Using Data to Support Systems Building Activities: PDG B-5 Application Review and Impact of COVID-19 on Grant Activities

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Acknowledgments

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Suggested Citation


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Executive Summary

There is an escalating need for state governments to continually understand, develop, and evaluate public programs serving children from birth to age five. A growing call in the United States for public agencies to meet the complex needs of children, families, and communities has prompted efforts to leverage administrative data to inform state-level policy. In response, public agencies have made important investments to collect diverse data meant to inform decisions related to young children and their families. Many states are developing an early childhood integrated data system (ECIDS) to collect, integrate, maintain, store, and report information across multiple public agencies serving young children and their families (Coffey et al., 2014). The intention of an ECIDS is to demonstrate how information can be used to support state leadership decisions beyond a single program area.

All 28 PDG B-5 Renewal Grantees proposed early childhood data system activities as part of their grant application. The Grantees engaged in (1) fundamental, (2) capacity building, and (3) innovative activities. Fundamental activities focused on the essentials such as data governance, cross-agency data integration, unique ID, and new analytic reporting. Capacity building activities went beyond the immediate goals for ECIDS by coordinating cross-agency planning, addressing organizational information needs, promoting team learning, and empowering end-users. And finally, Grantees prioritized innovative activities such as streamlining data collection, modernizing current data systems, and scaling up ECIDS operations, while focusing on continuous quality improvement.

Many PDG B-5 Renewal Grantees have been working for more than a decade on integrating early childhood data. The activities outlined in the PDG B-5 Renewal Applications demonstrates a continuation of each state’s multiyear efforts and federal investments focused on coordinating and aligning systems and programs while improving system-level efficiencies. Several federal programs are credited with propelling forward states’ work to integrate early childhood data including the 2009 American Recovery and Reinvestment Act, which supported the integration of early childhood data into the statewide longitudinal data system, the 2011 Race to the Top-Early Learning Challenge Grant, and the 2015 Statewide Longitudinal Data System Grant which had a focus on early learning (U.S. Health and Human Services & U.S. Department of Education, 2016). In addition to federal funding, state and local early childhood agencies, as well as private foundations, have contributed resources that enabled progress in developing state ECIDS. According to national survey collected in 2021 by ECDataWorks, 40 U.S. states and territories are now developing an ECIDS, and nine states have operational systems.

In the last year, the pandemic has escalated the activity timelines for many of the PDG B-5 Renewal Grantees. This report highlights states’ plans to develop an early childhood data system and the impact COVID-19 has had on these activities as the state teams worked to respond to the demands of policymakers and families during a pandemic.
PDG B-5 Grant Activities Supporting ECIDS for Systems Building Efforts

Goals of the Preschool Development Grants (PDG), established under § 9212 of the Every Student Succeeds Act (2015) (ESSA) are to improve child health and development, maximize parent engagement and knowledge leading to their ability to make wiser choices affecting their children and their family, prepare children to enter kindergarten ready to succeed, and improve transitions from the early childhood system into the local educational agency or elementary school. To achieve these goals, state Grantees are charged with strengthening the early childhood systems (birth through five) that serve children and their families. Recent emphasis of PDG B-5 funding on evidence-based policy and decision-making in renewal grants have made data systems even more of a focus. All 28 states that received renewal awards are making progress toward planning, building, maintaining, and using ECIDS. Grant-funded state activities are also producing innovations and positive outcomes. For most states, grant activities include hiring essential staff, initiating contracts with integration consultants, and purchasing hardware and cloud access. While data integration is underway, states are gathering information from stakeholders to inform the design of data tools and reporting solutions. States have a significant opportunity to develop and create tools and enhance their strategies for using data.

In 2020, the PDG B-5 TA Center analyzed the proposed data system activities and explored the implications of COVID-19 on the data system grant activities through semi-structured interviews with a sample of the Grantees. This report summarizes the data system grant activities proposed in the PDG B-5 renewal grant applications and the impact COVID-19 had on the Grantees.

