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# DaSy Data System Framework

September 2014

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## **Terms and Acronyms**

These are terms and acronyms used throughout the framework.

Part C – Part C of IDEA (Early Intervention)

619 – Section 619 of IDEA (Early Childhood Special Education)

Part B – Part B of IDEA

IDEA – Individuals with Disabilities Education Act

IEP – Individualized Education Program

IFSP – Individualized Family Service Plan

ECIDS – Early Childhood Integrated Data System

SLDS – State Longitudinal Data System



## Introduction

The Center for IDEA Early Childhood Data Systems (DaSy Center), funded by the Office of Special Education Programs (OSEP), was charged with developing a data system framework. This document contains that framework. It was developed over 14 months with extensive input from Part C and Part B Section 619 staff from seven partner states.

The purpose of the DaSy framework is to assist Part C and Section 619 programs in developing and enhancing high-quality state data systems and in improving the quality of their IDEA data. The framework is intended to enhance the capacity of Part C and Section 619 state staff to

- *Understand* the characteristics and capabilities of a good state data system, so they can
- *Lead or actively participate in* state data system development efforts, including cross-agency work, so they can
- *Use* their state data systems to comply with IDEA federal reporting requirements and answer important program and policy questions, which will
- *Enable* states to build better systems of services and programs that will improve outcomes for young children with disabilities and families served under Part C and Section 619.

A high-quality data system provides data for multiple purposes. As reflected in the DaSy framework, these purposes are

- Accountability—federal and state reporting of data
- Program improvement—data to describe the provision of programs and services and the results achieved by young children with disabilities and their families
- Program operations—data that support the day-to-day management and implementation of programs and increase the effectiveness and efficiency of program activities.

High-quality data are fundamental to OSEP's vision for Results-Driven Accountability (RDA), which focuses on using data to improve results for infants, toddlers, children, and youth with disabilities.<sup>1</sup> OSEP recently introduced changes to its data reporting requirements and monitoring to shift from an accountability system concerned primarily with compliance to one that puts greater emphasis on improving educational results and functional outcomes for children with disabilities. Having high-quality data systems for Part C and Section 619 programs will improve states' capacity to collect, analyze, and report high-quality data required under IDEA (the Individuals with Disabilities Education Act).

A fundamental assumption underlying the use of data for program improvement and one that is reflected throughout the DaSy framework is that Part C and Section 619 state staff will use data regularly to administer the program. Data-informed decision-making is at the heart of operating and improving programs and ultimately of improving results for children and families. Answering key policy and programmatic questions requires that states have high-quality data and the capacity to access, analyze, and interpret these data.

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<sup>1</sup>For more information about OSEP's Results-Driven Accountability, see <http://www2.ed.gov/about/offices/list/osers/osep/rda/index.html>

*Data system* is conceptualized broadly in the DaSy framework. It refers to the hardware, software, and other applications that enable Part C and Section 619 programs to collect data about children, families, workforce, and/or program characteristics (e.g., program quality), as well as the analysis, reporting, and data use practices associated with those data. The framework was intentionally written to set a high bar for state data systems; a state that has addressed the entire contents of the framework will indeed have a very good data system. We recognize that few states have achieved the entire range of characteristics described in the framework, but the intent was to be aspirational. The framework also was designed to be comprehensive in that everything necessary for a high-quality data system is addressed. A question repeatedly asked during framework development was, “What does high quality look like?” This question was asked with regard to all facets of the framework’s broad conceptualization of data systems including the kinds of data collected, the uses of data, the process and structures for governing the data, and the processes for developing or enhancing the technology.

States vary significantly in their Part C and Section 619 service delivery systems as well as in their data systems, and the DaSy framework was developed to accommodate this variation.

### **The Structure of the Framework**

The DaSy framework is organized around six subcomponents: Purpose and Vision, Data Governance and Management, Stakeholder Engagement, System Design and Development, Data Use, and Sustainability.

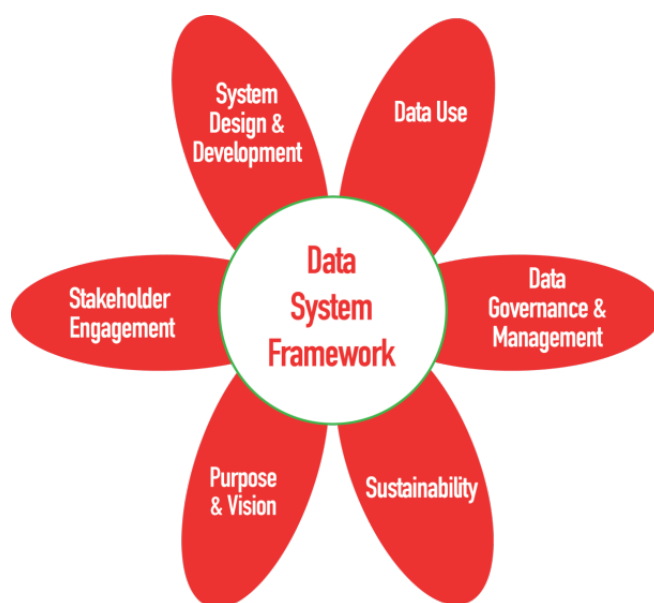
The subcomponents are interrelated.

For example, the Purpose and Vision subcomponent addresses the mission, usage, and goals of the data system, which are fundamental to other subcomponents. The intended uses of data as addressed in the Data Use subcomponent must reflect the purpose and vision of the data system. Similarly, the data system must be designed to reflect its purposes; developing or enhancing a system is addressed in System Design and Development.

The phases of developing a new system or enhancing an existing one can be viewed as a life cycle, and the

framework subcomponents reflect this. The cycle begins with planning and initiation; in the framework, having a process to identify the need for a change—for example, user needs for enhancing reporting capability or the need to address a new federal reporting requirement—is addressed in the Sustainability subcomponent. The Data Governance and Management subcomponent addresses the approval to move forward with the change to the data system, the first step in initiating a new system or an enhancement. The phases and processes related to the development of a new system or the

#### **Subcomponents of the DaSy Framework**

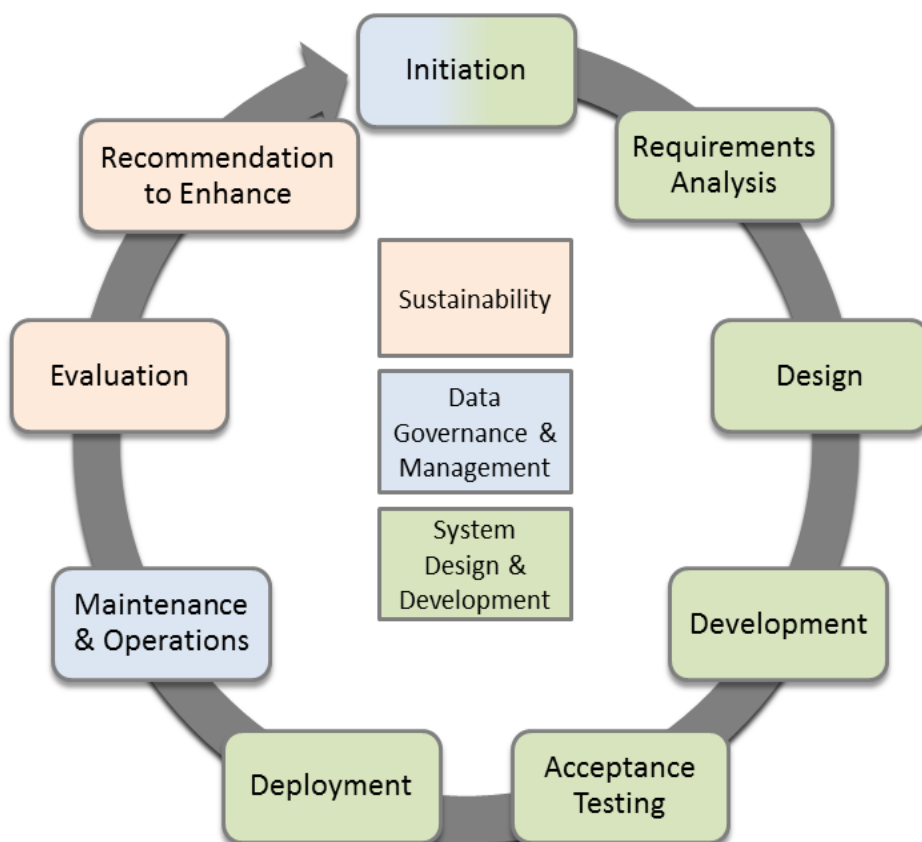


enhancement are covered in the System Design and Development subcomponent. The ongoing operation and maintenance of the system is part of Data Governance and Management subcomponent, with the evaluation of how well the system is meeting user needs and recommendation for changes covered in the Sustainability subcomponent.

