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A State System Framework for High-Quality Early Intervention and Early Childhood Special Education

Christina Kasprzak, MA[1], Kathleen Hebbeler, PhD[2], Donna Spiker, PhD[2], Katy McCullough, MA[1], Anne Lucas, MS[1], Sharon Walsh, MA[3], Judy Swett[4], Barbara J. Smith, PhD[5], Grace Kelley, MSW[2], Kathy T. Whaley, MS[1], Lynda Pletcher, MEd[1], Debbie Cate, MS[1], Mary Peters, MSE[1], Betsy C. Ayankoya, MEd[1], and Mary Beth Bruder, PhD[6]

Abstract

The Early Childhood Technical Assistance Center used a rigorous 2-year collaborative process to develop, test, and revise a conceptual framework for high-quality state early intervention (EI) and early childhood special education (ECSE) systems. The framework identifies six critical components of a state system and what constitutes quality in each component. This new conceptual framework addresses the critical need to articulate what constitutes quality in state EI and ECSE systems. The framework and companion self-assessment are designed for state leaders to use in their efforts to evaluate and improve state systems to implement more effective services for infants and young children with disabilities and their families. This article describes the contents of the framework and the processes used to ensure that the framework incorporated current research, was relevant to all states, and was useful for systems improvement.

Keywords

early intervention, IDEA, preschool special education, systems improvement

In 2018, states reported that they provided early intervention (EI) services to 388,694 children and early childhood special education (ECSE) services to 773,595 children under the Individuals With Disabilities Education Act (IDEA) according to the U.S. Department of Education, Office of Special Education Programs (2018a, 2018b). States served more than 1 million children aged 5 years and below with delays and disabilities and their families because each state had established a service delivery system. Most states have two systems: one for IDEA Part C, or EI, which is the infant and toddler component, and another for Part B, Section 619, which is the ECSE component. The Part C program is housed within a governor-appointed lead agency (IDEA, 2004), which is usually either the state department of education or department of health and human services (The Early Childhood Technical Assistance [ECTA] Center, 2016). EI systems differ across states as determined by the lead agency, but the lead agency typically uses a regional or local administrative structure to oversee local programs and the personnel delivering services to infants and toddlers (birth to age 3) and their families (Spiker, Hebbeler, Wagner, Cameto, & McKenna, 2000). In contrast, Part B, Section 619, is administered from the state education agency (SEA), often within a division of special education (ECTA Center, 2018). Local education agencies (LEAs) and local school districts are responsible for providing free and appropriate public education (FAPE) for eligible preschool children, ages 3 to 5 (IDEA, 2004).

All states have an infrastructure that supports the provision of services at the local level (Campbell, Bellamy, & Bishop, 1988). Although the state infrastructure might be invisible to local program personnel and the young children and families being served, it is essential in ensuring that high-quality services are delivered as required under IDEA (Gallagher, Harbin, Eckland, & Clifford, 1994;

[1]The University of North Carolina at Chapel Hill, USA
[2]SRI International, Menlo Park, CA, USA
[3]Walsh Taylor Incorporated, Burke, VA, USA
[4]PACER Center, Bloomington, MN, USA
[5]University of Denver, CO, USA
[6]UConn Health, Farmington, USA

Corresponding Author:
Christina Kasprzak, Frank Porter Graham Child Development Institute, The University of North Carolina at Chapel Hill, CB 8040, Chapel Hill, NC 27599-8040, USA.
Email: christina.kasprzak@unc.edu

Martin, 1989). For example, IDEA (2004) stipulates that one state function is monitoring local implementation of the law. The state system also carries out other important functions such as establishing personnel requirements, planning for fiscal sustainability, providing policy and procedural guidance, and delivering technical assistance (TA) to local programs.

The last several decades have seen increasing recognition of the importance of a well-functioning state infrastructure to the provision of high-quality services for all young children, including those with disabilities (Bruner, Wright, Gebhard, & Hibbard, 2004; Gallagher & Clifford, 2000; Hebbeler, Spiker, & Kahn, 2012; Kagan & Kauerz, 2012a). The federal government has invested in states to support system building through grants such as the Race to the Top—Early Learning Challenge. It has spent more than US$1 billion for projects in 20 states to build state systems to raise the quality of early learning and development programs and increase access of children with high needs to high-quality programs (Early Learning Challenge Technical Assistance Program, 2013). More recently, the Office of Special Education Programs (OSEP), U.S. Department of Education, has required that states develop and implement a State Systemic Improvement Plan (SSIP), with the ultimate goal of improving outcomes for students with disabilities (U.S. Department of Education, 2014). One of the requirements of the SSIP is that every state systematically examines its infrastructure and design and adopt improvement strategies to produce a stronger state system.