Data System Stages of Development

States are using their PDG B-5 funding towards using data to inform program and policy decisions. This report showcases state progress in each of these ECIDS activities across all stages of ECIDS development.

Exhibit 1. Data System Stages of Development
Types of Data System Grantee Activities

States are leveraging PDG B-5 and actively developing ECIDS at all stages of development (design, build, maintain, and using data). Within each of these lifecycle stages, states describe their focus on building towards an ECIDS that can be used to support systems-level decisions. These include activities that develop processes, obtain buy-in, create sustainable solutions, or ultimately focus on ensuring systems-wide impact. The activities proposed on the PDG B-5 renewal applications fell into three categories: fundamental, capacity building, and innovative activities.

Exhibit 2. Three Types of PDG B-5 Grant Data System Activities

- **Fundamental Activities**: Grantee activities that focus on the essentials needed such as data governance, unique ID, cross-agency data integration, and advanced analytic reporting.

- **Capacity Building Activities**: Grantee activities that go beyond the immediate goals for ECIDS and build capacity, including cross-agency coordination, modernizing current data systems, promoting team learning, and empowering end-users.

- **Innovative Activities**: Grantee activities that prioritize innovative practices such as streamlining data collection, addressing organizational information needs, and scaling up ECIDS operations, while focusing on continuous quality improvement.
This report highlights the PDG B-5 Renewal Grant activities for each type of activity at each data system stage of development plan, build, maintain, and use. The data analyzed in this report are grouped by the ECIDS stage and the type of ECIDS activity in Exhibit 3 below.

### Exhibit 3. Summary of Analysis

<table>
<thead>
<tr>
<th>Data System Stages of Development</th>
<th>Plan</th>
<th>Build</th>
<th>Maintain</th>
<th>Use</th>
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<td><strong>Fundamental Activities</strong></td>
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<td>6 Grantees assigning a unique ID with a matching algorithm</td>
<td>8 Grantees integrating data from new sources</td>
<td>7 Grantees launching new reports &amp; data tools</td>
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<td>4 Grantees coordinating inter-agency planning</td>
<td>13 Grantees building ECIDS Platform or Modernizing Existing ECIDS</td>
<td>6 Grantees promoting organizational learning</td>
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<td><strong>Innovation</strong></td>
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<td>18 Grantees reimagining the use of ECIDS</td>
<td>3 Grantees emphasizing scalability &amp; sustainability</td>
<td>6 Grantees focusing on continuous quality improvement</td>
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**Grantee Activities in the Planning Stage**

While states are at various stages of ECIDS development, many of the states that received a PDG B-5 Renewal Grant were in the planning stage. In this stage, states assess their needs, capacity, and begin to formalize structures to support the implementation of the data systems.
Fifteen Renewal Grantees proposed establishing governance and data sharing activities.

Data governance is “the means by which organizations or groups of organizations make decisions about their collective information assets. It is both an organizational process and a structure. Data governance establishes responsibility for data, organizing program area staff to collaboratively and continuously improve data quality through the systematic creation and enforcement of policies, roles, responsibilities, and procedures” (National Forum for Education Statistics, 2011). Fifteen Renewal Grantees proposed establishing governance and data sharing activities (AL, CA, CO, CT, FL, ID, KS, MO, MN, NC, NE, OR, RI, SC, WY). States like Oregon that are in the planning stage are establishing data governance and data sharing. The lead agency responsible for administering PDG B-5 activities varies by state, but all are working toward the goal of shared governance for early childhood data. It is important not only to establish an interagency decision-making process but each agency at the table must contribute to and support a shared vision. In many states, PDG B-5 has helped bring people to the table and make progress as the voices of the data stewards inform future ECIDS decision-making and system activities. Although a majority of the PDG B-5 Renewal Grantees proposed data governance tasks, two states outlined innovative governance and data sharing ideas. Connecticut had a unique proposed plan to work with the University of Connecticut on a data-sharing research partnership and Kansas proposed creating a formal ECIDS Data Trust.

