workforce and basic demographic and workforce metrics.¹ Data deficits may exist because states and localities:

- Lack access to basic data, such as data on credentials, qualifications, and compensation levels, or more detailed data on shortages, stability, and quality.
- Do have access to data, but use legacy systems that are difficult to adapt, use data systems that operate in siloes or are not integrated across data sources, or lack the analytic capacity to address key policy questions.
- Lack effective processes, intra- and inter-agency relationships, or public or private research partnerships to analyze data and share findings.

Some states have made progress towards addressing the data deficit and associated challenges by building capacity through public or private partnerships, updating data systems, and integrating data across sectors. This series of data snapshots describe how five states—Florida, Iowa, Nebraska, Oregon, and Virginia—have leveraged partnerships and policy contexts to successfully use workforce data for impact.

¹ Whitebook, M., McLean, C., Lea J.E. Austin, L.J.E. (April 2018). *The Workforce Data Deficit: Who It Harms and How It Can Be Overcome*. Center for the Study of Child Care Employment, Institute for Research on Labor and Employment, University of California, Berkeley. <https://csce.berkeley.edu/publications/brief/the-workforce-data-deficit/>

Early Childhood Workforce Data for Impact: Florida



Background

Florida's Division of Early Learning partners with the Anita Zucker Center for Excellence in Early Childhood Studies (the Center) at the University of Florida to leverage data to answer pressing policy questions. The Center helped update the Division of Early Learning's existing data systems, linking families' use of different forms of public assistance. This helped them understand how use of different programs impacts child outcomes. Florida used Preschool Development Grant Birth to Five (PDG B-5) funding to contract with the Center to build and maintain [the Sunshine Portal](#), a centralized EC data system that combines data at the child and family level from the health, education, financial, and social supports sectors. Local and state-level policymakers in Florida use the Sunshine Portal to inform supports and services.

How Are Data Used for Impact in Florida?

Partnering with a university to create evidence on EC workforce shortages and durability. Examples include:



Predicting and identifying workforce shortages using child care slot occupancy.

- The Center analyzed provider applications for American Rescue Plan Act of 2021 (ARPA) funding to compare the percentage of filled child care slots at the care and zip-code level. Using these data, child care programs (including center-based and home-based providers) with waiting lists and occupancy rates less than 80 percent were classified as experiencing workforce shortages. This analysis gave Florida an occupancy rate measure to better predict localities where workforce issues are driving child care supply and access issues. Localities with workforce shortages were plotted on a map but no clear patterns emerged.



- The Center validated the findings using administrative data by triangulating survey data collected in Orange County, finding that providers with lower occupancy rates were reporting hiring as a significant challenge. Florida hopes to continue this work by adding questions from the ARPA application used to calculate the occupancy rate to an existing monthly form used with providers throughout the state. This would allow the state to track occupancy rates over time and account for the enrollment of non-subsidized children when examining the supply of high-quality child care for children using subsidies.



Moving from turnover measures to deeper 'durability' measures.

- The partnership used state licensing data to find preliminary evidence of worker durability: a higher-than-expected number of workers remained in the field and/or at their program for over seven years. They had expected data to indicate heavy turnover in jobs and in the field more broadly.
- These findings raised awareness around retention in the EC workforce, underscored key questions for policymakers and practitioners, and encouraged Florida to fund additional work focused on understanding retention. The team will now focus on durability to identify drivers that are keeping workers in the field for longer periods. They are working to identify the characteristics of workers who stay in the field and their programs and understand the relationship between these characteristics and durability.



Providing state policymakers with data to prioritize funding for professional development.

- The Sunshine Portal compares the capacity of Child Care and Development Fund (CCDF) providers to the number of children participating in CCDF statewide and allows families

choosing child care to identify providers based on their quality rating (based on provider CLASS score).

- State and local administrators use the portal to target quality initiatives and professional development opportunities to areas with a high number of children using subsidies and also have a low number of high-quality child care slots. This is intended to raise provider quality (measured by CLASS scores). The state legislature and other state policymakers also use the portal to prioritize funding and understand how families use multiple public assistance programs over their lifetimes.