According to both developmental and implementation sciences, state systems play a critical role in achieving positive outcomes for young children. For example, state personnel standards and education and training requirements influence the qualifications and experience of the providers and teachers who work in local programs and schools. Staff knowledge and skills in turn influence the quality of the services children and families experience. One model emerging from developmental science is the ecological model. The ecological model of development posits multiple layers of influence on the developing child. These include the microsystem which includes the child's immediate settings (e.g., the child's family) which have the strongest influence on development (Bronfenbrenner, 1976; Bronfenbrenner & Morris, 2006). The family's ability to support the child's development is influenced by factors in the community, which are more distal developmental influences. One factor of particular importance for the development of young children with disabilities is the availability of high-quality EI and ECSE services in the community (Hebbeler et al., 2012). The state infrastructure is conceptualized as part of the exosystem or the outermost layer of influence that indirectly impacts the type, quantity, and quality of the services families receive. These are hypothesized to directly impact the family's interactions with the child and ultimately child outcomes.

Implementation science addresses the multiple influences on whether and how a given practitioner is implementing evidence-based practices (Odom, 2009; Snyder, Bishop, & Crow, 2019). These influences are referred to as drivers and include leadership; competency or the selection, training, and coaching of individuals; and the organization which includes facilitative administration, systems-level intervention, and a decision support data system (Halle, Metz, & Martinez-Beck, 2013). These drivers exist at the local level as proximal influences on services but also are impacted by state policies such as personnel standards and fiscal policies (Fixsen, Blase, Naoom, & Duda, 2015). Implementation science provides a conceptualization of the complex interplay of positive or negative influences on the extent to which local practitioners are implementing evidence-based practices. Although implementation science does not address the role of the state infrastructure in much depth, the proposition that state factors will influence local implementation is theoretically consistent with the basic tenets of implementation science.

Both ecological theory and implementation science underscore the important role of the state system in local programs' capacity to deliver services that are evidence based and consistent with the requirements of IDEA, but neither defines the critical components of a state system or what constitutes quality in those components. For a local program, it is obvious that a primary function is to provide services and that it also must carry out other functions such as hiring and budgeting to be successful. The functions of the state system are not as obvious. To become learning organizations and pursue systems change, state EI and ECSE state agencies would benefit from an evidence-based conceptualization of the key components of a state system (Senge, 1990; Williams & Hummelbrunner, 2011).

Achieving a high-quality state system also requires defining what constitutes quality in these components. With agreed-upon standards, state agencies would be better positioned to undertake ongoing improvement efforts toward an articulated end goal (BUILD Initiative, 2017; Robert Wood Johnson Foundation, 2012). Specification of what constitutes quality would, for example, distinguish between what is good and poor governance in state systems (Kagan & Kauerz, 2012b). The Quality Rating and Improvement System (QRIS), a statewide rating system for child care programs that most states use, is an example of how states have used quality specification to drive program improvement at the local level (Schaack, Tarrant, Boller, & Tout, 2012). A comparable approach to articulating quality has not been applied to state-level early childhood systems. In addition to supporting system change, a framework that defines quality in state EI and ECSE systems would provide a common language and shared

understanding to support future TA efforts and research on state-level system building.

In this conceptual statement, we describe a framework for state EI and ECSE systems that was developed through a rigorous and systematic process by the ECTA Center at the request of OSEP. We also describe the rigorous process that was used to develop the framework, the resulting contents, and the companion self-assessment. Finally, we outline how states can use it to produce a quantitative state status and set priorities for system improvement.

The primary purpose of the framework and its companion self-assessment is to guide states in evaluating their Part C and Part B, Section 619 state systems, identifying areas for improvement, and providing direction on how to develop a more effective, efficient state system that better supports local implementation of effective practices. The primary audiences for the framework are state EI and ECSE coordinators and staff, recognizing that other key stakeholders in a state will need to be engaged in state system improvement. Other audiences for the framework are TA providers, researchers, faculty in leadership programs, and others who have an interest in describing and improving state systems.

No framework for EI and ECSE state systems existed before we began this work, but some previous efforts, mostly focused on the overall early childhood system, had conceptualized key components of a state system. The Early Childhood Systems Working Group, a group of individuals from an array of national early childhood organizations, identified seven elements of a state early childhood system: governance, standards, financing, monitoring, provider/practitioner support (including professional development and TA), research and development (including data and evaluation), and communications (Bruner, 2012). A group convened by the National Governors Association (2012) identified the key areas of leadership and governance, learning standards, child assessments, accountability, teacher/leader preparation and professional development, and resource allocation and reallocation. Specifically in regard to EI and ECSE systems, Kahn et al. (2009) defined state infrastructure to encompass administrative structures; policies, procedures, and guidance; funding; and state interagency collaboration. Although these conceptualizations have similarities, there also are differences that must be resolved for EI and ECSE state agencies to support and systematically examine the effectiveness of their state systems. Furthermore, none of this work identified what constitutes quality in these state system components.

