



Building a Data Dashboard for Child Care in New Jersey: a Concept Paper

AUTHORED BY

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National Institute for Early Education Research

September 2025



ABOUT THE
RUTGERS CHILD CARE
RESEARCH COLLABORATIVE

With funding and support from the New Jersey Department of Children and Families, the Center for Women and Work, the Heldrich Center for Workforce Development and the National Institute for Early Education Research have joined together to form the Rutgers Child Care Research Collaborative for the purpose of conducting research and facilitating community conversations that develop a broad and comprehensive understanding of New Jersey's child care landscape. Our research aims to increase understanding about the needs and interests of parents in New Jersey, the supply and motivations of the child care workforce, and the capacity of the child care sector to meet demand for child care today and into the future within our diverse state.

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INTRODUCTION

The National Institute for Early Education Research (NIEER) at Rutgers, The State University of New Jersey, is part of a multi-center collaborative project focused on child care in New Jersey with the Center for Women and Work and the John J. Heldrich Center for Workforce Development with support and collaboration from the New Jersey Department of Children and Families. Through this work, NIEER has explored what it might look like to create a data dashboard with information relevant to child care supply and demand in New Jersey. This brief highlights the work of other states that New Jersey might learn from, and outlines an approach for New Jersey.

▲ Key Findings

- A data dashboard specific to child care supply and demand can provide useful information to families, state agencies, legislators, and/or researchers.
- The purpose, goals, and intended audience for the dashboard will drive how it is built and what data it displays.
- Several other states have operational systems that New Jersey can use as examples to inform the design and implementation of a data dashboard.
- Engaging the dashboard's target audience in both the design and implementation phases will help to ensure it meets intended goals.

BACKGROUND

Developing a data system to monitor New Jersey child care supply and demand can support several goals. Such a system could provide a regular assessment of the state of child care and how well the needs of families are met with a set of standard indicators across the state and over time. It also could provide information to agencies that assist families in finding care and to families directly. The requirements of the system differ depending on the purpose and goals. Even a fairly basic system that updates a dashboard annually can efficiently provide policymakers (state agency staff as well as legislators) with data they can use to inform funding and policy decisions. Researchers can also use the data to monitor trends and provide reports that are useful for informing policy decisions. Such a system could combine administrative data with parent survey data which would be unique to New Jersey as most existing systems only combine administrative data across agencies (an important element, of course).

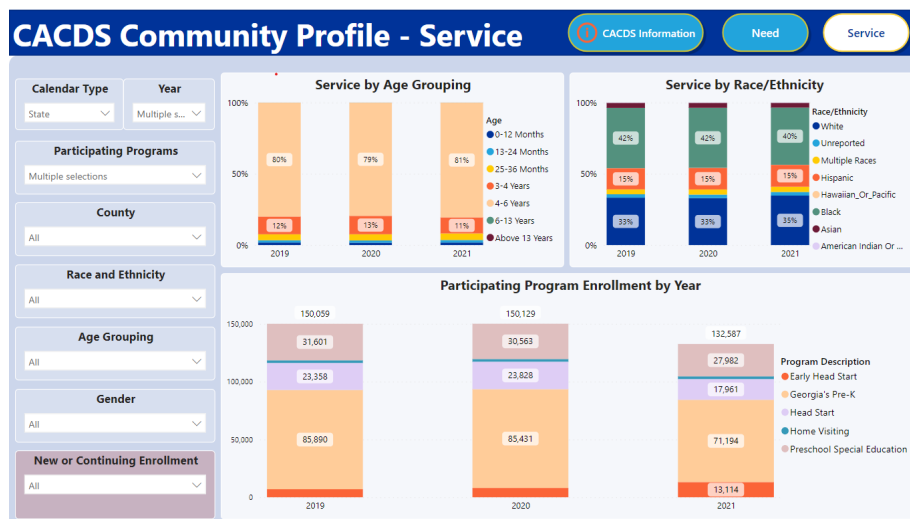
Several states have systems that can serve as helpful examples of what New Jersey can achieve. All are slightly different, illustrating the importance of designing a system and dashboard that meets the specific needs of the state. What follows is a brief description of the systems operating in several states, followed by a phased-in approach for developing a system and dashboard for New Jersey.

STATE EXEMPLARS

▲ Georgia

The Georgia [Cross Agency Child Data System](#) (CACDS) was built in 2012 and specifically focuses on demographic data to identify gaps in services and to allow for research on program outcomes. The CACDS mission statement says the system was designed to inform policy and practice. Data are compiled, housed, and managed by the Department of Early Care and Learning via a data warehouse. The system contains data on early start, Head Start, home visiting, childcare/parent services, and Census Bureau demographic data. The CACDS homepage includes a brief data dashboard, and provides access to a data explorer where users can filter information by year, program, county, race and ethnicity, age, and gender. The state is also in the process of developing a data request process. Below is a screenshot showing an example of the data dashboards available through CACDS. Note that in the upper right-hand corner, users can toggle between data showing “service” and “need”, thereby showing the state’s supply and demand.