- Florida has contracted with the Center to understand the relationship between worker characteristics and child outcomes and/or CLASS scores, by integrating state administrative data into the portal. There are plans to add data from the state's workforce registry, the licensing dataset maintained by the Department of Children and Families, and information collected on teachers in the Voluntary Pre-Kindergarten system (V-PreK). The goal is to analyze the relationship between worker characteristics and classroom quality/child outcomes.



Coordinating across local and state leaders to help early learning coalitions target community initiatives to increase access to child care.

- The Center coordinates with local policymakers to promote stakeholder engagement. Researchers share early iterations of their products and visualizations for community feedback. In addition, Florida uses the Center's research to engage their Local Early Learning Coalitions' Boards of Directors on the sufficiency of access to quality child care in their area, which helps facilitate strategic planning and target community-level initiatives to increase access.

Key Data Sources



State administrative data

The Department of Children and Families manages data for the state's licensing system, which monitors all training and background checks for child care facilities and licensed family day care homes. The licensing data provides information on when workers started in the field, started at their current job, obtained certain certifications, or began certain roles. Data can be used to track turnover in the workforce. Licensing only captures child care that is paid for by some entity through fees, scholarships, or subsidy.



State workforce surveys

State workforce surveys have been used to supplement existing data at the state and local level. A recent statewide workforce survey of 8,000-9,000 teachers is intended to help examine the relationship between compensation and role/qualifications.



Workforce Registry

The Florida Early Childhood Professional Development Registry is the state's workforce registry, primarily used to track professional development.



Background

The Iowa Department of Health and Human Services Child Care Bureau uses multiple data sources to drive a range of EC workforce policy impacts at both the provider and statewide policy level. Along with child care management software (CCMS), Iowa uses long-standing data sources, including EC workforce registry data and workforce surveys to equip elected officials, administrators, and policymakers with the foundational data needed to make informed decisions.

How Are Data Used for Impact in Iowa?



Contracting with software vendors to integrate data, resulting in robust analysis of CCDF workforce



- Iowa contracted with two CCMS vendors to link provider CCMS data systems to the state's Child Care Assistance subsidy system.
- This link to the CCMS systems allows Iowa to import time and attendance data for children participating in CCDF and send providers a reconciliation payment file.

With this integrated data system:

- Iowa can conduct in-depth, longitudinal analysis, tracking, and monitoring of child care metrics that inform real-time vacancies and “deserts” within the state.
- Iowa can also provide critical information to state and local policymakers to address child care access, quality, and affordability.

Iowa is working to expand the linked data system over time by: 1) creating an ‘operational data store’ where provider data can be collected and sent to the appropriate state actor and also connect to Child Care Resource & Referral’s data system, and 2) enabling other third party CCMS vendors to link their users to the state’s operational data store, increasing provider participation.



Coordinating internal data to inform planning, advocacy, and monitoring by elected officials and state administrators.

- I-PoWeR, the workforce registry, can generate estimates of the size and qualifications of the ECE workforce by role, and the turnover rate.
- Certain state QRIS ratings rely on data from I-PoWeR; the QRIS uses I-PoWeR to check qualification-related requirements and to verify they are met.



Improving and increasing access to career ladder and compensation supports by providing policymakers and leaders of higher education and training institutions with data on educator compensation and qualifications by role.

- Iowa uses data to support T.E.A.C.H. (scholarship program) and WAGE\$ (salary supplement program) administered by the Iowa Association for the Education of Young Children (Iowa AEYC). Iowa AEYC conducts periodic surveys of the early childhood workforce which yield demographic, compensation, and qualification data to support refinements and increased access to these programs.

Key Data Sources



Provider-linked data systems

Iowa's Department of Health and Human Services Child Care Bureau created an integrated, real-time data system that combines administrative data from programs such as CCDF with provider data from two state-contracted CCMS vendors. This integrated data system is used to facilitate delivery of the CCDF program in Iowa for participating providers. CCDF participating providers must sign an agreement to participate in 12 months of business coaching to be eligible for the free CCMS software monthly subscription and technology grant. The business coaching assists providers in learning to use the software system and in analyzing the data in the system to improve business and human resources practices, such as staff compensation. Participating providers allow the state access and linkage of relevant CCMS data to state administrative data systems. Nine months after offering the CCMS program, 15 percent of providers have voluntarily participated.



