Connecting the Dots: Linking Data Systems to Support Preschoolers and their Families

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Introduction

States and the federal government provide early care and education for young children through a complex combination of services supported by an equally complex system of funding. Identifying which children are served in which program(s) is critical for state program administrators to ensure equitable access and efficient use of public funding. It is also essential if states are to measure the collective impact of programs and services on children and their families. To accomplish this, states need to connect child-level information across data systems that are typically created to house information for only one specific program. Making that connection can be quite challenging when programs use different identifiers to distinguish one child record from another. For example, one program might use social security number, and another might use date of birth. Connecting data systems is further hampered by cumbersome rules about how and when information can be shared across programs, particularly when programs are administered by different state agencies. In the face of all these hurdles, many states fail to link the data needed to understand collective access and outcomes across all programs.

Linking Child-Level Data Between State Preschool and Other Early Childhood Programs

In the 2022 State of Preschool survey, NIEER asked state preschool administrators to answer a series of questions about state early childhood data systems. The questions addressed whether the state can link individual children's records between the state-funded preschool program and other early care and education programs, including special education (IDEA Part C and IDEA Part B, 619), subsidized child care, Head Start/Early Head Start, and home visiting, as well as with Medicaid and the state's birth registry. Data collected from 61 programs across 43 states, Washington, D.C., and Guam[1] illuminated many challenges, but also identified some exemplar states.

The challenges are apparent in Table 1, which illustrates the extent to which state preschool program administrators report the state can link individual child records between the state preschool program and other early care and education programs. Mostly commonly, states can link individual data for every child in the preschool program with K-12 public school data (45 of 61 programs, 74%) and with data on preschool children receiving special education services (42 of 61 programs, 69%). This is likely because 80% of state preschool programs are housed within the state agencies that also oversee public school programs. Fewer programs (25, or 41%) link child-level data for every child between early intervention and public preschool, however states may instead link early intervention data with preschool special education data, which then links to state preschool data.

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[1] The 2022 State of Preschool Yearbook includes information on 63 programs across 44 states, Washington, D.C., and Guam. Data on the topics in this report were not available from Florida's Voluntary Prekindergarten Program or Virginia's Early Childhood Foundation Mixed Delivery.

Table 1: Linking Child-Level Data Between State Preschool with Other Programs (N = 61)

	For All Children	For Some Children	Not at All	Unknown
Public School - K-12	45	3	11	2
Preschool Special Education (IDEA Part B, 619)	42	3	12	4
Early Intervention (IDEA Part C)	25	4	26	6
Subsidized Child Care	14	6	35	6
Federally-funded Head Start/Early Head Start	12	16	31	2
Home Visiting	9	4	41	7
Medicaid*	5	7	39	9
Birth Registry Data	3	0	45	13

*Medicaid row does not total 61 because South Carolina was not able to report.

Fewer than 20% of state preschool programs (14) can connect individual child records for all children in the program with data on those individuals in the state child care subsidy program. Thirty-five state preschool programs use income to determine child eligibility, suggesting there is strong potential for overlap between these programs. Yet just six of the 35 programs (18%) can connect state preschool and child care subsidy records.

Even more disappointing is that 56 programs base enrollment on at least one risk factor (income, disability, low birth weight, etc.), but only seven of these states can connect data on all state preschool children with home visiting (12.5%) and five with Medicaid (9%), which also target children from at-risk populations. Connecting early care and education data with birth registry data puts states on a path to be able to look at the collective impact of every combination of programs and services on children's outcomes over time. At present, only Georgia, Minnesota's VPK program, and Rhode Island have the capacity to link birth registry data with child records from the state preschool program.

Five states (Alabama, Connecticut, Georgia, Hawaii, and New Mexico,) oversee state preschool via a State Department of Early Childhood or School Readiness, but having a state agency dedicated to early childhood programs does not necessarily translate into data that is linked across programs. For example, Connecticut has three state-funded preschool programs that are all administered out of the state's Office of Early Childhood, but the state does not link data across the three programs. All five states do link state preschool data with K-12 data, providing a connection to programs as children get older, but Georgia is the only one of these states that can link to all of the early care and education programs listed in Table 1.