Development Process

The ECTA Center engaged in a 2-year collaborative process for developing the system framework. The goal was to develop a framework that incorporated current research, was relevant to all states, and was useful for systems improvement. We developed the framework through an iterative process that involved literature reviews and extensive input, review, and feedback from a variety of voices in the field.

State Partners

The first step in the process was to identify state partners to participate in the development process. Inclusion of state leaders in EI and ECSE was critical to developing a resource that would be relevant to all states, reflective of real systems, and useful for state improvement efforts. We established a process for state program coordinators (with teams) to apply to be partners in the framework development. ECTA Center staff members reviewed the state applications for demographic diversity (age of the population the program served, state population size, geographic location, Part C lead agency) and merit of the application (overall commitment and strength in one or more of the component areas described in the application). Six partner states—Delaware, Idaho, Minnesota, New Jersey, Pennsylvania, and West Virginia—were identified that collectively brought wide-ranging perspectives that would ensure the framework reflected and was applicable to all state systems.

The partner states were convened for the first of a series of monthly web meetings in May 2013. The partner states' role was to share information about their own state system and experience, contribute ideas for the framework's conceptual foundations, provide written and verbal feedback on draft versions of framework content, and pilot-test the framework using their own state system. Partner states were encouraged to invite other individuals from their state to join the monthly meetings, as appropriate, based on the meeting agenda. For example, when the finance component was to be discussed, states were encouraged to bring a person from their fiscal/budget office. The monthly web meetings typically rotated with 1 month being a cross-state call with all states and the next month being an individual call with each partner state facilitated by national TA center staff. Face-to-face meetings were held at three strategic points in the development. Thus, partner states participated in a total of eight cross-state web meetings, seven individual state web meetings, and three face-to-face meetings, as well as in regular email communications and document review and feedback during a 19-month period.

Technical Work Group (TWG)

The process also included identification and recruitment of national research and TA experts to form a TWG with expertise in EI and ECSE, broader early childhood systems, family-centered services, systems building, finance systems, and personnel development. The TWG met for

the first time in April 2013. The TWG members' role was to identify additional relevant literature, contribute ideas to the design of the system framework content and format, and provide feedback on draft versions of the framework. TWG members participated in bimonthly web meetings typically held in conjunction with partner state meetings. In addition, they were invited to two face-to-face meetings with partner states. The TWG experts participated in a total of six web meetings and two face-to-face meetings during a 20-month period. TWG members also were asked to support dissemination.

Developing the Content

The Early Childhood Personnel Center (ECPC) and the Center for IDEA Early Childhood Data Systems (DaSy Center) contributed expertise in comprehensive systems of personnel development and early childhood data systems, respectively. ECTA Center personnel worked collaboratively with staff from ECPC in developing the personnel/workforce component of the system framework. The ECPC director also was a member of the TWG. The DaSy Center developed the data system component of the framework independently and simultaneously in close coordination with the ECTA Center. Ongoing communication throughout the development process ensured that the data system component of the framework was consistent with the structure of the other components as they were developed. The DaSy Center's development process was similar to the ECTA Center's, involving iterations that incorporated extensive input from Part C and Part B, Section 619 staff from seven partner states (two of which also were ECTA framework partner states).

To begin the process of framework development, we reviewed the literature to identify the key components of a high-quality EI and ECSE state system. The search focused on EI and ECSE but also included all early care and education systems. (Key references found through this and the additional literature searches described below are available at http://ectacenter.org/sysframe/.) We found no experimental research but did locate some descriptive literature and thought pieces. In addition, some aspects of the framework content were derived from analyzing the contents of IDEA. Information from the initial literature review was presented to partner states and the TWG.

Input from the state partners and TWG during the first web meetings resulted in the identification of six components of an EI and ECSE state system: governance, finance, personnel/workforce, data system, accountability and quality improvement, and quality standards. Early discussions also produced consensus on an overall framework structure where each component would have subcomponents, quality indicators, and elements of quality.

Once the components were identified, TA Center staff conducted literature reviews for each of the components and drafted descriptions of the subcomponents, quality indicators, and elements of quality for each of the components. For example, for the quality standards component, we searched for research on child standards and program standards. Very little empirical literature was found to guide the specification of quality for each of the components. For initial drafts, TA staff drew on the limited literature and their own experiences. Partner states, TWG members, and other invited experts reviewed drafts and provided input. After multiple rounds of review and revision extending over many months, partner states piloted the framework by applying the content to their own systems, including providing evidence for the elements of quality. The final contents were validated through a consensus process involving state partners and TWG members.

System Framework Content

The development process produced a new conceptualization for high-quality EI/ECSE systems organized around six interrelated components: governance, finance, personnel/workforce, data system, accountability and quality improvement, and quality standards. Figure 1 illustrates the hypothesized relationships between the state system components and local practices and child and family outcomes that incorporate key concepts from ecological theory (e.g., the role of the exosystem) and implementation science (e.g., state influences on the drivers at the local level). The six interrelated components of the state system are conceptualized as working together as essential supports for the implementation of effective practices at the local level.