State administrative data

Iowa uses CCDF administrative and licensing data to inform ECE workforce issues. They also maintain child-level integrated data systems for children K-12 and birth to age 5, which will be integrated with its provider-linked data system.



Workforce Registry (I-PoWeR)

I-PoWeR is Iowa's workforce registry, which includes information on each early childhood educator's role, qualifications, and the reason for leaving their program or center (when relevant). Participation is only required for QRIS-participating providers. Participation has increased in recent years and has risen to roughly 20,000 providers.



State workforce surveys (T.E.A.C.H and WAGE\$)

As part of the T.E.A.C.H. and WAGE\$ license, surveys of the EC workforce are conducted approximately every 5 years, collecting in-depth data on the relationship between teacher compensation, qualifications, and role. The most recent survey was delayed due to COVID-19 but is available.

Early Childhood Workforce Data for Impact: Nebraska



Background

Nebraska was one of the first states to conduct a statewide survey of workers across its EC system and use those data to inform legislative, philanthropic, and policy initiatives related to workforce compensation and career advancement. Nebraska also partners with [Nebraska Children and Families Foundation's Communities for Kids \(C4K\) Initiative](#) to engage a diverse group of community leaders to create community data snapshots, use data to diagnose local child care challenges, and design community-led solutions.

How Are Data Used for Impact in Nebraska?



Using surveys to collect the data needed to inform policies and programs on compensation, career advancement, and working conditions.

- [Nebraska EC workforce surveys](#) are completed by providers serving children from birth to age 8, allowing comparisons between center-based workers, home-based providers, pre-K teachers, and Kindergarten-3rd grade teachers.
- Compensation data from the surveys were used for education and awareness campaigns on low wages among Nebraska's EC workforce. The latest survey found EC workers were making \$3,000 under the poverty line for full-time work.

The Omaha-based Buffett Early Childhood Institute fielded follow-up surveys to understand programs' needs during the COVID-19 pandemic, including regarding workforce dynamics.



- The Nebraska Early Childhood Professional Records System ([NECPRS](#)) allows monitoring of the size, qualifications, and compensation of the workforce. Individuals voluntarily enter information about their credentials so that they can receive qualification-based tax refunds.
- Results from the NECPRS inform legislative discussions and initiatives, policy development, and philanthropic priorities.



Partnering with a locally focused organization to understand and address local impacts of child care workforce shortages.

- Communities for Kids (C4K) — a locally focused, data-driven planning initiative — provides localities with data snapshots using licensing and Census data to understand the capacity and need for child care and inform local approaches to workforce expansion, recruitment, stability, training, and retention. Localities and C4K work together to gather data to help craft key messages and build a work plan for improving the EC landscape.
- Data help show the importance of child care to the business community, with questions asking employers about the impact of child care availability on their employees.
- Localities perform follow-up surveys to monitor the progress of community initiatives, such as the growth of participation in the provider network and center expansions. The business community provides technical assistance on financing and budgeting.
- Leaders in the local EC sector work together to build EC program quality, supply, and stability.
- Leaders outside of the EC sector can use the snapshots to understand the impacts of child care challenges or improvements on local economic conditions.

Key Data Sources



State workforce surveys

Nebraska has conducted multiple state workforce surveys since 2011. The first survey included workers from all public programs, public Pre-K, licensed providers, centers, homes, Head Start, and informal providers that serve children using state subsidies. Follow-up surveys were conducted during the COVID-19 pandemic to understand the real-time needs of providers. An updated workforce survey is currently being planned, with expected topics including compensation, qualifications, barriers to advancement, and well-being.



Workforce registry (NECPRS)

Nebraska Early Childhood Professional Records System (NECPRS) is the state's voluntary workforce registry, administered by the Nebraska Department of Education. It is mainly used by the EC workforce to access training and resources for professional development. Data on education level and credentials is tied to the state's tax credit initiative. NECPRS provides information on 20,000 individuals.