Eight states (AL, CA, CO, FL, MN, NC, OR, SC) referenced creating new, or updating existing, data-sharing agreements across agencies to promote the creation or enhancement of their data system activities. This critical step can take many months, and states recognized the role that executive leadership played in the implementation of this task as well as the alignment as a critical data governance task.

Five Renewal Grantees proposed coordinating interagency planning.

For states that have yet to establish formal data governance, it is common to have a planning team that represents the various agencies that will be contributing to an ECIDS. It is also an effective strategy to engage local programs and families in the planning process. This is particularly relevant for states that proposed an ECIDS focusing on increasing parental choice, such as California, or family outcomes as did New Hampshire. In Alabama and Virginia, the PDG B-5 grant is creating the opportunity for cross-agency trust-building to answer advanced use cases that require interagency collaboration and integration. South Carolina outlined a specific activity using the SLDS ECIDS Toolkit to plan the ECIDS across agencies. PDG B-5 provides a new opportunity for state’s agencies to convene early childhood stakeholders at the regional, local, and community level and to provide input on efforts to integrate early childhood data. ECIDS teams must be transparent in the goals of the system, as well as the process for prioritizing changes and enhancements. Coordinating a research agenda for early childhood can be challenging but is an important tool for maximizing the use and benefit of the system. In
Across these states, leaders are using data to revisiting system goals and moving toward shared goals and greater agency coordination.

**Nine Renewal Grantees proposed streamlining their data collection and/or connecting to the SLDS.**

Previous federal grants such as the Statewide Longitudinal Data System (SLDS) program provided opportunities for state agencies to connect the ECIDS to the SLDS. In six PDG B-5 Grant Renewal applications (AL, CA, KS, MI, NE, and OR), states proposed using this funding opportunity for just that purpose. By linking the ECIDS and the SLDS data, the ECIDS can obtain data on cohorts of children in K–3 and help communicate the value of early care and education on long-term outcomes. Three other states (CO, MN, and WA), focused on streamlining data collection efforts to reduce the redundancy and allow for a more accurate, reliable, and valid method of collecting data to improve accountability.

**Grantee Activities in the Build Stage**

In the build stage, states assess the technical capacity of their data systems and the current infrastructure that could be leveraged to support the data system activities. For states that have operational integrated data systems, the build stage can include modernization or enhancement activities.

**Six Renewal Grantees proposed assigning a unique ID and/or a matching algorithm.**

Creating unique identifiers (UID) or a matching algorithm is essential in integrating or linking data across state agencies. A UID is an “identifier used to associate children, workforce, classes, program sites, and families with their respective data….a UID allows the relevant data to flow between systems. Without this component, tracking students across source data systems over time and space would be exceedingly difficult” (Cochenour et al., 2014). A central aspiration of the PDG B-5 grant program is to calculate a distinct count of children receiving services across programs and agencies and one way to do this is by helping states implement a unique child ID (UID), or a process to match data. States with UID can link data such as state preK, Head Start and Early Head Start, home visiting, IDEA Part C, IDEA Part B section 619,
public K–3 education, child care subsidies, and other programs such as Temporary Assistance for Needy Families (TANF), Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and Medicaid. PDG B-5 incentivizes states to think about system alignment by bridging data across different agencies to produce a complete picture of the children and families served. Six Renewal Grantees (IL, KS, LA, MD, NE, and OR) using PDG B-5 to assign a UID or create a matching algorithm across ECCE programs. To accomplish this, some states such as Nebraska and Kansas are leveraging their SLDS and beginning with a use case to integrate data across the birth to workforce continuum. Other states, such as Illinois, are taking advantage of existing state UIDs that are common across agencies to support service coordination.

Thirteen renewal Grantees proposed building or modernizing the ECIDS.