Each component contains subcomponents that further specify key content areas. Each subcomponent contains a set of quality indicators that identify what needs to be in place for an EI or ECSE state system to be considered high quality. The quality indicators are broad statements about the 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 system. Each quality indicator has a corresponding set of quality elements that operationalize the implementation of the indicator. Table 1 presents the overall structure and content of the framework—the six components, 26 subcomponents, 74 quality indicators, and 439 elements of quality. The data system component has a disproportionate number of quality indicators and elements of quality because it was developed as a stand-alone framework and also as a component of the ECTA framework. The ECTA System Framework is available at http://ectacenter.org/sysframe/.

State partners and national experts also identified seven themes that cut across all components: (a) stakeholder engagement, (b) establishing/revising policies, (c) promoting

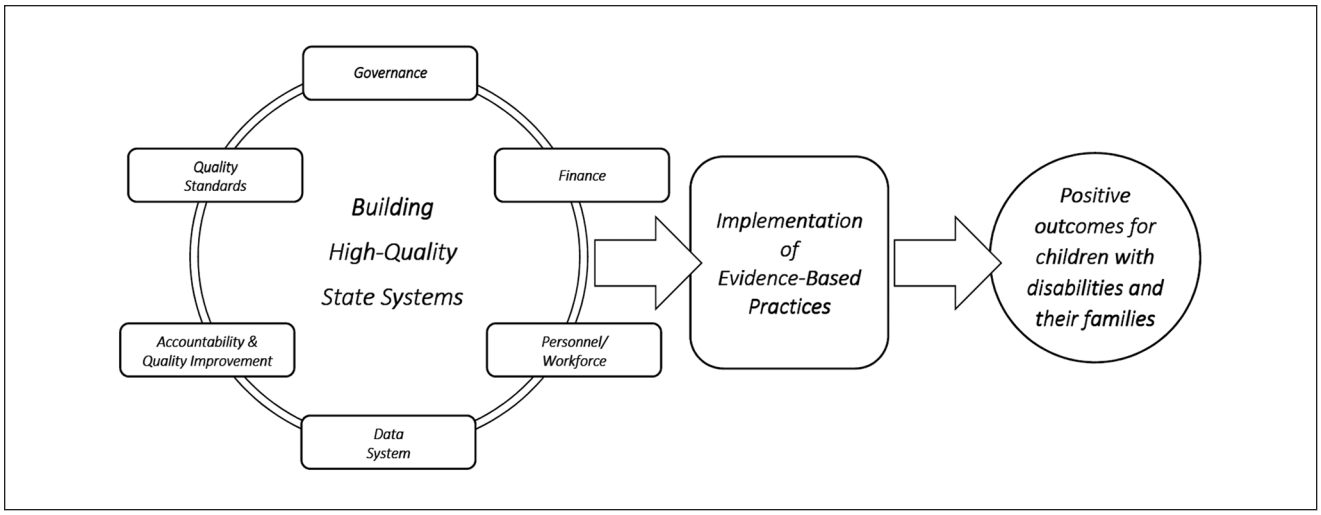

Figure 1. A system framework for building high-quality early intervention and preschool special education programs.

collaboration, (d) using data for improvement, (e) communicating effectively, (f) family leadership and support, and (g) coordinating or integrating across the broader early childhood service sector. The team working on each component considered how to incorporate these themes into the quality indicators and elements of quality. An aspirational feature of the framework is an emphasis on linking EI and ECSE with other state efforts in early care and education. Although the framework focuses on IDEA systems and services, it also addresses the interface of EI and ECSE with the general early care and education system in the state to promote inclusion of young children with disabilities in early care and education programs.

In the next section, we describe the contents of each of the six components of the framework, listing the subcomponents and highlighting why the component was identified as critical to the state system. Literature relevant to the contents of the component is cited, but most of the content was developed through the expertise of those who contributed to the development process. To further elucidate the structure and contents of the framework, the section on the first component, governance, also includes a description of one quality indicator and its elements of quality. Table 1 provides an overview to the content of the framework by presenting the subcomponents of each of the six components of the framework.

Governance

Governance "refers to a state's organizational structure and its placement of authority and accountability for making program, policy, financing, and implementation decisions" (Regenstein & Lipper, 2013, p. 2). States' IDEA Part C and Part B, Section 619 systems are intended to be comprehensive and coordinated, with services provided by professionals from many disciplines (Trohanis, 2008). Children served

Table 1. Structure and Content of the System Framework: Components, Subcomponents, Quality Indicators, and Elements of Quality.

