



Virginia's Early Childhood Integrated Data System: Where We Go From Here

The first eight years of life are an incredibly important time for child development. In Virginia, a growing number of leaders at the state and community levels have been focusing on how best to support children and their families in those years. Increasingly those leaders are finding that in order to provide the best quality service, they need better data than what is currently available – particularly about which children are receiving which services, and about the impact of those services.

To address Virginia's need to develop better data systems that inform services to young children and families, the Virginia Early Childhood Foundation convened two meetings of stakeholders to discuss plans for an Early Childhood Integrated Data System (ECIDS). The conversations included a strong focus on the information leaders need to know in order to be able to serve children and families more effectively, but also addressed the work needed to build a system that meets the state's needs. This report summarizes the key findings of those meetings and lays out a direction for future work.

This report includes the following:

- I. A discussion of the group's approach to the work, and the commitment from state agency leaders to keep it moving forward. It was important to the group that met to emphasize that data systems are a critical element of their work, and are necessary to provide better experiences for Virginia's children and families.
- II. A summary of what the stakeholders feel they need to know in order to improve services. The group held extensive discussions about the most important questions at both the state and local levels; ideally as the state builds out its data systems, it will do so in a manner that ensures those questions can be addressed.
- III. An approach to actually developing an ECIDS. Other states are further along than Virginia in the process of developing an ECIDS, and there are lessons that can be learned from those states to inform Virginia's work.
- IV. An outline of the capacities that will be needed to utilize data effectively. Meeting participants were keenly aware that the goal of an ECIDS is not the production of new data, but the use of information to improve outcomes for children and families; translating new data into improved action will require new approaches to the work at both the state and community level.
- V. A brief recap of critical next steps, including recommendations for how those next steps can be executed.

Importantly, the group expressed enthusiasm for the work – and while the process of developing an ECIDS will take years, the commitment to sustaining the work is strong. Stakeholders recognize that for Virginia to provide the best environment for young children and their families will require staying the course in building the ECIDS. This report is meant to chart the work ahead, and provide a roadmap for stakeholders to contribute to the building of Virginia's ECIDS in the coming years.

I. Virginia's Approach to the Work

One common theme that ran through both VECF conversations is that data systems shouldn't be about numbers, they should be about people – specifically, the children and families who benefit from the support their state and community leaders are working to provide. Participants had a shared sense of purpose and a passion for helping children and families. Department of Social Services Commissioner Duke Storen reminded the group at the second meeting that the key to the success of this initiative will be values; policy decisions about children and families should be made based primarily on values, with data informing how best to execute programs that serve those values.

There was widespread acknowledgment that ECIDS represents a significant cultural shift for Virginia's policy community. Much of the data that will be included in the ECIDS is already being collected somewhere, but connecting across

agencies will require each of those agencies – and the stakeholders who work with them – to go about their business very differently. To succeed at that work will require trust-building and thinking across program lines.

Moreover, actually using the data will require changes in how leaders make decisions, including changing how stakeholders learn from each other. New information may do more to raise new questions than to provide new answers, and stakeholders have to be prepared for the possibility that data will inspire difficult but important changes.

One value that came up repeatedly in the discussions was the importance of context. Children and families operate in a context, and data can help us understand more about it. Indeed, connecting data from multiple agencies should give us a much richer sense of a child's context than the disconnected data Virginia currently uses.

Because the meetings included leaders from both the state and local level, there was an acknowledgment that the information and capacities needed to use data effectively might differ somewhat between the state and local levels. Clearly there will be overlap, and ideally a cycle of feedback will be built between state and local leaders to use data for common purposes. Part IV describes more about how this cycle can be built.

Importantly, numerous high-level leaders participated in both conversations. The first conversation took place at the very end of Governor Terry McAuliffe's administration, and the second conversation took place after the first few months of Governor Ralph Northam's administration. Leaders from the Northam administration who participated included Commissioner Storen; Dr. Marissa Levine, who was at the time Virginia State Health Commissioner; Holly Coy, Deputy Secretary of Education; and Dr. Steven Constantino, Acting State Superintendent of Instruction for the Virginia Department of Education. All of them expressed their support for the ECIDS and their commitment to support the work going forward.