Each of the framework's six subcomponents contains one or more quality indicators

(QIs), and multiple elements of quality. Quality indicators are broad statements about actions or activities that state agency staff undertake or the policies, procedures, or documents that the state needs to have in place to support a high-quality data system. Each quality indicator has a corresponding set of elements of quality that operationalize the implementation of the quality indicator. The elements of quality describe various aspects of the quality indicator. In short, quality indicators describe *what* quality is in a data system, and the elements describe *how* quality is achieved.

### Framework Subcomponents and the Life Cycle of a Data System



### Structure of the DaSy Framework

#### Subcomponent: Data Governance and Management (DG)

##### Quality Indicator DG1

Element of quality DG1a

Element of quality DG1b

Etc.

##### Quality Indicator DG2

Element of quality DG2a

Element of quality DG2b

Etc.

#### Subcomponent: Stakeholder Engagement (SE)

##### Quality Indicator SE1

Element of quality SE1a

Etc.

Several critical themes are addressed in multiple subcomponents of the framework. Data quality is one such theme. Policies and procedures related to data quality are addressed in the Data Governance and Management subcomponent, technical features of the data system to promote data quality are addressed in the System Design and Development subcomponent, and the importance of using data to promote data quality is addressed in the Data Use subcomponent. Similarly, the need for various kinds of training and support materials is addressed in multiple subcomponents. An important and aspirational feature of the data system framework is the emphasis on the integration of the Part C and Section 619 data with data from other programs serving young children in the state through the linking of Part C and Section 619 data with the Early Childhood Integrated Data System (ECIDS). Elements across multiple subcomponents address the need for states to build early childhood integrated data systems and for Part C and Section 619 to be a part of these efforts.

### **Development of the Framework**

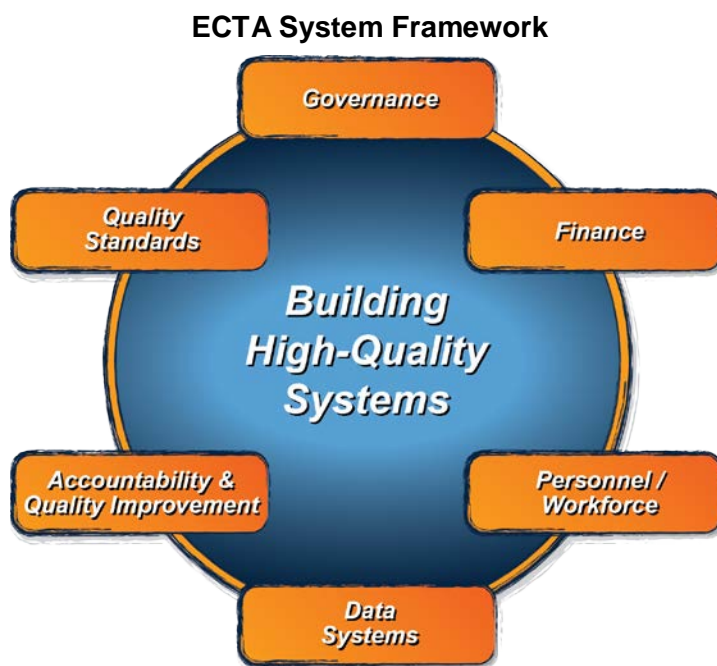
The framework content was developed through an iterative process of literature reviews, information gathering, and multiple rounds of feedback and revisions from state staff in seven partner states and external reviewers. In spring 2013, DaSy invited applications from state Part C and Section 619 programs interested in working on the development of the framework. The seven states selected as partners were Alaska, Arkansas, Connecticut, Georgia, Idaho, Massachusetts, and Pennsylvania. The individual staff members from each state were the Part C and 619 coordinators and the Part C and Part B/619 data managers, along with additional personnel from some of the states. The state staff participated in monthly individual state calls and monthly all-state calls. In addition, the state staff participated in four face-to-face meetings between summer 2013 and spring 2014.

A work group of DaSy staff members and consultants began developing the quality indicators and elements for each subcomponent with a review of the literature. The work group also developed a set of questions to gather information about the current status of that subcomponent in each partner state. Drawing on the literature and the information collected from the states, the work group drafted preliminary quality indicators and elements of quality. These were reviewed by other DaSy staff and revised, shared with the partner states during the all-state and individual state calls, and further revised on the basis of the additional input. The face-to-face meetings provided the DaSy staff and partners with the opportunity to engage in more in-depth discussion and refine the framework content. In the spring of 2014, DaSy staff conducted a series of conference calls with a group of external reviewers (see Acknowledgments) to further refine the content. Final revisions to the framework occurred during summer 2014 and included an overall review by OSEP.

### **Coordination of the Data System Framework with Other Frameworks**

The DaSy framework was developed in coordination with two other efforts: the Early Childhood Technical Assistance (ECTA) Center's System Framework (<http://ectacenter.org/sysframe/>) and the Early Childhood Integrated Data System (ECIDS) Planning Guide and Self-Assessment (<https://slds.grads360.org/#program/ecids-toolkit>). OSEP charged the ECTA Center with developing a framework for high-quality Part C and Section 619 systems. From the literature and extensive input from six partner states and a technical work group of national, regional, and state experts, ECTA developed a

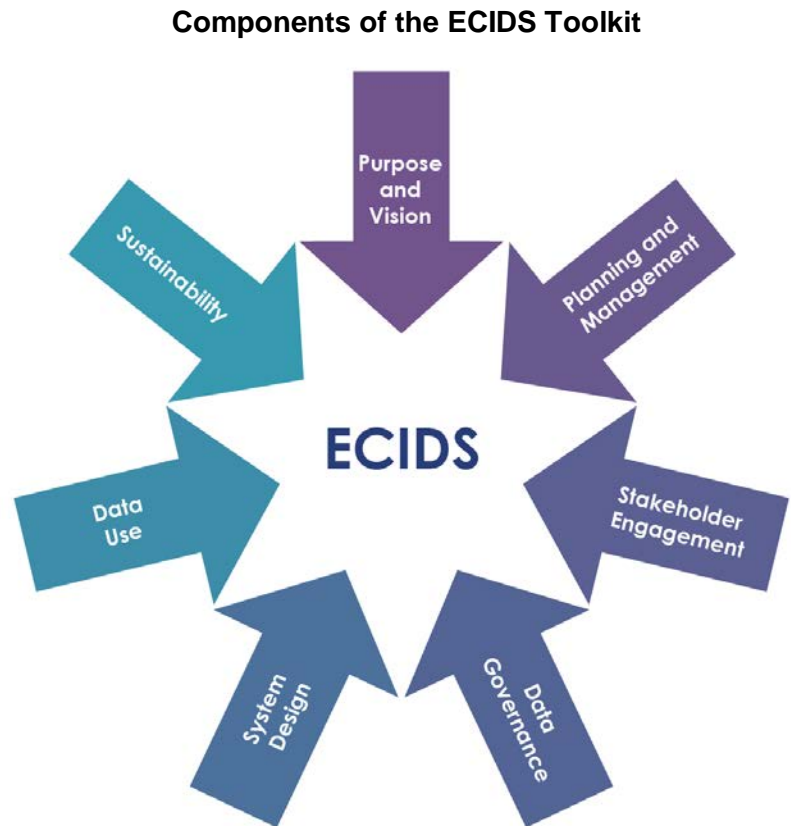
framework to answer the question, "What does a state need to put into place in order to encourage/support/require local implementation of effective practices that result in positive outcomes for children with disabilities and their families?" The purpose of the ECTA system framework is to guide state Part C and Section 619 coordinators, staff, and leadership in evaluating their current state Part C and Section 619 systems and identifying areas for improvement and to provide them with direction on how to develop a more effective, efficient system that supports implementation of effective practices. The ECTA framework consists of six interrelated components: Governance, Finance, Personnel/Workforce, Data Systems, Accountability and Quality Improvement, and Quality Standards.



Because DaSy was tasked with developing a framework for data systems, the two centers agreed that the DaSy's data system framework would serve as the Data Systems component in the ECTA framework. Accordingly, the DaSy data system framework follows the same organizational structure as the ECTA framework (i.e., component, subcomponent, quality indicator, element) to facilitate use by Part C and Section 619 state staff. The two centers worked closely throughout the development of both frameworks to ensure that the data system framework was compatible with the other areas of the ECTA system framework. Because the data system framework was developed on its own in addition to being a component in the ECTA system framework, it has considerably more subcomponents, quality indicators, and elements than the other five components in the ECTA system framework.

DaSy also coordinated with the technical assistance project working with states on developing an early childhood integrated data system. Funded by the U.S. Department of Education, in 2012 the State Support Team worked with states to develop a planning guide and self-assessment for them to use in building an early childhood integrated data system. As DaSy was beginning the development of the data system framework, the State Support Team was undertaking a revision to the planning guide and self-assessment. Recognizing that state staff could be using the data system framework to improve their Part C or Section 619 data system while using the ECIDS materials as part of their work on an early childhood integrated data system, DaSy committed to making the DaSy framework compatible with the revised ECIDS materials. During the revision, the planning guide and the self-assessment were renamed the ECIDS toolkit.