FIGURE 1. Snapshot of Georgia’s Cross Agency Child Data System



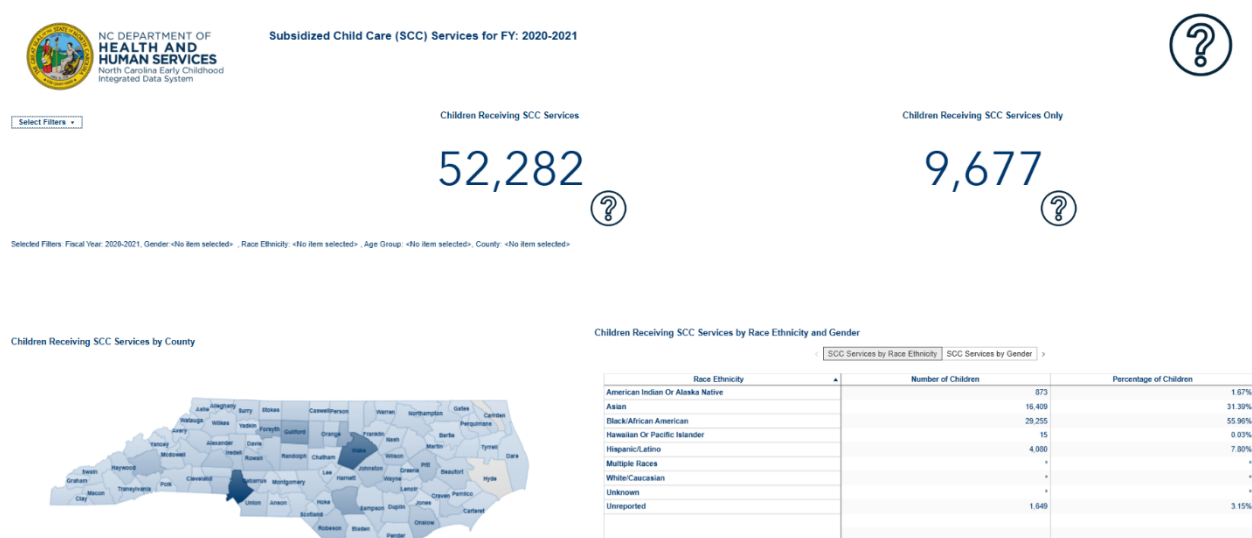
▲ Minnesota

Capturing data from an array of state agencies and departments, Minnesota's [MN Family Resources Map](#) provides an interactive platform that families can use to search for programs and services in their area. Users can map access to a variety of assistance programs (SNAP, WIC, child care subsidies), housing resources, and early care and education sites. For example, when users click to see "child care assistance" they see contact information for organizations that can help them apply for a child care subsidy and also where those organizations are located on a map of the state. Alternatively, when users click on "early care and education sites" they can select from different types of sites (licensed child care, family child care, Head Start, and public preschool) and filter the responses by quality rating and/or funding sources accepted (e.g., child care subsidies). Again, a contact list is generated along with a map showing the location of programs across the state. The goal of Minnesota's system is to connect families with programs and services, and also to assist with community assessments and planning.

▲ North Carolina

The [North Carolina Early Childhood Integrated Data System](#) (NC ECIDS) provides linked data across several government programs. Included in NC ECIDS are data from food and nutrition services, infant toddler programs, and state-funded preschool. NC ECIDS is intended for public, state agency, and policymaker use, with approval processes in place for research purposes. NC ECIDS provides counts of children who receive early childhood services from participating programs. Some of these data are publicly available, other data require a special request. Publicly available data allow users to filter by program (TANF, subsidized child care, state preschool, early intervention, food/nutrition services, children with disabilities, and children under child protective services) as well as by county, race/ethnicity, and gender. Below is a screenshot showing an example of the data dashboards available through NC ECIDS. This particular report represents children served with a child care subsidy in 2020-21, including how many of those children receive no other public service. Hovering over the map provides data for individual counties.