Component	Subcomponents
Governance 4 subcomponents 8 quality indicators 49 elements of quality	Vision, mission, and/or purpose Legal foundations Administrative structures Leadership and performance management
Finance 5 subcomponents 10 quality indicators 66 elements of quality	Finance planning process/forecasting Fiscal data Procurement Resource allocation, use of funds and disbursement Monitoring and accountability of funds and resources
Personnel/workforce 6 subcomponents 12 quality indicators 62 elements of quality	Leadership, coordination, and sustainability State Personnel Standards Preservice personnel development Inservice personnel development Recruitment and retention Evaluation
Data system 6 subcomponents 31 quality indicators 171 elements of quality	Purpose and vision Data governance and management Stakeholder engagement System design and development Data use Sustainability
Accountability and quality improvement 3 subcomponents 7 quality indicators 44 elements of quality	Planning for accountability and improvement Collecting and analyzing performance data Using results for continuous improvement
Quality standards 2 subcomponents 6 quality indicators 47 elements of quality	Child-level standards Program-level standards

Table 2. Example of the Structure and Contents: One Quality Indicator From the Governance Component.

Governance	
Subcomponent	Vision, mission, and/or purpose
Quality indicator	Vision, mission, and/or purpose guide decisions and provide direction for quality comprehensive and coordinated Part C and Section 619 statewide systems.
Elements of quality	a. Core values, beliefs, guiding principles, and current evidence-based practices are the foundation for public statements of vision/mission/purpose. b. These public statements are consistent with the Individuals With Disabilities Education Act (IDEA). c. These public statements address who the program serves, what the program does, and the intended outcomes for children and families. d. These public statements are developed with input from all stakeholders. e. These public statements are readily available (e.g., on the website, in a parent handbook, etc.) and effectively communicated to all stakeholders including practitioners, families, and community partners. f. These public statements are clear and understood by staff, local program administrators, and families. g. System-level decisions (e.g., fiscal, data, standards, personnel, monitoring), programmatic decisions (e.g., services and supports), and strategic planning are guided by the public statements of vision/mission/purpose. h. These public statements are reviewed and revised as necessary with stakeholder input. i. These Part C and 619 public statements of vision, mission, and/or purpose are recognized as an integral part of the broader early care and education public statements and strategic plans.

under EI and ECSE are served by a variety of other programs and initiatives including Head Start, Early Head Start, Child Care, and State Prekindergarten (Kaczmarek, 2011; Spiker, Hebbeler, & Barton, 2011). Thus, a cohesive set of local services for children and families requires collaborative relationships, formal and informal agreements, and shared decision-making and responsibility at the state level (Trohanis, 2008).

We identified governance as a critical—arguably the foundational—component of a state EI and ECSE system because it addresses the essential functions of authority and accountability (Kagan & Gomez, 2015). Governance addresses the human and fiscal resources and the overall vision that underpin every other component of the system. Accordingly, the four subcomponents of governance are vision, legal foundations, administrative structures, and leadership and performance management. The vision (mission, and/or purpose) refers to the collection of public statements that guide decisions and provide direction for the state system. The legal foundations are the statues, regulations, policies, agreements, or other legal documents that provide the authority to implement the state system. Administrative structures refer to the state, regional, and/or local entities that carry out the statewide implementation. The last subcomponent, effective leadership, refers to the oversight of fiscal and human resources, program priorities, strategic planning, and the communication and collaboration needed for the state system and services. This subcomponent aligns with and expands the leadership drivers from implementation science (Snyder et al., 2019).

Each of the subcomponents contains a set of quality indicators that were identified through the development process. For example, the first quality indicator under the vision subcomponent is that the vision, mission, and/or purpose guide decisions and provide direction for quality comprehensive and coordinated Part C and Part B, Section 619 statewide systems. Some states may call it vision, others mission or purpose. But regardless of the term, the framework asserts that state EI and ECSE systems must have an overarching statement that guides decisions and provides direction.

Finally, the state partners and TWG validated nine elements of quality to describe what it means for a state to have this quality indicator in place and fully implemented (see Table 2). The first element is that the core values, beliefs, guiding principles, and evidence-based practices are the foundation for the public statements of vision. The second and third address consistency of the vision with IDEA and clarity on who the program serves, what the program does, and the intended outcomes for those served. The fourth and fifth address the need to develop the vision with input from relevant stakeholders and to make it readily available. The other four further specify what constitutes quality relative to the state's vision for the EI or ECSE program.

Finance

EI and ECSE operate as systems of services, relying on multiple federal, state, and local funding streams. Most funding sources are public (IDEA Infant & Toddler Coordinators Association, 2012), although some state, regional, or local entities also may access private funds. States have the discretion to determine which funding sources to use, and those decisions are influenced by multiple factors including federal, state, and local guidelines for use of funds; political will; and identified need (IDEA

Infant & Toddler Coordinators Association, 2014). Consequently, state leaders benefit from having a deep understanding of the landscape of early childhood services and needs in their state to identify opportunities for collaboration and alignment with other early care and education programs serving the same populations (Greer, Taylor, & Mackey-Andrews, 2007).