Locally collected data

C4K helps communities perform an Early Childhood Quality and Capacity Survey to identify EC needs at the community/county level, build awareness, develop key messages, and build a customized workplan to address solutions. Topics include the community's perception of early childhood, questions for EC providers (in-home, center-based) about licensing and supports needed, how employers are affected by their employees' ability to access child care, and what types of child care parents need. To date, C4K has collected 10,000 surveys from across the state.



State administrative data

C4K uses state licensing data to understand the current capacity for local child care. This allows for a comparison between the supply and demand of child care in the community. This becomes part of the community's data snapshot, which is used to engage potential partners.



Other data sources

C4K uses Census demographic data to create a data snapshot that communities can use to engage public and private partners. The demographic data enables a comparison between the supply and demand of child care.

Early Childhood Workforce Data for Impact: Oregon



Background

Since the 1990s, the Oregon Child Care Research Partnership (OCCRP) has collected data and conducted analyses on the supply and demand for child care. In the early 2000s, the Partnership identified workforce-related research questions and the data elements needed to answer them, which were then included in the state's new workforce data system. The Partnership's findings are used by elected officials, state administrators, policymakers, and practitioners.

The Partnership includes the Department of Early Learning and Care (DELIC), contracted research partners at Oregon State University (OSU), Portland State University (PSU), Western Oregon University (WOU), and child care practitioners. OSU facilitates the partnership, conducts data analyses, and produces publications. PSU manages the collection of extensive workforce data in the Oregon Registry Online (ORO). ORO and state licensing data are merged daily. WOU manages Spark, the State's Quality Rating and Improvement System (QRIS). The Partnership's data system is intended to address workforce questions at both the worker and facility level.

How Are Data Used for Impact in Oregon?

Partnering with universities to inform the legislature and state government through workforce data reports.

- Using the state administrative data and ORO registry, PSU and OSU partner to produce workforce reports: OSU conducts data analysis while PSU—the central hub of post-secondary EC training, credentialing, and education programs in Oregon—provides data. State staff and PSU bring insights from the field to ground the interpretation of findings.
- Annual workforce reports show trends in worker demographics, qualifications, and compensation. The state legislature uses these annual workforce reports and other workforce data every session. OSU staff share findings in testimony before legislative committees make decisions about early learning.
- The state legislature used data to inform investments in educator retention and policy changes to child care licensing requirements.
- DELIC uses monthly, quarterly, and annual workforce data to inform how they address equity and access to workforce resources and programs. Examples include increased investments in scholarships and incentive programs for educators who have been historically marginalized.

By integrating licensing data at the child care program level, workforce registry system data, and QRIS monitoring data, Oregon has developed a robust EC data ecosystem that has made data integral to child care and early learning decision-making in the state.



Basing investment in professional development on data maintained and monitored by university partnerships that links educator skills and characteristics with program quality ratings.

- PSU uses workforce data from the Oregon administrative and registry data system to make investments in professional development.
- PSU maintains the state's workforce registry, which collects information on workers' education, qualifications, and demographics. PSU and OSU partner to use these data, and other data in the system, to:

- Track and monitor patterns in worker training and credentialing over time; these data encourage workforce development through scholarships and incentives
- Inform state licensing requirements and the statewide Child Care Resource and Referral system
- Track and identify gaps in available training offerings and attendance across Oregon; these data are used to collaborate with stakeholders on developing training opportunities to meet the needs of the workforce
- The workforce registry is also linked to the state's quality rating system, Spark. Information on teacher training, qualifications, and education are used to determine a program's quality rating.



Using data to address the decline in family child care (FCC) providers.

- Oregon used the registry's longitudinal data to determine a) that FCC providers stay in the field longer than their center-based counterparts, and b) that the number of new FCC providers decreased. These data indicate that the decline in FCC providers in Oregon is less about turnover and more about the need to attract new providers to the field.

Key Data Sources



State administrative data

Oregon links program-level licensing data, managed by DELC, to workforce data to analyze workforce characteristics. Oregon uses licensing data to track workers across settings over time. This allows Oregon to calculate turnover at the program level.