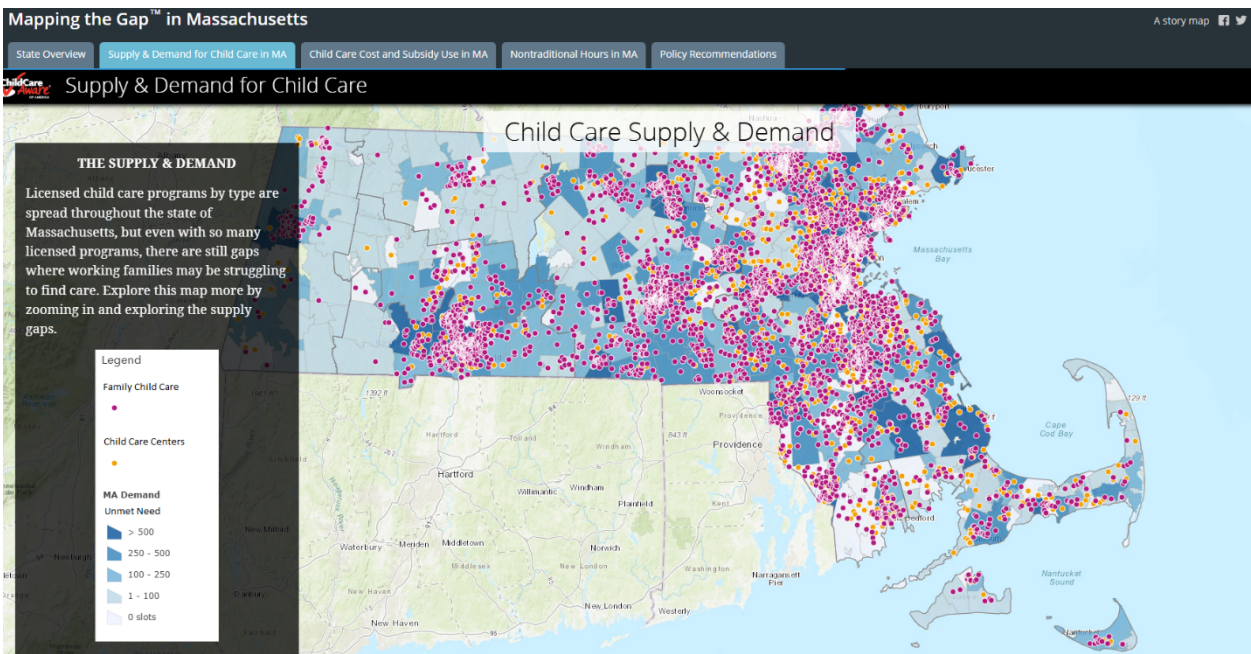
FIGURE 2. Snapshot of the North Carolina Early Childhood Integrated Data System



▲ Child Care Aware

Another relevant example of a supply and demand dashboard is Child Care Aware’s (CCA’s) [Mapping the Gap](#) initiative. CCA has worked with several states (AK, AZ, DE, MA, HI, ID, MN, ND, NH, and NY) to create geocoded maps that layer information about the location of child care centers, the supply and demand of care, and participation in programs like CACFP and child care subsidy programs. Below is a snapshot of CCA’s work in Massachusetts. Clicking on the underlying layer of the map provides town-specific data on licensed capacity and unmet need, while clicking on the floored dots provides the name and capacity of center-based and family child care providers in the area. The CCA aware system clearly identifies three key limitations of this approach as typically implemented. The supply side is limited to licensed/subsidized care. It does not include all of the supply accessed by parents. The demand side is represented by numbers of parents (or parents in the workforce) and children as a crude proxy for their actual demand for nonparental care. Geocoding captures location of homes and care but not location of employment which drives demand for care locations, as well. The addition of parent survey data can improve the measure of both supply and demand, but typically is limited to broader regions.

FIGURE 3. Snapshot of Child Care Aware’s “Mapping the Gap” for Massachusetts



[Child Care Aware New Jersey](#) has engaged in some of this mapping work already. Their website hosts over 15 maps/charts with data specific to child care across the state, each addressing a specific question. For example, one map shows child care centers offering infant and toddler care. Another shows child care centers where Spanish is spoken. Although they warn users not to use the maps to search for child care because they are not regularly updated, the maps may provide an efficient starting point. Ideally, the information CCANJ currently provides via 15 different maps would be combined into one dashboard that allows users to combine queries and search, for example, for child care centers with open slots for infants and staff who speak Spanish.

Below is a table highlighting the basic features of each of the four systems highlighted in this paper. The highlighted features are intended to describe some of the similarities and differences across the systems as well as their strengths and limitations with the goal of focusing future conversations on what New Jersey may want out of a data dashboard for child care.