After discussion with the partner states, DaSy decided to use the same subcomponents (e.g., Purpose and Vision, Data Governance) as the ECIDS toolkit. As the work on the DaSy framework progressed, DaSy staff found that the ECIDS subcomponent Planning and Management was not a good fit with the data system framework; management-related topics became part of the Data Governance and Management subcomponent, and planning-related topics became part of the Sustainability subcomponent in the DaSy framework. DaSy and ECIDS compared the contents of each ECIDS component with the comparable DaSy subcomponent and identified many similarities and some differences that were deemed necessary given the different purposes of the two frameworks.



### Considerations for Understanding and Using the Framework

As states well know, developing a high-quality Part C or Section 619 data system is a complicated, multifaceted undertaking. The nature and scope of state data systems vary greatly by state. The considerations that follow are important for making the best use of the contents of the DaSy framework.

#### 1. What is quality? The operating assumptions for the framework are that

- A state that has fully implemented all of a quality indicator's elements has that quality indicator in place.
- A state that has all the quality indicators in the subcomponent in place has high quality in the subcomponent.
- A state that has all the subcomponents in place has a high-quality data system.

Fully implementing an element means that the element is (1) in place and (2) of high quality. For the sake of brevity and because of the extensive variation across states, the framework does not provide much detail on what constitutes quality implementation for each element. For instance, one of the elements speaks to the need for a state to develop data governance policies with input from stakeholders. The element does not describe what constitutes high- or low-quality stakeholder participation. DaSy will be compiling and developing additional resources for states to further clarify quality at the element level.



**2. Part C/619 state staff or representative.** To the extent possible, the quality indicators and elements were written to identify who is expected to carry out the action described in the statement while also being sensitive to the variations in Part C and Section 619 organization and administration across the states. Therefore, the actors identified in quality indicators and elements are somewhat open ended. When an indicator or element stipulates “Part C/619 state staff,” it refers to staff with knowledge of the program such as a state coordinator or other individuals in the state program office.

When the quality indicator or element uses the phrase “Part C/619 state staff or representatives,” it indicates that the individuals carrying out the action could be members of the state Part C or Section 619 program staff, but the action also could be carried out by someone who does not have direct connections to or knowledge of the program. An example of a “representative” would be a data analyst housed in another department within the agency or a vendor who supports the data system. *When an action needs to be carried out by someone with program knowledge, the actor is identified as “Part C/619 state staff.”*

**3. States have multiple state data systems.** States collect multiple types of data related to the implementation of IDEA, and much of the data reside in different data systems (Derrington, Spiker, Hebbeler, & Diefendorf, 2013). For example, in many states, data on children reside in one data system whereas information about the personnel who work with them is in another. The information in the framework applies to every state data system that contains data related to the implementation of IDEA. The phrase “data system” appears many times throughout the framework. In the interest of succinct communication, the framework uses “data system” rather than “data systems” or “data system(s).”

**4. What are State Part C/619 data?** State Part C/619 data are data related to the implementation of IDEA and encompass different types of data such as data about the children, their families, their services, the providers, and the programs that serve the children and their families. Included are all the data required for IDEA reporting and other data the state collects about the program. As noted above, some of these data reside in different data systems. Once data are included in the state Part C/619 data system, they are considered part of the Part C/619 state data set and within the oversight of the state Part C or Section 619 program, regardless of their origin (e.g., from the local programs or districts).

**5. State and local.** The framework was written to identify the components of a high-quality state data system. Many of the quality indicators and elements apply equally well at the local level, but they were not written or reviewed with local data systems in mind. Local programs are addressed explicitly in the Data Use subcomponent because quality data are an essential feature of a good data system and when data are used by those who provide the data, the quality of the data improves. For the data received by the state to be high quality, it needs to be used at both the local and state levels. In addition, the return on investment in collecting the data is maximized when data are used at multiple levels. As reflected in the Data Use subcomponent, the framework sees the state as having a responsibility to build the capacity of local programs and districts to use data.

## **Use of the Framework and Next Steps**

The DaSy Center is working on a self-assessment based on the framework. The self-assessment will enable states to systematically review their status on the elements and generate a numerical profile

across the quality indicators. The self-assessment is intended to provide states a current snapshot to help them prioritize improvement efforts, generate a set of scores for states to measure progress over multiple points in time, and serve as a mechanism to encourage state participants to engage in rich conversation about their data systems.

The results of the self-assessment will help a state identify the relative strengths and weaknesses of its data system, but the framework is not a road map for how to build a high-quality data system in that it does not tell a state where to start or what to do next. The state will need to determine where to focus improvement efforts based on its priorities and resources. A state might choose to focus entirely on one subcomponent or on elements from multiple subcomponents. A state might choose to complete the self-assessment for only one or two subcomponents. State staff and their stakeholders can use the self-assessment results to support a planning process that identifies the activities, timelines, resources, and outcomes needed to improve the system. The DaSy Center hopes that states will use the framework and self-assessment in this way, but states might find other ways to use them as well. The framework and self-assessment are designed to be tools to help states build high-quality data systems. There are no rules, only suggestions, for how the framework is to be used. Because the framework and self-assessment were designed to help the states, we encourage states to use these tools in whatever ways they find most helpful.

The DaSy Center will be compiling resources to support improvement activities in each of the subcomponents. Some of these resources will be specific to an element, whereas others will address a quality indicator or subcomponent more globally. The center will also be gathering examples of how states are implementing the elements; these resources are likely to include examples of policies, reports, procedures, data displays, planning documents, and other state-developed tools. The DaSy Center will post these resources to our web site with links to the related part of the framework. The center will be using the framework and the associated resources to guide intensive technical assistance to be provided to a small number of states over the next three years.

### **DaSy Center Technical Assistance Related to the Framework**

We hope that states find value in this framework and the additional supports for it that will be coming soon. We encourage states to contact the DaSy Center for technical assistance related to the framework. We can help with finding resources and with improvement activities. We hope the quality indicators and elements are clear, but we can provide clarification if needed. When the self-assessment is available, we can help, for example, with facilitating a stakeholder process to complete the self-assessment or a strategic planning process to make use of the results. We look forward to working together to improve the quality and use of data to improve programs for young children with disabilities and their families.

## **Subcomponent: Purpose and Vision (PV)**

A high-quality data system serving Part C and Section 619 programs must have a clearly articulated purpose and vision—that is, the mission, usage, and goals of the data system. An effective purpose statement succinctly describes the reasons for building the data system and its short-term benefits, including the scope of the system and how key stakeholders are expected to use it. The vision statement is an aspirational description of how the data system will help support the long-term state goal of improving outcomes for young children with disabilities. The vision statement should not focus on the data system itself, but rather on how information will be used to address the state’s early intervention and preschool special education policy and program goals.

Purpose and vision of the data system provide the state staff with guidance for every phase of data system development and enhancement. In addition to providing direction for key stakeholders, a well-articulated purpose and vision enables states to maintain the intended scope of work while planning for expansion and use of the data system over time.

**Quality Indicator PV1:** Part C/619 state staff or representatives have articulated the purpose and vision of the data system.

Elements of Quality	
PV1a.	The Part C/619 state program has a purpose and vision for its data system, either as a formal written statement, or embedded in other documents related to the data system (e.g., minutes, notes, procedures).
PV1b.	Part C/619 state staff obtain input about the purpose and vision of the data system from stakeholders.
PV1c.	A statement of the data system's purpose and vision is readily accessible (e.g., available on the website, in a parent handbook).
PV1d.	Part C/619 state staff review and revise the data system's purpose and vision as needed with stakeholders to ensure its continued relevance.

**Quality Indicator PV2:** The purpose and vision include the Part C/619 state program's intents and goals for the data system.

Elements of Quality	
PV2a.	The purpose and vision of the data system guide decision-making about who uses the system, what general kinds of data to include (e.g., fiscal, workforce, outcomes), and how the data are used.
PV2b.	The purpose and vision of the data system address meeting IDEA reporting requirements and other state and federal data requirements.
PV2c.	The purpose and vision of the data system address accountability, program improvement, and program operations, including the state's key program and policy questions.
PV2d.	The purpose and vision of the data system address linking Part C and Section 619 data.
PV2e.	The purpose and vision of the Part C/619 state data system include integrating information from early childhood programs and agencies as well as participation in the broader State Longitudinal Data System (SLDS) efforts.

## **Subcomponent: Data Governance and Management (DG)**

Data governance is both an organizational process and a structure. Data governance establishes responsibility for data, organizing program staff to collaboratively and continuously improve data quality through the systematic creation and enforcement of policies, roles, responsibilities, and procedures. Management is the systematic development, implementation, and enforcement of procedures (standardization of business processes) to operationalize the quality and security policies of the data system. Management addresses the implementation of data governance policies (via procedures) and oversees the operations of the data system.