As with governance, the state partners and the TWG recognized finance as foundational to a system's ability to function. Without sufficient funds and resources, EI and ECSE would be unable to establish and sustain the state and local infrastructure necessary to deliver services to young children with disabilities and their families. The finance component addresses policies on the funds and resources needed to support and sustain other components of the state system and contains five subcomponents: finance planning process and forecasting, fiscal data, procurement, resource allocation, use of funds and disbursement, and monitoring and accountability of funds and resources. Working relationships with key partners such as agency fiscal staff, early care and education program administrators, and advocates are seen vital as states navigate various funding streams to support the EI and ECSE systems. The framework indicates that a high-quality finance system requires the development and implementation of a finance plan that includes forecasting program infrastructure and service delivery needs and budgeting the funds to meet them. Accessing and using fiscal data also are a critical part of the finance planning and key to the ongoing management of budget expenditures. The framework indicates that the system must be able to procure funds and coordinate and align resources and funding streams with other agencies, programs, and initiatives to enable leveraging resources for common activities and goals. With funding secured, states must allocate funds equitably and ensure they are used efficiently and effectively to implement high-quality systems and services. State, regional, and local systems must disburse funds and make timely payments or reimbursement for allowable expenses. Finally, because all these finance activities must be monitored regularly to ensure that spending is in compliance with contract performance and federal, state, and local fiscal requirements, fiscal monitoring is addressed in a quality indicator.

Personnel/Workforce

As with any service system, the quality of EI and ECSE depends on the knowledge and skills of the individuals who provide the services (Bruder, 2016; Bruder, Mogro-Wilson, Stayton, & Dietrich, 2009; Kagan, Kauerz, & Tarrant, 2008; Winton, McCollum, & Catlett, 2008). These are professionals and paraprofessionals from many disciplines, such as education, special education, psychology, occupational therapy, physical therapy, speech and language therapy, nursing, and social work, who provide intervention services or administer local or state EI or ECSE programs (Bruder et al., 2009). From its beginning as PL 94-142, IDEA required state systems to establish a comprehensive system of personnel development (CSPD) to promote the knowledge, skills, and competencies of those providing special education and related services to eligible students aged 3 to 21 years. The requirements related to CSPD have changed over the years, including expanding them to address EI and then changing the requirement for Part B by deferring to the personnel requirements of No Child Left Behind Act (2002). Nevertheless, planning for personnel development remains critical to promoting both evidence-based practices and the implementation of legal requirements determined by IDEA (Snyder, Hemmeter, & McLaughlin, 2011).

The personnel/workforce component addresses the planning, development, implementation, and evaluation of a CSPD that is similar to the original personnel requirements of IDEA. The six subcomponents are leadership, coordination, and sustainability; state personnel standards; preservice personnel development; inservice personnel development; recruitment and retention; and evaluation. This subcomponent aligns with and expands the competency drivers from implementation science that focuses on selection, training, and coaching of personnel (Fixsen et al., 2015). The framework indicates that a cross-sector leadership team is needed to set priorities, make decisions, and establish a plan for the ongoing implementation of a CSPD. States also need to establish professional standards across all the disciplines addressed in the IDEA, and these standards should reflect standards established by national professional organizations and state regulatory policies and procedures defining criteria for certification, licensure, credentialing, and endorsement for personnel who provide EI and ECSE services. The framework stipulates that the CSPD must coordinate and address the content, process, and availability of preservice and inservice personnel programs for all disciplines under IDEA. EI and ECSE training content should be evidence based and aligned with personnel discipline-specific standards, the training process should reflect evidenced-based adult learning principles, and the availability of both preservice and inservice opportunities should be coordinated across state early childhood systems. Equally important is a comprehensive system to attract and retain personnel to provide EI and ECSE services. This system should comprise strategies based on current research and state personnel data. Finally, the framework indicates that a state must develop and implement an evaluation plan to collect formative and summative data about personnel to monitor their needs and performance and make decisions about future state needs.

Accountability and Quality Improvement

In recent decades, accountability has become a central focus for many public agencies including the U.S. Department of Education, with programs being asked to demonstrate whether public funds are being used wisely and whether children are learning (Freund, Ohlson, Browne, & Kavulic, 2006; Meisels, 2006; National Early Childhood Accountability Task Force, 2007). State Part C and Part B, Section 619 systems have a responsibility under federal law to implement a general supervision system to monitor the statewide implementation of IDEA, identify and correct noncompliance, and work toward improved outcomes for children and families (Council of Chief State School Officers, 2011; Freund et al., 2006; Garrison-Mogren, Fiore, Bollmar, Brauen, & Munk, 2007; Hebbeler, Barton, & Mallik, 2008; Kasprzak et al., 2012). Programs must have systems to collect the data required for accountability and to support ongoing quality improvement and improved outcomes (Council of Chief State School Officers, 2011; Hebbeler & Cochenour, 2015; Meisels, 2006; Wholey, Hatry, & Newcomer, 2010).