Also concerning is that some states could not answer whether they have the capability to link/connect individual children's records between the state-funded preschool program and other programs. In Table 1, these states are represented in the column labeled "Unknown".

Linking Child-Level Data Between State Preschool and Other Public Preschool Programs

Even connecting individual level data across state-funded preschool programs and with state and federal funding streams in Head Start can be difficult, as seen in Tables 2 and 3. At least 15 states have multiple state-funded preschool programs. These programs can be sufficiently similar and coordinated (as in Kansas, New York, and South Carolina) that states report information on their programs together for the State of Preschool survey. However, in other states (e.g., California, Connecticut, Pennsylvania) there are such marked differences among the programs that states report information on them separately.

When asked about the state's ability to connect child-level data across state-funded preschool programs, five of the 15 states with multiple programs (Hawaii, Iowa, Kansas, Louisiana, and New Jersey) reported the ability to link data for all children in the programs and two others (New York and South Carolina) reported the ability to link data for at least some children. California and Oregon indicated that a plan is in place to link data in the future. Connecticut, Massachusetts, Minnesota, and Washington indicated that no plans are in place to connect child-level data across state-funded preschool programs. Pennsylvania, which operates four distinct programs out of the same state agency, can link data across three of its four programs, but has no plan in place to link data with the fourth. It seems that these programs would be the lowest hanging fruit for states that want to connect data particularly when administered by the same state agency, but the fact that there are as many of these states with no plan to connect data as there are states already connecting data for all children suggests that sharing information across programs is not easy, or a priority.

Table 2: Linking Child-Level Data Across Multiple State Preschool Programs

	All Children	Some Children	Planned	No	Not Reported
Other State Pre-K Programs (N = 15 states)	5*	3	2	5*	0

*Three of Pennsylvania's four programs report that all children are linked across programs, but linking is not planned for the fourth so Pennsylvania is captured in the "No" column.

Seventeen states report that state funding is used to supplement federal Head Start and/or Early Head Start programs. Of those 17, just three (18%) connect child-level data between the state preschool program(s) and state-funded Head Start/Early Head Start, however another five (31%) indicate that at least some children can be linked across programs, but which children is unclear.

Table 3: Linking Child-Level Data Between State Preschool and State-Funded Head Start/Early Head Start

	All Kids	Some Kids	Planned	No	Not Reported
State-funded Head Start/Early Head Start (N = 17 states)	3*	5	1	6*	2

*Three of Pennsylvania's four programs report that all children are linked across programs, but linking is not planned for the fourth so Pennsylvania is captured in the "No" column.

Some States are Getting it Done

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Despite the challenges that make connecting child-level data difficult, at least three states are managing to get it done. Georgia is the only state that reports being able to link individual child-level data for all children being served between the state preschool program and each of the other programs the survey asked about. New Jersey comes close, reporting that child-level data are linked for all children across all except two programs (Medicaid and Birth Registry), but also that plans to connect with those two programs are underway. However, getting access to linked data in New Jersey is challenging because much of the state's public school data is stored in a data system that is overseen by a third party vendor. Similarly, New Mexico has plans underway to connect their three remaining programs (Head Start, Medicaid and Birth Registry). For each of these states, the public preschool program is administered through a different agency from at least one of the early care and education programs to which individual child-level data are already linked.

The successes in these exemplar states show that making connections is achievable when the necessary funding and resources for data sharing efforts are prioritized. The inability of so many other states to make important data connections highlights how much isn't known about which children are served by which programs or may be missing out on available services. To move forward, states should devote adequate resources to the development of early childhood integrated data systems, with the goal of connecting child-level information across all programs serving young children.

Conclusions

Identifying the characteristics of children who are, and are not, enrolled in publicly funded preschool programs is a first step towards understanding how better to ensure equitable access. Connecting these data to individual child data on attendance, quality, and child assessments opens opportunities for deeper insights into both equity and effectiveness. Equitable enrollment in state preschool by itself does not guarantee equitable access to a high-quality, effective program or that all children will fully benefit as intended. Connecting data on individual child and family characteristics with data on enrollment, attendance, and children's learning and development is, of course, just the first step. Making this available and ensuring agency staff have the capacity to appropriately analyze these data is also necessary if the data are to be effectively used to guide policy and practice for continuous improvement.

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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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