Finally, an important lesson learned from North Carolina is that the ECIDS is most likely to succeed if its goals and purpose are clear. Virginia's conversation about what stakeholders need to know was in effect a conversation about the purpose of the Commonwealth's ECIDS, and a primary purpose is to inform a set of important policy decisions that are currently being made with limited information. In particular, stakeholders were interested in using the ECIDS to track child outcomes, and to make policy changes that use data to improve the likelihood of better outcomes.

II. What Do We Need to Know?

The conversation about what Virginia's leaders need to know from an ECIDS centered around a handful of interrelated questions that all emerge from a central theme: which kids are getting which services, and what impact are those services having? Because Virginia's data are largely siloed, we do not have the rich understanding we want of how programs work together in combination. This is exactly why an ECIDS is necessary: it can give us a more complete picture of the experiences children and families are having, and connect those experiences to later outcomes. An ECIDS should help stakeholders know what the early childhood systems are doing well that can be expanded or shared, what's being done already that could be done better, and what isn't being done that needs to be.

Truly addressing this issue will require starting with two key initial actions:

- A community conversation about what outcomes Virginia's early childhood programs are actually trying to achieve. While there was widespread discussion of the importance of outcomes, each individual program has different outcomes it is designed to achieve – and Virginia does not have a cross-cutting system-wide definition of what outcomes it is seeking. If individual funding streams are to be effective as part of a larger coherent whole, then more work is needed to bring coherence to that larger whole.
 - Given this focus, it will be essential to create linkages between data sets focused on young children and those focused on older children and even adults.
 - While there is value in having a statewide definition of desired outcomes, individual communities may choose to have their own definitions – and will then seek to set policy locally in a manner that most effectively moves them toward those outcomes. ECIDS data can be used to help inform that process.
- Identifying which programs will be included in the initial ECIDS, and which may be added later. The existing infrastructure of the Virginia Longitudinal Data System (VLDS) provides a useful starting point – but if stakeholders

want to study the impact of the combination of multiple services, more work is needed to crisply define the universe of possibilities.

- In general participants were interested in casting the net broadly, but resource constraints are potentially an issue. This should include prenatal care, which could be connected to birth outcomes – and in turn birth-related services could be connected to later services and outcomes.
- Home visiting was specifically discussed as a program that it would be valuable to include.

If the state can begin to answer the broad question “which kids are getting which services, and what impact are those services having,” participants also identified several ways of drilling deeper.

- Participants were very interested in studying how different patterns of service use relate to later outcomes. Studying patterns might provide new insights about combinations that are particularly effective, and that new knowledge could be applied to children and families likely to benefit from those combinations. Understanding when services are not having the intended impact could lead to new approaches to designing services and/or redesigning existing programs.
 - Participants noted that there is a complex overlap of the funding streams designed for particular purposes and the settings in which services are delivered. Understanding the impact of the state’s investments requires attention to the relationship between service and setting.
 - Virginia’s growing linguistic diversity must also be accounted for by the system, with the recognition that children whose first language is not English may experience the system very differently than those for whom English is their primary or home language.
- Participants also discussed at length the need to understand more about children who are not receiving services. In many instances, children are showing up for kindergarten without having previously been in any state-funded support, and in too many cases those children are struggling to catch up – particularly when those children are low-income. Data can be used to identify service gaps and potentially to help close those gaps.
- Relatedly, participants were very interested in the idea of mapping data about service delivery. Other states have developed websites that map available services against population demographics, and allow the data to be searched and sorted by numerous political boundaries. Having a similar resource in Virginia would aid both state policymakers and community leaders.
- Data can also be a powerful tool for shining a light on inequity. Whatever data are reported should be disaggregated by various racial and demographic characteristics to allow for analysis of potential inequities.
 - In addition to demographic groups commonly used in reporting, the group identified military families as a segment worth reporting on specifically given the high number of military families who move in and out of Virginia.
 - More broadly, there was interest in using linked data to do a deeper study of transient populations generally.

There are also several important considerations to keep in mind as the state seeks to provide new information.