Although all renewal states proposed data system activities, only 13 proposed building or modernizing their ECIDS (CO, FL, GU, KS, LA, MD, NE, NH, NY, OR, VA, WA, WY). Maryland, Nebraska, Washington, and Colorado have each stated a goal of their PDG B-5 effort is to re-platform one or more core operational data systems to enterprise, cloud-based platforms. States like Virginia are expanding and redesigning data system linkages to improve system performance and functionality. States that had already developed an ECIDS were able to use the award to accelerate progress in the expansion of their data system. In many cases, these involved critical infrastructure components that required multidisciplinary teams and new resources to expand data collection and reporting.

A common theme among PDG B-5 states has been the benefit of prior needs assessments, which included a comprehensive review of existing data and helped to determine if they collect data about the identified priorities. States often identified a high-priority need for which they did not currently collect data (e.g., school readiness). Subsequent technical discovery sessions with collaborating states focused on operational needs and technical planning specific to each state. PDG B-5 provided an opportunity for innovation but also for accomplishing the basic but very important fundamental activity.

For some states with operational systems, advancing their ECIDS means addressing limitations and closing gaps or modernizing their system with a migration to cloud-based systems. For example, Maryland is demonstrating innovation in systems building by modernizing tools and platforms in ways that will improve data access, user experience, and overall performance. ECIDS efforts are moving forward within a context of rapid technological change and advancement. Many states have already examined the data needs of stakeholders and the capacity of data systems; they are now evaluating whether the existing technical architecture and state IT business standards will deliver solutions that meet the data needs of stakeholders. PDG B-5 renewal grants help states take the next step in data modernization to leverage advanced analytic tools for data linkage using probabilistic matching and data visualization. Other goals include designing a unified application that would allow a family to apply and be
determined eligible for multiple services across state agencies at one time. In **Maryland, MD** THINK is a data integration and modernization project involving the Maryland Department of Human Services, Department of Health, as well as the Department of Juvenile Services, and the Maryland Health Benefit Exchange. The system will allow multiple state agencies to share and manage data from one system and will enhance the customer experience by eliminating redundancies and reducing operational costs. Modernizing data approaches will drive true data-driven decision-making at the state level and a range of data reporting opportunities for engaging a variety of stakeholder groups.

**Eighteen renewal grantees proposed activities that provide reimagined uses of the ECIDS data to respond to emerging needs.**

PDG B-5 affords state agencies many opportunities to evaluate the various uses of an ECIDS. The PDG B-5 Renewal Grant articulated a need for a distinct count of children but aligned it to the various decisions where distinct counts of children are needed to inform program or policy decisions. Eighteen Renewal Grantees proposed activities that provide reimagined uses of the ECIDS data to respond to emerging needs (CA, CO, CT, FL, GA, GU, KS, LA, MI, MN, NC, NH, NJ, NY, PR, RI, SC, WY). States such as **Alabama** created research agendas to outline their information needs, other grantees, such as Puerto Rico, proposed creating use cases building on their existing sets of critical questions to make them actionable. An ECIDS does not have one output, and therefore the priorities of the 18 renewal states that proposed activities with specific data use vary. A few of the states, including **California**, focused on families for their ECIDS uses. Grantees proposed creating parent portals so families could easily find care. Other Grantees such as **Colorado** and **Rhode Island** proposed focusing on teacher retention and professional development needs.

With the PDG B-5 focus on vulnerable populations, it is not a surprise that many states such as **Georgia, New Jersey**, and **New York** focused on better understanding their vulnerable populations. Some states wanted to not only look at vulnerable populations but to look at the equity gaps and systemic root causes. **Florida, Kansas, Louisiana**, and **New Hampshire** proposed specific activities that will focus on using data to look at issues of equity.

**Grantee Activities in the Maintain Stage**
The work of integrating data systems has been in progress for more than a decade. PDG B-5 provided an opportunity for states that had an ECIDS or states that wanted to enhance their pilot projects to maintain or enhance their data integration efforts. In this stage, state leaders focus on sustaining the work and continuing to enhance the data sources as well as the organizational capacity of each state agency to use the information.