Data governance exists whether formal or informal. Informal data governance is associated with significant risks. These risks may include:

- Questionable data quality, security, and usefulness of data
- Difficulty in maintaining consistent and reliable data and processes
- Unclear roles and responsibilities of internal and external staff relative to the data
- Inappropriate data sharing within internal and external staff and across external agencies

Formal data governance has significant benefits. These benefits include:

- Increased likelihood that data are of high quality and protected
- Increased use of data in ways consistent with the purpose and vision of the data system
- Increased confidence in data and associated processes (e.g., oversight of analysis activities)
- Improved fiscal efficiency and accountability

Data governance structures and policies are not static; they must evolve as the programs and policies that drive the data systems evolve. Managing the state data system requires responding to the evolving structures and policies and implementing the associated procedures. Part C and Section 619 state staff or their representatives should be actively engaged in the governance of their data system. This subcomponent uses the phrase “data governance structure.” A data governance structure is the formalized entities or individuals charged to establish policy and procedures for the overall management of the data and data system. In some states, there may be more than one data governance structure. The indicators and elements apply to all structures in a state.

This subcomponent consists of three sections. The first section, authority and accountability, is about establishing the data governance and management structure(s), responsibility, and oversight. The second section, quality and integrity, addresses policies to ensure validity, reliability, accuracy, consistency, and intended use of data. The section also focuses on the implementation of the monitoring and training procedures to ensure consistent application of data quality and integrity policies. The third section, security and access, focuses on the protection of state data from loss, contamination, or unintended uses and ensuring appropriate access.

### Section 1: Authority and Accountability

**Quality Indicator DG1:** The data governance structure delineates appropriate decision-making authority and accountability consistent with the uses of the data system reflected in the purpose and vision.

Elements of Quality
DG1a. State-level, formalized data governance structure is authorized or assigned to make decisions about the Part C/619 data system.
DG1b. The data governance structure includes representatives from Part C/619 state programs who have decision-making authority.
DG1c. The data governance structure oversees all data collected and maintained by Part C/619 and ensures adherence to governance policies related to Part C/619 data, regardless of where the data are located.
DG1d. The data governance structure's authority is reviewed and revised as necessary.

**Quality Indicator DG2:** The state ensures data governance and management roles and responsibilities clearly establish decision-making authority and accountability.

Elements of Quality
DG2a. A written statement(s) (e.g., organizational chart, data sharing agreements) delineates decision-making authority for Part C/619 data decisions.
DG2b. All data-related responsibilities associated with the Part C/619 state data system(s) are clearly assigned to responsible and informed parties (e.g., data manager, data steward, data owner).
DG2c. Information about data governance decision-making authority is communicated to staff and stakeholders (e.g., dissemination of organizational chart, policies and data sharing agreements).
DG2d. Data governance policies are developed with input from stakeholders and vendors and are reviewed and revised as necessary.
DG2e. Data governance policies address Part C/619 representation on other data governance structures and describe the extent of their decision-making authority as it relates to Part C/619 state data.

**Quality Indicator DG3:** Data governance authorizes Part C/619 staff or representatives to implement policies established for the state Part C/619 data system and manage the data system in accordance with all policies.

Elements of Quality	
DG3a.	A process is in place to allow Part C/619 staff or representatives to recommend policy changes to the data governance structure via their Part C/619 data governance representative.
DG3b.	All requirements (e.g., operational, research, reporting) for Part C/619 data are clearly defined to ensure oversight and accountability.
DG3c.	Part C/619 staff or representatives approve, prior to implementation, plans for substantive Part C/619 data system changes proposed by information technology (IT) (e.g., enhancements, business rules, technology changes).
DG3d.	Part C/619 staff or representatives review and revise the state data system's operating procedures to be responsive to changes in state and federal policy (e.g., new or revised data collection standard to meet reporting requirements).
DG3e.	Part C/619 staff or representatives communicate the state data system's operating procedures to staff and stakeholders.

## Section 2: Quality and Integrity

**Quality Indicator DG4:** Data governance policies require the development and implementation of procedures to ensure the quality and integrity of data collected from state/local programs and agencies.

Elements of Quality
DG4a. Data governance policies require that data included in the state data system are aligned with the purpose and vision of the Part C/619 data system.
DG4b. Data governance policies require procedures to ensure the validity of Part C/619 data.
DG4c. Data governance policies require a point of contact for each state Part C/619 data transfer or exchange.
DG4d. Data governance policies require the development of data quality and integrity procedures for the state data system.
DG4e. Data governance policies require staff and contractors who collect, maintain, and/or receive state data to participate in ongoing data quality and integrity training.
DG4f. Data governance policies related to data quality and integrity of the state data system are regularly reviewed and adjustments are made as necessary.
DG4g. Data governance policies require that any internal or external program or agency maintaining and/or using state Part C/619 data adhere to applicable data quality policies and procedures.
DG4h. Data governance policies require that supporting documentation is available to ensure interoperability when transferring state Part C/619 data to other programs or agencies (e.g., data dictionaries, data validation checks).



**Quality Indicator DG5:** Part C/619 state staff or representatives implement monitoring procedures and technical assistance to ensure consistent application of data quality and integrity policies.

Elements of Quality
DG5a. Part C/619 state staff or representatives communicate to data system users regularly about Part C/619 data quality and integrity policies and procedures.
DG5b. Part C/619 state staff or representatives monitor the implementation of the data quality and integrity procedures for Part C/619 data.
DG5c. Part C/619 state staff or representatives have a data quality orientation training for data managers at the state and local levels.
DG5d. Part C/619 state staff or representatives create and maintain standardized training materials regarding procedures and responsibility for Part C/619 data system quality and integrity operations.
DG5e. Part C/619 state staff or representatives ensure adherence to data quality and integrity procedures when Part C/619 data are exchanged or transferred.
DG5f. The Part C/619 data system's data quality procedures are reviewed and revised periodically and as new management needs arise (e.g., establishment of memorandum of understanding [MOU] with other existing early childhood data system or external research requests).

### Section 3: Security and Access

**Quality Indicator DG6:** Data governance policies require the development and implementation of procedures to ensure the security of the data from breach or loss.

Elements of Quality
DG6a. Data governance security policies are in place and available to Part C/619 state staff.
DG6b. Data governance security policies adhere to all federal, state, and local laws, regulations, and standards.
DG6c. Data governance security policies apply to all Part C/619 data collected, maintained, and/or used.
DG6d. Data governance security policies require documenting data system operations which, at a minimum, include the following for each state data system: <ul style="list-style-type: none"><li>• Person(s) responsible for data security</li><li>• Data training for authorized data users</li><li>• Data storage method</li><li>• Data back-up and recovery</li><li>• Response to data breach</li><li>• Data transference (e.g., agency to agency, email, FTP, texting, USB)</li><li>• Data encryption</li><li>• Data destruction</li><li>• Employee use of program equipment and personal devices</li></ul>
DG6e. Data governance security policies require that staff and contractors who collect, maintain, or receive data participate in periodic training about data security.
DG6f. Data governance security policies require adherence to security policies and procedures when transferring or exchanging Part C/619 state data.
DG6g. Data governance security policies require that all internal or external entity or agency maintaining or using state Part C/619 data adhere to all applicable security policies and procedures.
DG6h. Data governance security policies are periodically reviewed and revised as necessary.

**Quality Indicator DG7:** Data governance policies require the development and implementation of procedures to ensure that only authorized users gain appropriate access to the data, including reports.

Elements of Quality
DG7a. Data governance access policies are in place and available to all state Part C/619 state staff.
DG7b. Data governance access policies adhere to all federal, state, and local laws, regulations, and standards.
DG7c. Data governance access policies apply to all Part C/619 data collected, maintained, and/or used.
DG7d. Data governance access policies require that internal (and, to the extent required, external) Part C/619 data users participate in relevant access trainings regarding Part C/619 data.
DG7e. Data governance access policies require Part C/619 state staff or representatives to routinely monitor and test data system access to ensure effective and consistent implementation.
DG7f. Data governance access policies are periodically reviewed and revised as necessary.

**Quality Indicator DG8:** Part C/619 state staff or representatives support and implement management procedures that maintain and address data security and access.

Elements of Quality
DG8a. Part C/619 state staff or representatives communicate regularly to data system users about Part C/619 data security and access policies, and procedures.
DG8b. Part C/619 state staff or representatives monitor the implementation of the security procedures and the overall security of Part C/619 data.
DG8c. Part C/619 state staff or representatives monitor to ensure that all data users, at all levels, with access to state Part C/619 data adhere to the policies and procedures.
DG8d. Part C/619 state staff or representatives monitor to ensure adherence to security procedures when transferring or exchanging Part C/619 state data.
DG8e. Part C/619 state staff or representatives develop training materials regarding procedures and responsibility for Part C/619 data system security and access operations and data use.
DG8f. Part C/619 state staff or representatives require that all individuals with access to Part C/619 data demonstrate knowledge about security and access policies and procedures.
DG8g. Part C/619 state staff and representatives review and revise security and access training materials periodically and as new management needs arise (e.g., new or revised data policies).
DG8h. Part C/619 state staff and representatives review and revise procedures for monitoring security and access as necessary.