Three subcomponents were identified for this component: planning for accountability and improvement, collecting and analyzing performance data, and using results for continuous improvement. Planning for accountability refers to documenting the need for change, tracking progress, and demonstrating improvement. The subcomponent specifies that states need a written accountability plan that addresses requirements and includes the details needed to implement a sound and effective statewide accountability and improvement system. The plan may be a stand-alone description or included in one or more state documents (e.g., policies and procedures, monitoring and accountability manuals, the annual performance plan). The framework further indicates that states must collect and analyze high-quality data to monitor requirements, measure the quality of the system and services, and determine results. Leadership at all levels must have sufficient information to make decisions about accountability and improvement. Finally, the framework indicates that state and local leaders need to work to effectively use data. This includes disseminating the data to appropriate audiences, supporting state and local programs in using data for continuous improvement as outlined in the accountability plan, and supporting the use of data-informed practices.

Data System

A focus on the importance of data for informed decision-making has gained widespread support across the education and human services fields in recent years (The Early Childhood Data Collaborative, 2010; Marsh, Pane, & Hamilton, 2006; Means, Padilla, & Gallagher, 2010). For EI and ECSE state agencies, the need for high-quality data is underscored by OSEP's vision for results-driven accountability, which focuses on using data to improve results for infants, toddlers, children, and youth with disabilities (U.S. Department of Education, n.d.). The framework stipulates that state leaders need to understand the characteristics and capabilities of a good state data system, actively participate in developing their data system, and use their data system to comply with federal IDEA reporting requirements, answer important program and policy questions, and improve services and outcomes for young children with disabilities and their families.

As described above, the data system component of the framework was developed as a stand-alone framework (available at http://dasycenter.org/resources/dasy-framework/) as well as a component of the ECTA System Framework. The framework defines a data system broadly to include all aspects of collecting, analyzing, reporting, and using Part C and Part B, Section 619 data. It includes the hardware and software necessary for an effective data system, as well as the types of data collected, the process and structures for governing the data, and processes and systems for analyzing and using the data. The six subcomponents are purpose and vision, data governance and management, stakeholder engagement, system design and development, data use, and sustainability. Purpose and vision address the reasons for building the data system, its short-term benefits, and how it will contribute to the long-term goals of the program. Data governance and management refer to the creation, implementation, and oversight of policies and procedures for the data system to produce readily available, high-quality, usable, and secure data. Stakeholder engagement refers to the use of a collaborative process to gather input on the collection and use of data from stakeholders at every level of an organization or system. System design and development address the development of the functional and technical requirements for a data system and the development and implementation of a data system based on those requirements. The data use subcomponent addresses the need for state leaders to facilitate ongoing use of data for program accountability, program improvement, and program operations at the state and local levels. The sustainability subcomponent refers to the state's capacity to support enhancements to the Part C and Part B, Section 619 data systems to meet the programs' evolving needs.

Quality Standards

Early childhood programs can have both child-level and program-level standards. Information on the extent to which standards are being met is critical for guiding program improvements and helping programs better support children's learning and development (Scott-Little, Cassidy,

Lower, & Ellen, 2010; Spiker et al., 2011; Wesley & Buysse, 2010). Child standards, also referred to as early learning guidelines or early learning standards, are the "expectations for the learning and development of young children" (National Association for the Education of Young Children, 2002, p. 1). The Race to the Top—Early Learning Challenge described child standards as the "expectations, guidelines or developmental milestones that describe what all young children are expected to know and be able to do" (U.S. Department of Health and Human Services, Administration for Children & Families, Office of Child Care, 2014, p. 1). All states have developed standards to articulate expectations for preschoolers' development and learning, and nearly all have developed them for infants and toddlers (National Center on Early Childhood Quality Assurance, 2017). The child standards subcomponent addresses the general quality of the contents of the state's early learning guidelines as well as their applicability to young children with disabilities. Not all states' early learning guidelines were written to support the full inclusion of children with disabilities, so it is important that EI and ECSE agencies examine their guidelines through the disability lens addressed in this subcomponent (Guralnick & Bruder, 2016; Scott-Little, Kagan, Stebbins Frelow, & Reid, 2009).

Program-level standards refer to the "expectations for the characteristics or quality of schools, child care centers, and other educational settings" (National Association for the Education of Young Children, 2002, p. 1). This subcomponent addresses the existence and content of program standards for general early care and education programs in the state, with a specific focus on applicability for serving young children with disabilities in general early care and education programs. This subcomponent also includes the contents, accessibility, and use of program standards specific to EI and ECSE programs. Both the child and program subcomponents address the importance of a state infrastructure for supporting local programs in using the child-level standards and achieving program-level standards.

Framework Self-Assessment

To support states in using the framework for systems improvement, we developed a self-assessment that incorporates the framework contents (http://ectacenter.org/sysframe/selfassessment.asp). We recommend that key stakeholders, including staff and beneficiaries of EI and ECSE services, participate in completing the self-assessment. The goal is that the process of completion generates open, thoughtful input from a variety of stakeholders that results in a useful quantitative and qualitative picture of the system's strengths and areas for improvement. States may elect to complete all or a selected subset of the components. Different sets of stakeholders may be appropriate participants for different components.