- The relationship between a particular combination of services and later outcomes is not necessarily causal. Strong research designs will be necessary to provide reliable answers to certain questions.
 - By definition, there is a significant lapse of time between when services are delivered and when many of the desired outcomes are achieved. For example, it takes at least 13 years to study the impact of early learning services on high school graduation rates – and there are a great many variables in those intervening 13 years that impact the likelihood of graduation.
- Some of the state services under study have been redesigned over time. When major changes have been made, that needs to be accounted for in studying the impact of the service.
- Many children cycle in and out of services. In studying the impact of a service, it will be important to consider how much of the service a given child or family actually received.
- Although the focus of the discussion was not on assessment data, the issue of how to use assessment data was raised. An ECIDS would not be a case management system, so it likely would not help communities and programs

implement assessment or screening and referral programs. It might, however, make it more possible to leverage assessment data statewide, so long as that was done in an appropriate manner.

- Individual data systems currently track data differently than each other, and the process of linking them will force reconciliation of data. The current system may not easily allow for apples-to-apples comparisons in some cases.
 - One specific example that arose was that there may be differences between tracking services for families and services for households, and in other instances the unit of analysis may be a “case.”

III. What Work Do We Need to Do to Know What We Need to Know?

The process of linking data across agencies involves two critical next steps: (A) assessing the data in existing agency systems to determine how best to link those systems, and (B) establishing a governance structure for managing a linked data system.

A. Assessing the Data in Existing Agency Systems

The process of assessing existing data and mapping a plan for connecting it is one that must be owned and led by the state’s governmental agencies. The analysis of the state’s data needs is frequently conducted by an outside contractor with expertise in data systems, who can analyze:

- What data fields are necessary to answer the state’s key questions, and where those fields are collected;
- Important information that is not being collected by agencies that needs to be to answer the key questions, which may include dates of service for children and families who cycle in and out of programs;
- Discrepancies among agency data collections that need to be resolved before data is linked, which can include discrepancies relating to the schedule of collection; and
- Areas where a particular agency’s data is not reliable enough to be included in a larger linked system.

Before a contractor can be commissioned to conduct this work, the state must determine which data sets will be the subject of the study. While stakeholders are clearly interested in casting as broad a net as possible, for practical reasons the scope of the study should be focused on a core set of programs seen as essential to a proper analysis. The analysis could culminate in the preparation of an RFP for the actual buildout of the system; such an RFP should be driven by a contractor with technical expertise, but guided by policy leaders who understand the desired outcomes of the ECIDS work.¹

One particular issue in deciding which programs to study is Head Start, which is a federal-to-local program.² Other states have made efforts to include Head Start in their ECIDS, with Georgia having some of the most significant success in that area.

B. Establishing a Governance Structure for Managing a Linked Data System

The process of establishing a governance structure for interagency management of the system requires agreement about which agencies will participate, and then the development of a common framework for data sharing. These frameworks are typically codified through a combination of statutory language and interagency agreements. Developing one generally requires high-level leadership from one or more agencies, and then an agreed-upon framework among the agencies for developing the agreement. This too is a process that must be driven by leaders within state government, although outside partners may be able to support the effort.³

¹ For a further discussion of how this process can work, see pages 17-18 of [An Unofficial Guide to the Why and How of State Early Childhood Data Systems](#), published by the Ounce of Prevention Fund in August 2017.

² For a further discussion see page 23 of the Unofficial Guide.

³ For a further discussion see [The Art of the Possible: Cross-Agency Data Governance Lessons Learned from Kentucky, Maryland, and Washington](#), published by the Data Quality Campaign in January 2018.

IV. What Supports Will We Need to Use Our New Knowledge?

A great deal of conversation focused on the capacities necessary to produce and use new data. Participants identified numerous forms of capacity that will need to exist for the system to be successful, at both the state and local level.⁴ Participants emphasized that planning for these capacities should begin while the ability to produce data is still being built out, so that by the time better data is ready the state's policy ecosystem is prepared to deal with it effectively. Capacities identified at the state level included:

- *The state agency capacity to produce data.* Depending on the design of the system, responding to queries and data requests may take up meaningful capacity from state employees. Whatever system is designed must take account of this need – and while there may be ways to minimize the impact, some amount of capacity will undoubtedly be necessary.
- *The capacity to collect data.* Many data are already collected, but some of it isn't truly reliable. Cross-agency protocols will need to be built to ensure that data are useful.
- *The capacity to analyze statewide data.* This capacity does not have to sit within state government, but somewhere there needs to be capacity focused on analyzing new data and using it to answer key questions. This may also include designing some new standard reports that can be regularly made available.
- *The capacity to conduct rigorous research.* In some cases, major stakeholder questions will require a research design to answer properly. Having research capacity that can be utilized to produce these answers will be critical to maximizing the system's impact.
- *Capacity to protect privacy and security.*⁵ The state already has existing systems to provide data security, which should be extended to any new technology infrastructure built as part of the ECIDS. With regard to privacy, an analysis will need to be done of federal and state laws relevant to both the linking process and the reporting process. In general, aggregated reports showing systemwide data are compliant with relevant federal privacy laws.
- *Materials to help users understand the system.* Other states like Minnesota have developed lots of documentation designed to make the system more user-friendly.
- *Capacity to share out good news...* An ECIDS will allow the early learning community to tell its story in a new way, and capacity will be needed to make that happen.
- *...and capacity for Continuous Quality Improvement.* An ECIDS will also identify places where the system needs to be stronger, and stakeholders need to be prepared to act on that data. This will likely require a strengthened culture of trust, creating the environment where communities and programs feel empowered to make the changes needed to improve child outcomes.
- *Mapping capacity.* Numerous states have built out the ability to map service availability against community demographics. The data need to be continually updated and analyzed, which requires ongoing support.
- *Stronger feedback loops between the state and communities.* New data should instigate new kinds of conversations between the state and communities; communities need to understand what new resources the state has available, and the state should be listening to communities to adjust its practices (and resource allocations) as needed.

In addition to the broader statewide conversation, the participants also engaged in discussion about the needs of communities. In many instances the needs articulated at the state and community levels overlapped – such as the need to better understand the impact of different combinations of services, or the need to map the availability of services. There were, however, some elements of the conversation that touched on distinctive community-level needs:

- Once communities have better data, there will be new opportunities for them to learn from each other, through exchanges of information and possibly benchmarking. Like the state, communities are interested in streamlining services and making them more efficient.

⁴ For a further discussion see pages 25-30 of the Unofficial Guide.

⁵ For a further discussion see pages 30-33 of the Unofficial Guide.

- In many communities the needs of children and families may be changing rapidly due to population shifts; those communities could use support in analyzing and addressing their needs.
- Communities may need support in planning and budgeting based on new data, and in engaging providers to help those providers use new data effectively.
- Communities are often interested in setting up “no wrong door” systems, which help refer parents to the right service regardless of what service they initially contact. The statewide ECIDS could help inform those efforts, although at this point the nature of the connection between the ECIDS and local infrastructure needs further discussion – as does the nature of the capacity that communities will need to execute these systems.
- More broadly, communities are very interested in stronger screening and referral systems; again, there could be further discussion on how exactly the ECIDS could most effectively support those efforts.
- Communities may want to focus on designing “ready schools” that meet the needs of incoming children, and the ECIDS data could help support that work.
 - New data could be used to help school leaders understand the value of early learning, and the value of partnering with private providers to deliver early learning.
 - The ECIDS should also support efforts to improve the quality of teaching and the engagement of schools with families.

Next Steps

Based on the work completed to date, there are some important next steps that can be taken to continue advancing the work:

- *Work to define outcomes.* VECF will convene further conversation among a broad range of stakeholders to define what outcomes are the highest priority which will help guide the design of the ECIDS and the kind of information it produces.
- *Begin assessing what data are where, and what it would take to link it.* Technical expertise is needed to conduct this analysis. The exact scope of this work may be dictated in part by the conversation about outcomes, but VECF will promote groundwork with agency partners for this analysis to start immediately and for a timeline to be built that accounts for the timing of the work to define outcomes.
- *Design governance structures.* VECF will convene/push agency leaders to begin conversations about how to organize themselves to produce the requested data, building on infrastructure already established through the VLDS. Again, some aspects of this conversation may benefit from further definition of the prioritized outcomes.
- *Defining capacities at the state and local level.* In order to make data meaningful, new capacity will be required at both the state and local level. While this report provides a high-level summary of what that capacity might look like, more work is needed to design it and make sure it is in place. VECF has recently completed a “data capacity booster” initiative in several localities/regions of the state to continue building capacity from the ground up; VECF will also prod state-level leaders and agencies to prioritize capacity at the state level.
- *Distinct count use case.* Underway!

Participants in the VECF meetings brought substantial wisdom and enthusiasm to the conversations, and the events made meaningful headway toward the design of an ECIDS. More wisdom and enthusiasm will be needed to carry the state through these important next steps.