## **Subcomponent: Stakeholder Engagement (SE)**

Stakeholder engagement is the use of a collaborative process to gather a wide range of input from stakeholders at every level of an organization or system. Stakeholders are individuals and groups directly or indirectly affected by the Part C and Section 619 state data systems. Stakeholders include a wide range of individuals—from local school systems and local early intervention programs (e.g., administrators, teachers, providers, parents), to the state and federal level (e.g., legislators, legislative staff, governors), to the general public and the business community. Some formal stakeholder groups may have responsibilities beyond data system topics, such as the Interagency Coordinating Council. Stakeholder engagement in Part C and Section 619 state data systems can involve a wide range of topics and considerations (e.g., determining what enhancements to make or how to use data for program improvement).

Effective stakeholder engagement is essential because it increases the likelihood that the data system, the quality of the data, and the uses of the data address the needs of those the data system is designed to serve. Stakeholder engagement increases perceived and actual value of the data and the data system to the users and supports long-term sustainability.

**Section 1: Leading Part C/619 Data System Stakeholders**

**Quality Indicator SE1:** Part C/619 state staff identify groups and individuals who are affected by the data system.

Elements of Quality
SE1a. Part C/619 state staff establish purposes for engaging stakeholders.
SE1b. Part C/619 state staff identify individuals to represent different types of stakeholder groups and that include diversity related to language, culture, and perspective.
SE1c. Part C/619 state staff articulate the expectations for stakeholder involvement, including the timeline for involvement, mechanisms for responding to requests for input, and the role of stakeholders in decision-making or advising.
SE1d. Part C/619 state staff periodically review stakeholder representation to ensure all relevant groups are included and participating.

**Quality Indicator SE2:** Part C/619 state staff provide opportunities for stakeholders to give input about the data system.

Elements of Quality
SE2a. Part C/ 619 state staff use multiple methods to maximize opportunities for stakeholder input.
SE2b. Part C/619 state staff provide stakeholders with the necessary information to provide input on the issues or decisions under consideration.
SE2c. Part C/619 state staff periodically review and revise the methods for gathering input from stakeholders.

**Quality Indicator SE3:** Part C/619 state staff consider stakeholder input in decision-making and notify stakeholders of decisions made regarding the data system.

Elements of Quality
SE3a. Part C/619 state staff review stakeholder input to guide decision-making.
SE3b. Part C/619 state staff use multiple methods for communicating decisions to stakeholders in a timely manner.
SE3c. Part C/619 state staff periodically review and revise the methods used for communicating decisions.

**Section 2: Part C/619 Participating as Stakeholders in Integrated Data System Initiatives**

**Quality Indicator SE4:** Part C/619 state staff are engaged as stakeholders in integrated data system initiatives, such as C/619 integrated data system, ECIDS, SLDS.

Elements of Quality	
SE4a.	Part C/619 state staff understand their role as stakeholders in the integrated data system initiative.
SE4b.	<p>Part C/619 state staff participate as active stakeholders in the initiative in a variety of ways, including:</p> <ul style="list-style-type: none"><li>• Responding to requests for input within designated timelines</li><li>• Attending and actively participating in meetings</li><li>• Acquiring knowledge about integrated data systems (i.e., integrated data systems literacy)</li><li>• Providing information to the larger stakeholder group about their program</li><li>• Ensuring the appropriate program data are included in the integrated data system</li><li>• Keeping Part C/619 state stakeholders and leadership informed about the initiative.</li></ul>





## **Subcomponent: System Design and Development (SD)**

The System Design and Development subcomponent addresses the characteristics of the functional and technical requirements for a data system, and the development and implementation of a data system based on those requirements. This subcomponent includes the process of defining the architecture, database, system standards and components, and the data elements. Part C and Section 619 state staff involvement, input, and review throughout the entire process are a hallmark of a high-quality data system.

The purpose of the System Design and Development subcomponent is to assist states in creating and supporting a data system based on the Part C and Section 619 program requirements as articulated in the purpose and vision. System design and development is the means by which the operational needs of the program staff and other users are translated into a functional and technical infrastructure that will meet those needs. This subcomponent supports the development of new data systems and enhancements to existing data systems.

This subcomponent was developed around the phases and processes of a standard System Development Life Cycle (SDLC), which includes (1) system initiation; (2) system requirements analysis; (3) system design; (4) system development; (5) system acceptance; and (6) system deployment. This subcomponent begins once data governance approves a high-level plan for a new data system or data system enhancement and ends when the system or enhancement is deployed. Ongoing maintenance activities and operations to support the system are addressed in the Data Governance and Management subcomponent, and the evaluation of the data system to determine needed enhancements is addressed in the Sustainability subcomponent. Designing and developing a data system involves numerous technical requirements and processes usually performed by the Information Technology (IT) team and not by Part C and Section 619 staff. Because the subcomponent was developed for use by Part C and Section 619 staff, these technical activities are not addressed within it.

This subcomponent consists of three sections, each of which addresses two phases of the SDLC. The first section addresses the first two phases of the life cycle: initiation of a new data system or enhancement, and system requirements analysis. The purpose of system requirements analysis is to obtain a thorough and detailed understanding of the business needs and to break those into discrete requirements. These requirements must then be clearly defined, reviewed, and agreed upon by the state Part C and Section 619 staff. Sufficient time and resources should be allocated during system requirements analysis to bring stakeholders and their interests into the process. Subject-matter experts in Part C and Section 619 must also be actively involved in defining business requirements. During system requirements analysis, a set of functional specifications for the data system development or enhancement are created through an iterative process. These specifications provide the foundation for all subsequent design and development work.

The first section also addresses critical data elements and features that should be contained in a high-quality data system. A fundamental purpose of the framework is to help states develop more powerful and comprehensive data systems, and such systems include the suggested data elements and features.

Although many state data systems do not have all of the suggested data elements and features, the purpose of the framework is to help states move toward such systems.

The second section addresses the third and fourth phases of the SDLC: system design and system development. Part C and Section 619 staff may not be directly involved in the technical aspects of the system design and construction work, but the state should have a process in place for Part C and Section 619 state staff to work and communicate with the IT team, providing feedback, input, and approval when necessary.

The third section addresses the fifth and sixth phases of the SDLC: system acceptance and system deployment. Successful acceptance testing is the final opportunity to establish that the data system performs as expected in an environment that closely simulates one which will be used after deployment. During acceptance testing, end users thoroughly test the data system as if it were fully implemented. An end user is an individual who uses a computer (data) system after it has been fully developed and deployed. The term is based on the idea that the “end goal” of a software or hardware product is to be useful to the consumer. System acceptance also includes creating or updating supporting documentation and reference materials. Deployment refers to the launch of the new data system or enhancement.

## Section 1: Initiation of New System/Enhancement and Requirements Analysis

**Quality Indicator SD1:** Part C/619 state staff are actively involved in initiating the development of the new data system or enhancement.

Elements of Quality	
SD1a.	Part C/619 state management or leadership provide input to determine project team roles and responsibilities and commit Part C/619 staff to the development of the data system/enhancement.
SD1b.	Part C/619 state staff review the high-level plan for the data system/enhancement to ensure that it meets Part C/619 goals and needs.
SD1c.	Part C/619 state staff provide input on how the new system/enhancement will be developed (i.e., vendor/contractor, in-house, commercially available product) and related staffing needs.
SD1d.	Part C/619 state staff provide input into the plan and schedule for the system requirements analysis and the plan and schedule for the remaining system design/development phases.

**Quality Indicator SD2:** Part C/619 state staff are actively involved in the development of business requirements, process models, and data models for the data system/enhancement.

Elements of Quality	
SD2a.	Part C/619 state staff are actively involved in defining, reviewing, and revising business requirements, which identify programmatic needs expressed in the language of the Part C/619 program.
SD2b.	Part C/619 state staff are actively involved with the IT team to create work process models that reflect an understanding of the Part C/619 program, processes, and language.
SD2c.	Part C/619 state staff are actively involved with the IT team to create data models that reflect program language.
SD2d.	Part C/619 state staff solicit end user input on business requirements, process models, and data models.
SD2e.	Part C/619 state staff are actively involved in reconciling process models and data models with business requirements, with specific consideration of budget and scope.
SD2f.	Part C/619 state staff have a clear process for the approval of the final business requirements.

**Quality Indicator SD3:** The requirements analysis defines the full set of requirements for the new data system/enhancement—that is, what the new system/enhancement must do.