Workforce Registry (ORO)

Oregon Registry Online is the state's workforce registry. Educators are required by licensing to submit data on their education and training. It is optional to input demographic information, but around 78% of records contain it. The data can describe staff in a regulated setting and is longitudinal, so workers can be tracked over time across settings. Analysis can be performed at the program or worker level.

Early Childhood Workforce Data for Impact: Virginia



Background

Virginia created a research policy partnership with the Virginia Department of Education (VDOE), the University of Virginia (UVA), and the Virginia Early Childhood Foundation (VECF), a statewide non-profit. This partnership developed a statewide network of all publicly funded EC providers, along with regional- and state-level partners. Stakeholders and elected officials came together to pass a law that consolidated governance, created a new advisory body, and required a statewide measurement and improvement system, thus creating the impetus for a statewide data system.

VDOE administers the unified public-private system for Early Childhood Care and Education (ECCE) through the statewide Unified Virginia Quality Birth to Five (VQB5) initiative, which focuses on quality across all publicly funded birth-5 classrooms and supports families in choosing quality programming. UVA provides research, technical and analytic expertise, and VECF serves as a key convener at the local and regional level.

How Are Data Used for Impact in Virginia?

Developing an EC data system that guides investment at the local level and can inform state partners on the composition, compensation, and quality of the EC workforce.

- LinkB5 is a comprehensive EC data system of all publicly funded EC programs; every publicly funded program must participate and share key data elements. Data includes CLASS observations for each classroom twice a year, child demographic data, and information on early educators such as compensation, education, experience, and demographics (age, race, and language spoken).



- LinkB5 gives visibility into teacher turnover at the state and regional level. Before LinkB5, the state lacked comprehensive information on the EC workforce. Data are shared with Ready Regions, a regional network of public-private partnerships that supports access to quality early childhood services. Ready Regions use these data to decide where to invest resources at the local level.

Virginia also administers state workforce surveys to gain a more nuanced understanding of topics like the stressors of staffing, teacher well-being, and what happens to those that leave the EC workforce. The latest survey was sent to 20,000 early educators throughout the state.



Evaluating strategies to improve worker compensation and using evidence to advocate for promising strategies.

- University-based researchers conducted a randomized controlled trial to evaluate RecognizeB5, a component of VQB5 that provides direct payments to eligible educators. They compared turnover rates for teachers in Fairfax County randomly assigned to receive supplemental funding from the Preschool Development Grants Birth-5 (PDG B-5) with those who did not. The turnover rate was halved for child care teachers/assistants that received PDG money, but there was no impact for pre-K teachers.
- As a result of the study, Virginia focused RecognizeB5 payments on educators teaching in publicly funded child care and family day home programs and can now use LinkB5 (Virginia's 0-5 EC data portal) to track changes in compensation rates and turnover rates for early educators over time.

- These findings were shared with the state legislature to advocate for policies to stabilize the EC workforce at the onset of the COVID-19 pandemic. Virginia agreed to invest additional federal and state general funds (including federal PDG B-5 funds), allowing RecognizeB5 to grow in the annual payment amount and number of recipients. In FY24, payments of \$3,000 will be offered to all educators working at least thirty hours per week with children 0-5 in publicly funded child care centers and family day homes.

Key Data Sources



State administrative data (LinkB5)

A comprehensive EC data system of all publicly funded EC programs. Data includes CLASS observations for each classroom twice a year, child demographic data, and information on early educators such as compensation, education, experience, and demographics (age, race, and language spoken). It has been used to track teacher turnover at the state and regional level.



State workforce surveys

Virginia uses annual state workforce surveys to supplement administrative data. A recent statewide workforce survey yielded responses from nearly 10,000 early educators and will be used to better understand links between teachers' working conditions, wellbeing, and turnover.



Ready Regions

Ready Regions are a network of regional public-private partnerships administered by VECF that support access to quality EC services and experiences statewide. Ready Regions were created and established in statute to support implementation of the state-mandated measurement and improvement system, VQB5. Ready Regions help to ensure that all publicly funded programs are included in the statewide VQB5 system. They are funded to strengthen quality, coordinate enrollment, and deepen family engagement. Ready Regions assist in data collection for CLASS observations by getting community members to perform local observations; these CLASS observations are then included in LinkB5.