The Excel spreadsheet-based self-assessment captures numeric ratings for the quality indicators and the indicators' associated elements of quality. When completing the self-assessment, stakeholders review and discuss each element of quality, assign it a consensus rating of 1 (*The element is not in place and the state is not planning to work on it at this time*) to 4 (*The element is fully implemented*), and record brief notes (*evidence*) that supports the rating. Documenting the basis for the rating decision is important for improvement planning as it provides a record of what the stakeholders considered in reaching their decision. For example, if the element was rated as partially implemented, the notes would indicate what aspect of the element was identified as not yet in place or not yet of high quality. The combination of ratings given to the set of elements determines the rating for the associated quality indicator. A quality indicator can receive a rating of 1 to 7, with a 1 meaning none of the associated elements of quality is planned or in place and a 7 meaning all of them are fully implemented. The self-assessment creates a profile that includes a summary of the numerical ratings and a graph of the results with color-coded bars indicating the relative strengths and weaknesses across the quality indicators.

The results show the relative strengths and weaknesses of the state system, but they are not a road map telling the state where to start or what to do next. After reviewing the overall results for the quality indicators, the stakeholders can determine the priority areas for improvement within the self-assessment tool by assigning priority ratings of low, medium, or high to the elements of quality, the quality indicators, or both. The stakeholders can develop an improvement plan based on the profile and assigned priorities. After the plan has been implemented, the stakeholders can complete the self-assessment again to monitor progress and visually display changes to the state system.

Conclusion

Through a 2-year collaborative process, the ECTA Center developed, tested, and revised a conceptual framework that identifies the critical components of EI and ECSE state systems. The framework articulates what constitutes quality in each component through a set of quality indicators and associated elements of quality. Developed through a review of the literature, input from state and national leaders in the field, and pilot-testing in states, the framework and the companion self-assessment can guide states in understanding the characteristics of an effective state system and identifying the strengths and weaknesses in their own system. The hope is that when armed with a vision for a high-quality system and information on current status compared with that vision, states will be better

able to improve their systems of services and ultimately build more effective ones.

A national survey distributed to 124 state Part C and Part B, Section 619 program administrators from 60 states and jurisdictions in November 2016 provided feedback from states on their initial use of the framework. Seventy-five individuals (61%) responded, representing 47 states. The majority (65%) of respondents reported having used the framework, and 89% of those respondents rated the framework as high quality and relevant to their work. Anecdotally, we know that many states have reported using the framework as part of their improvement planning related to state and local systems and local EI/ECSE practices. Early feedback has identified some shortcomings of the framework, including the time required to complete the self-assessment and the need for clarification on some of the content. Feedback based on states' continued use of the framework will be incorporated into future resources supporting the use of the framework as well as potential revisions to the tool itself.

This new conceptual framework was developed through a rigorous process and addresses a critical need to articulate what constitutes quality in state EI and ECSE systems. The framework draws on and expands concepts from ecological theory and implementation science. The framework specifies key components and defines quality for one aspect of ecological theory's exosystem for young children with disabilities and their families: the existence of a well-functioning state-level EI or ECSE system. The framework advances work in implementation science for EI and ECSE by identifying the state-level structures seen as influencing local level drivers for the implementation of evidence-based practice. The operating assumptions underlying the framework are that a well-functioning state system is essential to high-quality local service delivery and that the use of the framework will support states in moving toward improved systems. The framework provides a common language for describing state systems and thus also provides researchers with a conceptualization for further study of the relationship between state infrastructure and local service delivery. Given the limited research on the influence of EI and ECSE state systems on local practice, the development of the framework had to rely heavily on a systematic process for deriving the wisdom of the field to provide states with a tool to support system change (Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996). Additional study of the system framework is needed to determine the extent to which it supports improved state systems, the implementation of evidence-based practices, and ultimately better outcomes for children and families.

Authors' Note

The *System Framework for Part C and Section 619* was developed by the Early Childhood Technical Assistance (ECTA) Center in partnership with early intervention (EI) and preschool special education coordinators and staff members from six states (Delaware, Idaho, Minnesota, New Jersey, Pennsylvania, and West Virginia), as well as national and regional experts who participated on a technical work group. The Center for IDEA Early Childhood Data Systems (DaSy) developed the data system component of the framework with extensive input from EI and preschool special education coordinators and personnel from seven partner states (Alaska, Arkansas, Connecticut, Georgia, Idaho, Massachusetts, and Pennsylvania). Mary Beth Bruder and staff members from the Early Childhood Personnel Center collaborated on the development of the personnel/workforce component of the Comprehensive System of Personnel Development. We gratefully acknowledge the contributions of these individuals and projects. A complete list of contributors is in the ECTA System Framework and the DaSy Data System Framework.

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