Elements of Quality	
SD3a.	Features and functions of the data system/enhancement, including those for reporting, interfaces and user types/access, are fully described and expressed in the language of the Part C/619 program.
SD3b.	The list of required features and functions of the data system/enhancement indicates what is in and out of scope.
SD3c.	Business requirements are prioritized (e.g., as essential, useful, or desirable).
SD3d.	The business requirements address technical requirements that operate in the background, such as encryption, system performance and load, data archiving, audits and controls, and data conversion.
SD3e.	A diagram or description of Part C/619 work processes and work flows is developed and depicts processes such as referral/intake, eligibility determination, IFSP/IEP development, and transition.
SD3f.	Work processes and work flows are broken down into manageable functions and subfunctions (e.g., IFSP/IEP development and provision of services and supports).
SD3g.	All data needed for Part C/619 reporting, and for accountability, program improvement, and program operations (refer to Purpose and Vision subcomponent), have been identified for the data system/enhancement.
SD3h.	A data model identifying the data elements, the characteristics that define those data (i.e., the data attributes), and the relationships between the entities has been developed.
SD3i.	An initial data dictionary is produced that defines the data elements, their attributes, and the logical relationships among the data elements.

**Quality Indicator SD4:** The Part C/619 state data system has the capacity to support accountability, program improvement, and program operations, and should contain the following data elements and features.<sup>2</sup>

Elements of Quality
<p>SD4a. The Part C/619 state data system includes, but is not limited to, the following types of data:</p> <ol style="list-style-type: none"> <li>1. Child-level data elements <ol style="list-style-type: none"> <li>a. Unique child identifier</li> <li>b. Family demographics <ol style="list-style-type: none"> <li>i. Primary language spoken in the home</li> <li>ii. Home address</li> <li>iii. Socioeconomic status (e.g., eligibility for Medicaid, free and reduced lunch)</li> </ol> </li> <li>c. Child demographics <ol style="list-style-type: none"> <li>i. Gender</li> <li>ii. Race/ethnicity</li> <li>iii. Primary language</li> <li>iv. Date of birth</li> </ol> </li> <li>d. <i>For Part C:</i> Child Protective Services involvement</li> <li>e. In foster care</li> <li>f. Referral <ol style="list-style-type: none"> <li>i. Date</li> <li>ii. Source</li> </ol> </li> <li>g. Evaluation and eligibility <ol style="list-style-type: none"> <li>i. Date of consent for evaluation</li> <li>ii. Date of evaluation</li> <li>iii. Date eligibility determined</li> <li>iv. Date of enrollment in the program</li> <li>v. Eligibility status</li> <li>vi. Reason eligible (e.g., developmental delay, visual impairment, established condition or disability)</li> <li>vii. Reason for delay of eligibility determination</li> </ol> </li> <li>h. Descriptive information on nature of delays/disabilities (e.g., International Classification of Diseases codes (ICD-9), diagnosed conditions, areas of delay)</li> <li>i. IFSP/IEP <ol style="list-style-type: none"> <li>i. Date</li> <li>ii. Type (e.g., initial, annual)</li> </ol> </li> <li>j. Services (planned and received) <ol style="list-style-type: none"> <li>i. For each planned service:</li> </ol> </li> </ol> </li> </ol>

<sup>2</sup> Unless otherwise noted, the data elements listed in this quality indicator are recommended for inclusion in data systems for both Part C and 619 programs. It is not necessary for all of the data elements to be in one data system as long as the necessary linkages are in place. For example, budgeted and expended funds for each local program/district may be obtained by linking to a separate agency financial system.

Elements of Quality	
	<ol style="list-style-type: none"> <li>1. Type</li> <li>2. Start date</li> <li>3. End date</li> <li>4. Frequency</li> <li>5. Intensity (e.g., minutes/session)</li> <li>6. Setting</li> </ol>
	<ol style="list-style-type: none"> <li>ii. For services received:               <ol style="list-style-type: none"> <li>1. Types</li> <li>2. Dates</li> <li>3. Minutes</li> <li>4. Providers</li> <li>5. <i>For Part C:</i> Reason for delay of initiation of service(s)</li> </ol> </li> </ol>
	k. Attendance in any center-based program (e.g., child care, preschool)
	l. Child outcomes
	m. Family survey/outcomes
	n. Transition <ol style="list-style-type: none"> <li>i. Date of transition plan</li> <li>ii. Date of notification</li> <li>iii. Date of transition conference</li> <li>iv. Reason for delay of notification to Part B</li> <li>v. Reason for delay of transition conference</li> </ol>
	o. Exit <ol style="list-style-type: none"> <li>i. Date</li> <li>ii. Reason</li> </ol>
2.	Service provider/teacher-level data elements <ol style="list-style-type: none"> <li>a. Identifier that can be linked to child identifier and program identifier</li> <li>b. Service provider/teacher demographics               <ol style="list-style-type: none"> <li>i. Gender</li> <li>ii. Race/ethnicity</li> <li>iii. Date of birth</li> <li>iv. Languages other than English</li> </ol> </li> <li>c. License, certification</li> <li>d. Education               <ol style="list-style-type: none"> <li>i. Field(s) of study</li> <li>ii. Degree(s) awarded</li> <li>iii. Date(s) awarded</li> <li>iv. <i>For Part C:</i> Continuing education information (e.g., units, hours)</li> </ol> </li> <li>e. Employment               <ol style="list-style-type: none"> <li>i. Employer/agency</li> <li>ii. Date started</li> </ol> </li> </ol>

Elements of Quality	
<ul style="list-style-type: none"> <li>iii. Position title</li> <li>f. <i>For Part C</i>: Number of years working with children <math>\leq 5</math> years old with disabilities and their families</li> </ul>	
3.	Local Early Intervention Services (EIS) program / Local Educational Agency-level data elements <ul style="list-style-type: none"> <li>a. Name of entity</li> <li>b. Unique ID of entity</li> <li>c. Address of entity</li> <li>d. Type (e.g., school district, other public provider, private)</li> <li>e. Size of program/district in terms of number of children (e.g., total # of children <math>\leq 5</math> years old)</li> <li>f. Size of program/district in terms of number of children <math>\leq 5</math> years old who receive IDEA services</li> <li>g. Size of program/district in terms of staff (e.g., # of full-time equivalent [FTE] serving children <math>\leq 5</math> years old receiving IDEA services)</li> <li>h. Inclusion opportunities (i.e., does entity provide IDEA services in settings where children without disabilities are receiving early care and education?)</li> <li>i. Local determination</li> <li>j. Financial data <ul style="list-style-type: none"> <li>i. Total funds budgeted for the Part C or 619 program</li> <li>ii. Total funds expended for the Part C or 619 program</li> <li>iii. Funds budgeted by revenue source (e.g., Federal C/B, state, private insurance, public insurance)</li> <li>iv. Funds expended by revenue source (e.g., Federal C/B, state, private insurance, public insurance)</li> </ul> </li> </ul>
SD4b.	The Part C/619 state data system has the capacity to track data about children when they move from one Part C/619 local program to another in the state.
SD4c.	The Part C/619 state data system has built-in edit-check routines at the application and/or database levels (e.g., format checks, field validation restrictions, import restrictions/checks).
SD4d.	The Part C/619 state data system has reports in place to assess data quality (e.g., error reports, outliers, missing data).
SD4e.	The Part C/619 state data system has controls in place so end users access data consistent with federal, state and local privacy requirements, including requiring strong passwords; limits on the length of access (e.g., session timeouts, use of different user types and role-based permissions).
SD4f.	The Part C/619 state data system has embedded supports and training materials for end users (e.g., mouse over definitions, support documents, practice scenarios, practice site within the application, audiovisual tutorials).

Elements of Quality	
SD4g.	The Part C/619 state data system, directly or through a related application, has reporting and analysis tools that provide end users, including state and local program staff, with easy access to the data in both raw form and reports.
SD4h.	<i>For transactional systems:</i> The Part C/619 state data system provides automated functions that support program practices for end users, (e.g., date tickler or calendar reminders of critical dates such as deadlines for IFSP/IEP reviews and transition conferences).
SD4i.	The Part C/619 state data system has security measures that allow the state to comply with federal, state, and local privacy requirements, including those that address: <ul style="list-style-type: none"> <li>• Data back-up and recovery</li> <li>• Data storage</li> <li>• Data encryption</li> <li>• Proper destruction of data</li> <li>• Secure transmission of data</li> </ul>
SD4j.	The Part C/619 state data system allows for selected modifications within the data system with little or no reliance on the IT team, such as adjusting user permissions and adding support documents.
SD4k.	The Part C/619 state data system has the capacity to link various child-level data elements, including child outcomes.
SD4l.	The Part C/619 state data system has the capacity to link child-level data with service provider/teacher data.
SD4m.	The Part C/619 state data system has the capacity to link child-level data with program/school/classroom data.
SD4n.	The Part C/619 state data system has the capacity to link service provider/teacher data with program/school/classroom data.
SD4o.	The Part C/619 state data system has the capacity to link family survey/outcomes data with other child-level data, including child outcomes.
SD4p.	<i>For transactional systems:</i> The Part C/619 state data system is able to track entries/changes made by end users to data in the database, and the user who made them.
SD4q.	The Part C/619 state data system has interoperability that allows for linking Part C or 619 data to other statewide longitudinal and early childhood data systems.