**Eighteen Renewal Grantees proposed integrating new data sources.**

Many states have more than 20 data systems they plan to integrate into an ECIDS. Given the number of data systems available for integration, new sources are often phased into the development cycle. The scope of PDG B-5 grant activities provided an opportunity for some states to assess the next phase of data, and states, such as Georgia, identified new data sources that included broader human services and family supports (WIC, TANF). Of the 18 states that proposed adding a new data source, six (CA, CO, GU, MI, PR, and RI) focused on integrating data from the quality rating and improvement systems, and three (CA, MD, and WI), targeted their workforce registries. The other states proposed plans generally to integrate new data sources but did not clarify which data sources.

Dynamic access to information—such as through ad hoc queries and data mining— is important because it is not possible to anticipate all of the demands for data. Reporting and data requirements often change or evolve. Targets shift and are often redefined as priorities change, and new information is brought to light. To align data solutions with this reality, a robust data warehouse and ad hoc report tools will position states to develop many internal and outward-facing analytic tools over time. Although at first, the data warehouse may only offer a limited number of reports, prioritization should be managed by the data governance structure once established. Eighteen Renewal Grantees proposed integrating new data sources (AL, CA, CO, CT, GA, GU, KS, MC, MI, MN, NC, NY, OR, PR, RI, VA, WI, WY).

**Six Renewal Grantees proposed to promote organizational learning.**

Over the last decade, states that have created an operational ECIDS have learned that simply because it exists does not mean the data will be used to inform program or policy decisions. Six Renewal Grantees (KS, NC, OR, VA, WA, and WY) proposed to promote organizational learning. Five of the six renewal Grantees that proposed organizational learning activities plan to pursue to build the data literacy of their intended users. Virginia proposed adding data literacy to pilot activities to build the capacity of the ECE workforce. Oregon and Wyoming focused on building the capacity of state and regional leaders, and Kansas outlined activities to “create new opportunities to engage with data, turn it into meaningful insight, and generate future direction” with various stakeholder groups. North Carolina spoke broadly of building data literacy, but not for a specific audience.

In addition to the use of data, states such as Washington are redesigning agency vendor roles and relations to improve agency ownership and capacity. Some states are further down the road
and showed that they can produce sophisticated data tools --but find it challenging to make enhancements to systems managed by IT vendors. While there is always going to be a need for specialized contractors to support state efforts, some PDG B-5 states that have extensively used contractors to maintain their ECIDS are now viewing the grant as an opportunity to build internal agency capacity. Transitioning work of the contractor to the state allows the state to be more autonomous, Washington leadership said, “…we need to build capacity in-house or we’re never going to be able to make the strides we need in digital innovation.”

In Washington, the Digital Innovation team will build and maintain a cloud-based data platform to support traditional descriptive and diagnostic reporting, as well as advanced research and analysis across all of Department of Children, youth, and families (DCYF). This will in turn lead to improved integration among current agency partners. It is also useful to achieve a larger multiagency enterprise vision that uses shared platforms and systems of authentication when integrating data across systems. In addition to the flexibility and control for making system modifications, the strategy to maximize in-house ownership is part of an effort to promote data use for research and operations. Long-term benefits continue beyond the duration of PDG B-5.

**Three renewal grantees proposed activities emphasizing scalability and sustainability.**

The PDG B-5 Renewal Grant was only awarded for 3 years. On average, the proposed time it takes to implement integrated data systems takes about 5 years. As states learn from each other and leverage other data initiatives in their state, the implementation time is decreasing but only by about 12–18 months. That means that for states that proposed the development of an ECIDS in 3 years, they will need to leverage existing efforts or previous planning and begin to scale their work. Many states develop the ECIDS in phases. Due to the plethora of challenges involved in creating, maintaining, and using early childhood data, it is not feasible to expect that having technology resources or personnel with data expertise will result in effective and sustainable use of ECIDS within a three-year period. For example, ECIDS administrators are expected to establish cross-agency collaborations to integrate data from multiple sources which can be difficult in public institutions where change and responsiveness are difficult to achieve. Often professionals share a common goal but operate in separate agencies with distinct languages and ways of organizing their data. Also attracting and retaining staff is hard as teams typically experiencing constant staff turnover. Three Renewal Grantees proposed activities emphasizing scalability and sustainability (GA, NE, and WY).