TABLE 1. Features, Strengths and Limitations of Four Early Childhood Data Dashboards

Feature	Georgia (CACDS)	Minnesota (Family Resources Map)	North Carolina (NC ECIDS)	Child Care Aware (Mapping the Gap)
Primary Purpose	Inform policy and practice; identify service gaps	Connect families to services; support planning	Provide linked data for policymakers, agencies, researchers	Visualize supply and demand; highlight unmet need
Data Sources	Early Start, Head Start, home visiting, child care/parent services, Census demographics	Multiple state agencies: SNAP, WIC, child care subsidies, housing, ECE sites	Food/nutrition, child care subsidy, state preschool, EI, TANF, CPS, disability services	Licensed/subsidized child care, subsidy programs, CACFP, Census data
Public Accessibility	Dashboard + explorer with filters; data request process in development	Fully public, user-friendly map interface	Mix: some public dashboards, some restricted/request-based	Public online maps with interactive geocoding
User Focus	Policymakers, researchers, agencies	Families, communities, planners	Policymakers, agencies, researchers; limited public view	Policymakers, advocates, public
Interactivity	Filters by year, program, county, race/ethnicity, age, gender	Map-based filtering (site type, QRIS rating, subsidies accepted)	Filters by program, county, race/ethnicity, gender; hover map for county data	Layered maps by town; click to see provider capacity/details
Supply–Demand Framing	Toggle between 'service' and 'need'	Shows locations & service availability	Shows counts of children served in programs	Estimates unmet need vs. licensed capacity
Strengths	Strong cross-agency integration; policy-driven	Highly accessible for families; integrates many services	Rich linked data; supports research & policy	Strong visuals; local detail; multi-state reach
Limitations	Limited to subset of programs; still developing request process	Not designed for research; more service directory than analytic	Not real-time; approvals needed for research use	Supply side = licensed/subsidized only; demand proxy (workforce/children); misses employment-based demand

ESTABLISHING A REAL-TIME DATA DASHBOARD FOR NEW JERSEY

With the above examples in mind, there are two phases needed to develop a data dashboard.

▲ Phase 1 – Planning

Planning for the data dashboard should start with defining the intended user group(s). If parents are the primary user group, the type of data provided, interface and language used on the site will need to work well for individuals with a highly varied understanding of the programs featured, familiarity with technology, and ability to read and understand English. If the dashboard is primarily intended for state-level decision makers, the level of sophistication, as well as the information provided may be different.

The next planning step will be to define the key metrics/data points to display, and identify the sources of data for each metric. This conversation should address data points and sources that are already available, data that need to be collected, as well as data that can be obtained through agreements with other state agencies. It will be necessary to identify which data points are readily available for inclusion in a dashboard (i.e., data already collected by NJ DCF), and data points that may need to be added over time as they are collected/obtained. It will also be important to identify the frequency with which each data point can be updated in the dashboard (annually, monthly, real-time, etc.). Below is a high-level outline of possible data points to consider.

Supply-Side Data

- Licensed child care providers and capacity (by provider type).
- Early Intervention and public preschool providers and capacity.
- Grow NJ Kids data showing programs with quality ratings.
- Programs accepting children with a child care subsidy.
- Parent survey data that includes all care arrangements including family, friend, and neighbor.

Demand-Side Data

- Census data tracking the population of children by single year of age and projections based on these to give real time estimates
- Parent surveys measuring annual demand.

Geographic & Demographic Data

- GIS data to map child care gaps/hotspots and to filter data by county and town/municipality. This has to be overlaid in some form with information on all care arrangements and the extent to which parents report access limitations or it is potentially misleading.

▲ Phase 2 – Systems Development and Data Integration

Specialists will need to build a database and necessary backend connections to supply data to the dashboard, and also to create the frontend site where users will go to access/view data. This will likely be a somewhat iterative process, with developers providing models that require feedback from DCF and other stakeholders on the look and feel of the site to ensure it meets desired goals. If parents are an intended primary user of the dashboard, it may be necessary to hold some focus groups to test the look and feel of the site.

Once a test site is built, DCF and other selected stakeholders from within and outside state government should pilot the site to ensure everything is clear and working as intended. Again, depending on the primary audience(s) for the

dashboard, DCF will need to launch the site with targeted outreach informing prospective users about the site and how it can be employed.

ACKNOWLEDGMENTS

Funding for this work comes from a larger project funded by the NJ Department of Children and Families. The authors also thank Rich Higginson at Fairleigh Dickinson University's PublicMind Poll for his partnership in developing and fielding the online survey. The authors are solely responsible for the content on this report.

ABOUT NIEER

The National Institute for Early Education Research (NIEER) at the Graduate School of Education, Rutgers University, New Brunswick, NJ, conducts and disseminates independent research and analysis to inform early childhood education policy.

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Suggested citation: Garver, K & S. Barnett. (2025). Building a Data Dashboard for Child Care in New Jersey: a Concept Paper. New Brunswick, NJ: National Institute for Early Education Research.