## Section 2: System Design and Development

**Quality Indicator SD5:** Part C/619 state staff work with the IT team to translate the system requirements analysis into the design for the new data system/enhancement.

Elements of Quality
SD5a. Part C/619 state staff or representatives work with the IT team as decisions are made about technical architecture (e.g., hardware and software, naming conventions, importing legacy data) and provide clarification as necessary.
SD5b. Part C/619 state staff work with the IT team to review, refine, and approve mock-ups of modules, reports, and other functions.
SD5c. Part C/619 state staff work with the IT team on the ongoing development of the data dictionary.

**Quality Indicator SD6:** Part C/619 state staff work with the IT team as they build and test the new data system/enhancement.

Elements of Quality
SD6a. Part C/619 state staff are actively involved with the IT team in refining the data system requirements during system construction with consideration of the scope.
SD6b. Part C/619 state staff test modules as they are developed until they function as intended.
SD6c. Part C/619 state staff communicate with the IT team to ensure adequate system performance based upon anticipated system peak usage.
SD6d. Part C/619 state staff or representatives require technical documentation, including instructions for system deployment and maintenance.

### Section 3: System Acceptance and Deployment

**Quality Indicator SD7:** Part C/619 state staff prepare for, communicate about, and conduct system acceptance testing to ensure the new data system/enhancement functions properly before deployment.

Elements of Quality
SD7a. Part C/619 state staff select representative end users (e.g., based on user types, permissions) for acceptance testing.
SD7b. Part C/619 state staff collaborate with the IT team to create the acceptance testing plan, including a schedule and expected testing environment.
SD7c. Part C/619 state staff prepare materials (e.g., test data, sample cases) and feedback mechanism for acceptance testing.
SD7d. Part C/619 state staff work with the IT team to ensure that legacy and new data are processed together as specified in the systems requirement analysis (e.g., test associated system utilities and processes for accuracy and fidelity).
SD7e. Part C/619 state staff conduct acceptance testing, process user feedback, and communicate findings to the IT team.
SD7f. Part C/619 state staff work with the IT team and/or project management to adjust plans as needed.
SD7g. Part C/619 state staff repeat system acceptance testing as necessary until the system functions properly.

**Quality Indicator SD8:** Part C/619 state staff participate in creating, reviewing, and revising materials to support the implementation of the new data system/enhancement.

Elements of Quality
SD8a. Part C/619 state staff ensure data dictionary is reviewed and revised as necessary.
SD8b. Part C/619 state staff participate in creating and updating system materials (e.g., user manuals, online tutorials, webinars) as necessary.
SD8c. Part C/619 state staff ensure changes to the materials are communicated to help desk support.
SD8d. Part C/619 state staff revise updated materials based on acceptance testers' review and feedback.

**Quality Indicator SD9:** Part C/619 state staff communicate and work with the IT team to deploy the new data system/enhancement.

Elements of Quality	
SD9a.	Part C/619 state staff collaborate with the IT team to create a deployment plan, including guidelines for transition to the new data system/enhancement, schedule, and roles and responsibilities.
SD9b.	Part C/619 state staff communicate the deployment plan to all necessary parties, including state and local staff.
SD9c.	Part C/619 state staff ensure end user support (e.g., training, release notes) is provided to all end users for the new data system/enhancement.
SD9d.	Part C/619 state staff or representatives confirm that contingency plans exist for problems during and after deployment of the new data system/enhancement.
SD9e.	Part C/619 state staff coordinate with the IT team to release the new data system/enhancement.
SD9f.	Part C/619 state staff coordinate with the IT team to transition the responsibility for the new data system/enhancement to the state agency according to the deployment plan.
SD9g.	<i>For new systems only:</i> Part C/619 state staff coordinate with the IT team on the retirement of the legacy system, including the decision to run the two systems in parallel.



## **Subcomponent: Data Use (DU)**

Effective use of Part C and Section 619 data is fundamental to the achievement of positive outcomes for children with disabilities and families. To support the achievement of positive outcomes, Part C and Section 619 state staff need the knowledge and skills to formulate critical questions about the services provided in the state and the outcomes experienced, and use their data to answer these questions. The purpose of the Data Use subcomponent is to assist state leaders in facilitating ongoing use of quality Part C and Section 619 data for program accountability, program improvement, and program operations at state and local levels. Part C and Section 619 state and local staff benefit from using data effectively, but they need knowledge and skills to be able to do this. Effective data use also requires ongoing planning, analysis, and dissemination of data products. Data products are defined as all types of materials containing data, such as data tables, presentations, and reports. The framework assumes that many different kinds of individuals can make use of data. A data user is any person who accesses the data in any form, including raw data, data tables, data displays, reports, or any other data products. All data use must comply with data governance policies and with careful attention to the protection of personally identifiable information. To achieve positive outcomes based on continuous improvement of programs and systems, the state needs to prepare and disseminate a variety of data products and build the capacity of state and local staff for effective data use.

This subcomponent consists of three sections. The first section addresses planning for data use and includes planning for data analysis, product development, and dissemination. The second section addresses data analysis and dissemination. The third section addresses using data to inform decisions and enhancing capacity for data use at state and local levels.

### Section 1: Planning for Data Use

**Quality Indicator DU1:** Part C/619 state staff plan for data analysis, product development, and dissemination to address the needs of the state agency and other users.

Elements of Quality
DU1a. Part C/619 state staff develop recommendations for effective data use.
DU1b. Part C/619 state staff identify potential data users (state and local) and periodically gather information about their specific data needs.
DU1c. When planning documents, products, resources, and timelines, Part C/619 state staff consider accountability and program improvement questions that drive data analysis and use.
DU1d. Part C/619 state staff have a process to prioritize data requests, both for data that are readily available and queried regularly and data that require additional staff time to query, and respond to them (as appropriate) in a timely fashion.
DU1e. Part C/619 state staff plan for dissemination that focuses on products, methods, and timelines tailored to specific stakeholder groups.
DU1f. Part C/619 state staff review and revise plans for data analysis, product development, and dissemination as necessary.

### Section 2: Analyzing and Disseminating for Data Use

**Quality Indicator DU2:** Part C/619 state staff or representatives conduct data analysis activities and implement procedures to ensure the integrity of the data.

Elements of Quality
DU2a. Part C/619 state staff or representatives analyze data to address accountability and program improvement needs, including providing timely information for federal and state reporting requirements.
DU2b. Part C/619 state staff prioritize and respond to various types of data requests, including for data that are readily available and queried regularly, data that require additional staff time to query, and data exports for external users.
DU2c. Part C/619 state staff or representatives develop documentation of the specifications (e.g., data elements, restrictions related to data elements, querying parameters, report criteria) to answer specific questions, and is updated as needed.
DU2d. Part C/619 state staff or representatives implement procedures to ensure that data, as queried and reported, are accurate and include, when appropriate, checks with the authoritative or original source of the data.

**Quality Indicator DU3:** Part C/619 state and local staff or representatives prepare data products to promote understanding of the data and inform decision-making.

Elements of Quality
DU3a. Part C/619 state and local staff or their representatives prepare a variety of data products.
DU3b. Part C/619 state and local staff or representatives include documentation in data products as needed for accurate interpretation and use of the information (e.g., querying parameters, changes to data elements or collection protocols).
DU3c. Part C/619 state staff or their representatives ensure that personally identifiable information (PII) is protected in accordance with federal and state requirements in all data products.
DU3d. Part C/619 state and local administrators or their designees use a variety of approaches (e.g., videos, webinars) and displays (e.g., tables, infographics) to enhance understanding of the data.
DU3e. Part C/619 state and local staff or representatives evaluate data products (e.g., quality, use of products) and use the information to plan or revise products.

**Quality Indicator DU4:** Part C/619 state and local staff or their representatives disseminate data products to users to meet their needs.

Elements of Quality
DU4a. Part C/619 state and local staff use a variety of methods (e.g. dashboard, issue briefs, websites) to disseminate data products.
DU4b. Part C/619 state and local staff's dissemination of data products includes sufficient information to interpret and use the data appropriately.
DU4c. Part C/619 state and local staff's dissemination procedures include providing data sources the opportunity to verify the accuracy of the data prior to the release of data products to the general public, as appropriate.
DU4d. Part C/619 state and local staff periodically evaluate the effectiveness of the dissemination strategies and revise as necessary.

**Section 3: Using Data and Promoting Capacity for Data Use**

**Quality Indicator DU5:** Part C/619 state and local staff use data to inform decisions.

Elements of Quality
DU5a. Part C/619 state staff use subgroup analysis (e.g., geographic locality, race/ethnicity, disability type, age, gender, or other criteria) to facilitate interpretation of the data.
DU5b. Part C/619 state staff systematically review the findings of data analyses, interpret the findings, and make decisions based on the data.
DU5c. Part C/619 local staff systematically review the findings of data analyses, interpret the findings, and make decisions based on the data.
DU5d. Part C/619 state and local staff evaluate data use at the state and local levels to support accountability, program improvement, and program operations.