Individuals, teams, and organizations are seeking actionable guidance to build their capacity for effective use of the massive amount of early childhood data being collected. PDG B-5 expanded the scope of data work beyond the technology focus of prior federal programs by supporting comprehensive needs assessment, data literacy, and governance. These nontechnical activities and capacities reflect a broad theory of change for effective and sustainable adoption of organizational data use and decision-making.
Additionally, states like Illinois are demonstrating innovation in supporting the long-term sustainability of the system by emphasizing the scalability of ECIDS. It can be a challenge to advance ECIDS in small steps toward a larger vision. Developing a single report based on one use case might solve one business case and yet fail to grow the state’s capacity needed to answer questions over the long term. In many states, PDG B-5 ECIDS reporting efforts are strategically focused on use cases that will directly benefit children and will also lay a foundation for future report design that can be replicated and scaled.

“We have a broad vision and we’re building that out in incremental pieces.” - Illinois

**Grantee Activities in the Data Use Stage**

Generating and sharing information that is useful for early childhood is particularly challenging. Anecdotally, states with an operational ECIDS report that they experience a combination of challenges related to technical system design, analytic capacity, and various organizational processes. Many of the data integration challenges evident across states resemble challenges experienced in other sectors (Sirinides & Fink, 2014). For example, a faulty assumption relates to the notion that once funding is secured and the technical tools are built, people will naturally engage in better evidence-based decision making and enhanced outcomes will follow (Custer & Sethi, 2017). Often described as the “field of dreams” assumption, state administrators have discovered that funding and technology alone are insufficient to advance a culture of effective data use, and that having an ECIDS does not guarantee actionable information. Also, like in other sectors, a focus on technology and reliance on external consultants can distract from the nontechnical implementation factors that are needed, such as a political motivator, program and data governance, and ongoing stakeholder engagement (Cochenour & Hebbeler, 2015).

**Seven renewal Grantees proposed launching new reports and data tools.**

The goal of the data systems should be the use of the information, not simply the development of the system itself. Seven of the PDG B-5 renewal Grantees (AL, IL, MO, SC, WA, WI, and WY) articulated their focus on new reports or dashboards in their applications. All seven presented ideas for new data visualizations that align with the intended audiences and
outcomes they presented in the application. For example, Missouri outlined its proposed plan to use geocoded data in dashboards that assess the risk and reach of services across the state.

States like Florida are redesigning data reports from prior initiatives to improve data decision-making. As states implement technical solutions for integrating administrative data, another important consideration is the analytic capacity to organize and learn from data. This requires careful planning and resources to develop tools that define relationships among data elements and model data appropriately. States are making progress in transactional systems that will provide a trove of data, and these states are also creating the knowledge management tools to take advantage of integrated data.

**Three renewal Grantees proposed activities that support data users' ability to access and use the data to inform decisions.**

A common goal in state PDG B-5 plans is to create community-responsive external-facing reporting (such as drillable dashboards) to help local communities make data-informed decisions and drive early learning strategies. However, states understand that data is only as good as the way it is collected and utilized. Data literacy and the technological capacity of ECE stakeholders are two major concerns identified by many states during the comprehensive needs assessment. Three renewal grantees proposed activities that support data users’ ability to access and sue the data to inform decisions (CT, IL, and NJ).

PDG B-5 states are trying to be innovative on the utilization side through a combination of engagement strategies and tool enhancements. States have engaged stakeholders to look at user experience and better understand constituent data stakeholder groups, their data needs, and their experiences using the products already developed. Insights from the field will drive tool enhancements and outreach efforts to clarify the purpose and the vision of data systems and inform stakeholders how the data helps benefit their organizations and the field. Website enhancements are planned in states such as Connecticut to provide a user-friendly website to ensure that users find value in the information provided. Additionally, Nebraska proposed activities to go beyond websites to create mobile-based platforms similar to the model used in Minnesota.

**Six renewal Grantees proposed activities focusing on data use for continuous quality improvement.**

Data for continuous quality improvement (CQI) has been a driving motivation for many states to integrate data across early care and education programs. Six renewal grantees proposed activities focusing on data use for CQI (CT, GU, MD, NH, PR, and WY) The ultimate goal of ECIDS efforts is to increase access and quality of programs to positively impact providers, children and families, and all system partners and stakeholders. The ultimate goal of data reporting is to maximize the benefit of public programs, especially the positive outcomes for children and their families. As the volume and sophistication of demands on early childhood
data seem to increase each year, states are investing in building efforts so that they can report the collected data. State leaders identify priority data and seek to advance analytic strategies to expand the use of early childhood data for CQI at many levels of program operation.

**Data to Support the PDG B-5 Bonus Sections**

The PDG B-5 Renewal Grant offered the opportunity for states to respond to three bonus sections: (1) coordinated application, eligibility, and enrollment, (2) infant/toddler emphasis, and (3) collaborative transition and alignment from birth through early grades. While all 28 renewal grantees responded to the bonus sections a few of the grantees integrated data into each of the bonus sections. Two states, **Minnesota** and **Alabama** focused their data system efforts on their coordinated enrollment activities, articulating the value in using integrated data to centralize the application processes, and better understand parents' needs for services and current availability across early care and education programs. Specific infant and toddler activities are outlined in *Investing in the Future: State Supports for Infants and Toddlers*. Additionally, two states (NJ and VA) proposed adding more infant and toddler data to their ECIDS. Finally, states two other grantees (NC and GU) reference the use of their ECIDS to support transitions between programs. Data across early care and education programs should support the goals of the PDG B-5 Grantees as they are strengthening the early childhood systems (birth through five) that touch the lives of children and their families.

**Impact of COVID-19 on Data System Activities in 2020**

Just months after the PDG B-5 renewal Grantees were awarded, COVID-19 changed Grantee plans. Specifically, the needs for relevant data become urgent and grant activities, such as data system enhancements, were modified to accommodate these needs earlier in the grant than originally proposed. State policymakers, leaders, and families were now looking for data on where centers were open, if they had open slots, and how to prioritize care for essential workers. For a majority of the PDG B-5 Grantees, the data system activities were escalated. One example is **Nebraska**, where state leaders pivoted quickly to create new dashboards that provided families and policymakers with the information needed to respond to the crisis (Heumiller et al., 2021). There were only a few instances in which Grantee data system activities were placed on hold due to staffing freezes during the pandemic.

**Conclusion**

Early childhood integrated data systems can be used to meet state goals and meet the objectives of the PDG B-5 Grant Initiative, including to improve child health and development, maximize parent engagement and knowledge to increase parent ability to make wiser choices affecting their children and their family, prepare children to enter kindergarten ready to succeed,
and improve transitions from the early childhood system into the local educational agency. As outlined in this report, all PDG B-5 Renewal Grantees included data system activities as part of their proposed plans. The activities were grouped into three types: fundamental, capacity building, and innovations across each of the stages of data system development. The ultimate goal of all data system activities focused on providing information to families as they select care and prepare their child to enter kindergarten.

Looking beyond data systems and analytic reports that were designed to meet the information needs of only one or two agencies, states are increasingly looking for ways to incentivize data use by many user groups to meet the needs of many communities. PDG B-5 is an opportunity for new collaboration and learning. The ECIDS activities of Renewal Grant states go beyond Unique IDs and integrating more program data and are positioning states to develop analytic solutions that address priority use cases for diverse communities. Given the exponential increase of early childhood data in recent years, effective and sustainable solutions require collaborative planning and operations. States are engaging new constituencies to address common information needs, re-imagine ECIDS designs, and foster a shared commitment for ongoing use of integrated data.
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