**Quality Indicator DU6:** Part C/619 state staff or representatives support the use of data at state and local levels.

Elements of Quality
DU6a. Part C/619 state staff or representatives provide multiple resources and tools (e.g., help desk, analytic and querying tools, Web portal) for a variety of data users to facilitate access to data and to support data use.
DU6b. Part C/619 state staff or representatives assess professional development needs of Part C/619 state and local staff related to data use.
DU6c. Part C/619 state staff or representatives provide for professional development that supports Part C/619 state and local users' skills and competencies to understand, interpret, and use data effectively.
DU6d. Part C/619 state administrators or designees provide professional development activities using a variety of methods (e.g., workshops, user groups) for users to improve skills and competencies.
DU6e. Part C/619 state staff or representatives evaluate the effectiveness of professional development activities to enhance state and local capacity for data use and revise as necessary.



## **Subcomponent: Sustainability (SU)**

Sustainability refers to the state's capacity to support the Part C and Section 619 data system over time to meet the program's evolving needs. To sustain the data system, a state needs to ensure that sufficient fiscal and human resources are available, key leadership and stakeholders support the data system, data are used widely, and the data system can address a state's evolving information needs. Demonstrating the value of data in informing decisions is an important contributor to sustainability. Producing an enduring, efficient, effective, and sustainable data system is an ongoing endeavor; there will always be more work to do to ensure the data system remains current and relevant.

The process of identifying the need for system enhancements or an entirely new data system is conceptualized as a part of sustainability. However, the data governance and management entity is viewed as responsible for translating the identified enhancements or request for a new system into an actionable scope of work that includes activities, timelines, and required resources (see Data Governance and Management subcomponent). The development of a new system or enhancing of an existing system is executed in accordance with the system development life cycle as presented in the System Design and Development subcomponent.

**Quality Indicator SU1:** Part C/619 state staff use a systematic process that includes stakeholder input to identify enhancements to the data system.

Elements of Quality
SU1a. Part C/619 state staff identify the criteria that indicate that the data system is meeting the needs of various types of stakeholders.
SU1b. Part C/619 state staff or representatives collect and analyze data on the identified criteria.
SU1c. Part C/619 state staff use results of the analysis to identify needed improvements to the data system and the supports for the data system (e.g., improved professional development for data use, improved access to data analysts).
SU1d. Part C/619 state staff verify that potential improvements align with the purpose and vision of the data system.
SU1e. Part C/619 state staff have a process for initiating changes to the data system in response to changes to federal or state reporting requirements.
SU1f. Part C/619 state staff or representatives monitor that the data system is up-to-date with effective technologies to meet stakeholder needs.

**Quality Indicator SU2:** Part C/619 state staff generate political and fiscal support to maintain and enhance the data system.

Elements of Quality
SU2a. Part C/619 state staff articulate to decision-makers the benefits of the data system and the need for improvements.
SU2b. Part C/619 state staff work with state leadership/management to identify the needed resources (i.e., fiscal, personnel, time), including expanding current funding and finding new funding sources to maintain the existing system and, as needed, to improve the system.
SU2c. Part C/619 state staff promote the use of data-informed decision-making for continuous program improvement at multiple levels (policymakers to local users), to generate support for the data system by demonstrating its value.
SU2d. Part C/619 state staff plan for and address transfer of knowledge about the data system to new Part C/619 state staff, IT staff, and vendors, including maintaining documentation, establishing a personnel system with back-ups, and providing orientation/training.
SU2e. Part C/619 state staff promote participation in integrated and/or linked data systems initiatives such as ECIDS and SLDS, which generates support for the data system by demonstrating its value.

## References Used in Development of the Framework

- CARE: Community Alliance for Research and Engagement. (2009). *Beyond scientific publication: Strategies for disseminating research findings*. New Haven, CT: Yale Center for Clinical Investigation.  
*Subcomponent: Data Use*
- Child Welfare Matters. (2010). *Taking action: Keys to using data and information*. Portland, ME: University of Southern Maine.  
*Subcomponent: Data Use*
- Coburn, C. E., & O'Turner, E. (2012). The practice of data use: An introduction. *American Journal of Education*, 118(2).  
*Subcomponent: Data Use*
- Cochenour, M., Porowski, S., Early Childhood Data Sharing Working Group, & Regenstein, E. (2013). *Answering key questions with an Early Childhood Data System* (SLDS Issue Brief). Washington, DC: National Center for Education Statistics, Institute of Education Sciences.  
*Subcomponent: Data Use*
- Derrington, T., Spiker, D., Hebbeler, K., & Diefendorf, M. (2013). *IDEA Part C and Part B 619 state data systems: Current status and future priorities*. Menlo Park, CA: SRI International.
- Early Childhood Data Collaborative. (2010). *Building and using coordinated state early care and education data systems: A framework for state policymakers*. Washington, DC: Author.  
*Subcomponent: Purpose and Vision*
- Early Childhood Outcomes Center. (2011). *Scale for assessing state implementation of a child outcomes measurement system*. Chapel Hill, NC: Author.  
*Subcomponent: Purpose and Vision*
- Early Childhood Technical Assistance Center. (2014). *Draft system framework for Part C and Section 619*. Chapel Hill, NC: Author.  
*Subcomponent: Purpose and Vision*
- Hass, K. B., Wessels, D., & Brennan, K. (2008). *Getting it right: Business requirement analysis tools and techniques*. Vienna, VA: Management Concepts.  
*Subcomponent: System Design*
- The International Monetary Fund. (2007). *The special data dissemination standard: Guide for subscribers and users*. Washington, DC: The International Monetary Fund.  
*Subcomponent: Data Use*

Kumar, M. (2009). *Difference between data and information*. DifferenceBetween.net. Retrieved from <http://www.differencebetween.net/language/difference-between-data-and-information/>

*Subcomponent: Data Use*

Mind Tools. *Business requirements analysis. Clearly agreeing what you're going to deliver*. Retrieved from [http://www.mindtools.com/pages/article/newPPM\\_77.htm](http://www.mindtools.com/pages/article/newPPM_77.htm)

*Subcomponent: System Design*

The National Cancer Institute. (2011). *Making data talk: A workbook*. Washington, DC: U.S. Department of Health and Human Services, National Institutes of Health.

*Subcomponent: Data Use*

National Forum on Education Statistics. (2010). *Traveling through time: The forum guide to longitudinal data systems. Book one of four: What is an LDS?* (NFES 2010–805). Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

*Subcomponent: Data Governance and Management, System Design*

National Forum on Education Statistics. (2010). *Traveling through time: The forum guide to longitudinal data systems. Book two of four: Planning and developing an LDS* (NFES 2011–804). Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

*Subcomponent: Purpose and Vision, Data Governance and Management, System Design*

National Forum on Education Statistics. (2010). *Traveling through time: The forum guide to longitudinal data systems. Book three of four: Effectively managing LDS data* (NFES 2011–805). Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

*Subcomponent: Data Governance and Management*

National Forum on Education Statistics. (2011). *Traveling through time: The forum guide to longitudinal data systems. Book four of four: Advanced LDS usage* (NFES 2011–802). Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

*Subcomponent: Data Use*

New York State Office for Technology. (2003). *The New York State project management guidebook. Release 2. Section III: System development lifecycle line of business*. New York: Author.

*Subcomponent: System Design*

Romero, C., & Venture, S. (2006). Educational data mining: A survey from 1995 to 2005. *Expert Systems with Applications*, 33(1), 135-146.

*Subcomponent: Data Use*

Statewide Longitudinal Data Systems Grant Program State Support Team. (2012). *SLDS Early Childhood Planning Guide*. Washington, DC: U.S. Department of Education.

*Subcomponent: Purpose and Vision*

Statewide Longitudinal Data Systems Grant Program State Support Team. (2012). *SST TA Services-Based Early Learning Self-Assessment Tool*. Washington, DC: U.S. Department of Education.

*Subcomponent: Purpose and Vision*

U.S. Department of Education, Office of Planning, Evaluation and Policy Development. (2010). *Use of education data at the local level: From accountability to instructional improvement*. Washington, DC: Author.

*Subcomponent: Data Use*

Van den Eynden, V., Corti, L., Woollard, M., Bishop, L., & Horton, L. (2011). *Managing and sharing data* (3rd ed.). Colchester, England: UK Data Archive, University of Essex.

*Subcomponent: Data Use*

Wikibooks. *Business analysis guidebook. Requirement gathering tools*. Wikibooks, The Free Textbook Project. Retrieved from [http://en.wikibooks.org/wiki/Business\\_Analysis\\_Guidebook/Requirement\\_Gathering\\_Tools](http://en.wikibooks.org/wiki/Business_Analysis_Guidebook/Requirement_Gathering_Tools)

*Subcomponent: System Design*