



MASSACHUSETTS
**Department of
Early Education and Care**

**Building a Prosperous Future
for the Commonwealth**



**Commonwealth of Massachusetts
Department of Early Education and Care**

Early Childhood Information System (ECIS) Vision Document

June 24, 2011

PCG Health & Human Services™

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Preface

The Massachusetts Early Childhood Information System (ECIS) project was commissioned by the Department of Early Education and Care Commissioner, Sherri Killins. This project is for the initial analysis and preliminary design of the ECIS. This project aimed to increase EEC's capacity to understand child, parent, and educator outcomes and indicators for well-being. The ECIS project also aimed to increase and establish standards for data sharing across agencies. Most significantly, this project is intended to support families, communities, and the workforce in supporting the healthy development and well-being of the Commonwealth's children and to increase the understanding of and access to resources that support this development. The funds supporting this initiative were Child Care and Development Fund (CCDF) funds received by the Commonwealth through the American Recovery and Reinvestment Act (ARRA).

1. A CALL TO ARMS

❖ MASSACHUSETTS' STORY ALONGSIDE A NATIONAL MOVEMENT

1.1 Governor Patrick's Charge to Help the Commonwealth's Children and Youth

Massachusetts Governor Deval Patrick has charged state agencies to work collaboratively to ensure that the Commonwealth's children and youth are successful in school and beyond. As stated in Executive Order #505 establishing the Child and Youth Readiness Cabinet, "our success in fostering children's healthy development and family well-being will depend, to a substantial degree, on the extent to which the Commonwealth can provide for the consistent, efficient and effective coordination of effort between and among the government agencies whose services, programs and delivery systems must collectively address the needs of the whole child and his or her family."¹

The work of the Child and Youth Readiness Cabinet is anchored in four core beliefs:

1. Each child deserves the best possible opportunity.
2. Education and development occur in families, neighborhoods, communities, the schools and in the broader society.
3. Services, programs and delivery systems must collectively address the needs of the whole child and his or her family.
4. Accomplishing this will depend upon a consistent, efficient and effective coordination of effort among governmental agencies

Essential to achieving the governor's vision of successful learning and development for all children is expansion of the use of data-driven decision making across Massachusetts state agencies. By aligning the development of the Massachusetts Early Childhood Information System (ECIS) with the Cabinet's goals, the Department of Early Education and Care (hereafter, the department) can demonstrably advance the governor's vision. Whereas the Readiness Cabinet is focused on early warning systems for high school dropouts, the ECIS will provide a similar opportunity for state agencies to work together on an early warning system for very young, vulnerable children. These are children whose life experiences may predict that, without intervention, they will be on a drop-out trajectory. At the same time, an effective ECIS will also provide real time data to support reduction of the state's achievement gap, which

¹ Governor Deval Patrick, Executive Order No. 505, http://www.mass.gov/?pageID=gov3terminal&L=3&L0=Home&L1=Legislation+%26+Executive+Orders&L2=Executive+Orders&sid=Agov3&b=terminalcontent&f=Executive+Orders_executive_order_505&csid=Agov3

can be analyzed by the time a child is in the 3rd grade. The Massachusetts ECIS will ultimately utilize assessments to measure well-being and progress at various milestones throughout a child's lifespan. When fully operative, the Massachusetts ECIS will provide invaluable information on the well-being status of all children throughout the Commonwealth.

1.2 Research on Early Childhood Data Gathering and Sharing

In the early fall of 2009, the Department of Early Education and Care began a multi-year process of planning for the expanded use of data to understand and respond to the needs of young children in the Commonwealth. In November of 2009, a report was presented to the State Board of Early Education, the department's governance body, revealing that between 8% and 30% of the Commonwealth's youngest children were likely at risk for developmental and learning challenges. In the summer of 2010, the department issued a competitive Request for Proposals (RFP) for assistance in planning for a cross-agency Early Childhood Information System (ECIS) Strategic Planning Institute, preparing a design for multi-year work to develop a cross-agency ECIS and reviewing its legacy data systems. In the early fall, funds were awarded to Public Consulting Group to assist in this work.

Work began immediately to examine state and national trends, accomplishments, and challenges in the development and use of data in the early years of childhood. Many states are currently designing early education and care (ECE) systems. These systems aim to include proper design elements to allow for: (a) integration of all ECE services, including licensed and unlicensed family child care and public and private preschool programs; (b) linkage with other early childhood core services, including early intervention, child health care services, Women, Infants and Children Nutrition Program (WIC), Supplemental Nutrition Assistance Program (SNAP), and young children's behavioral, mental health and child welfare services, and (c) interoperability with evolving P-16 or P-20 data systems, including a PreK-3 framework, preschool special education, and K-12 State Longitudinal Data Systems (SLDS). A small cohort of states is regularly mentioned as leading the emerging field of ECIS development. Notable among these are:

- **Pennsylvania.** Pennsylvania's Enterprise to Link Information for Children across Networks (PELICAN) is a single integrated information system

The Data Quality Campaign identifies three "overarching imperatives for changing the culture around data use and maximizing states' investments in longitudinal data systems."

- 1) Link Systems
- 2) Ensure Access and Use
- 3) Build Capacity

Data Quality Campaign,
www.dataqualitycampaign.org/resources/details/846

17 states report having a linkage between early childhood and K-12 data in place and by June 2012, **19 more states** will have implemented this linkage.

Data Quality Campaign,
www.dataqualitycampaign.org/files/Action1_Compodium.pdf

that collects data from both students and their teachers enrolled in the state's Office of Child Development and Early Learning programs. For detailed a summary, see "A Look at Pennsylvania's Early Childhood Data System" published in April 2010 by the National Conference of State Legislatures.²

- **Maryland.** The Maryland Model for School Readiness (MMSR) collects kindergarten-readiness data (including data on the type of care received prior to kindergarten), which is later linked to the state's K-12 database. Maryland also utilizes the Child Care Automated Tracking System (CCATS), which collects data on children ages 0-5 who are enrolled in the state's licensed child care programs. For a summary, see "A Look at Maryland's Early Childhood Data System" published in October 2010 by the National Conference of State Legislatures."³

- **Rhode Island's** KIDSNET statute designates the assignment of a unique child identifier at birth. KIDSNET is used to assure that all Rhode Island children have access to prevention and public health services, and care coordination. This system was developed and operated by the Rhode Island Department of Public Health and has been successfully in place for several years.⁴ Most recently, there has been conversation with the Rhode Island Department of Education about how to link the KIDSNET child identifier (ID) with the K-12 State Assigned Student ID.

- **Colorado** legislation requires development of a report outlining options for assigning a universal child identifier across state agencies *and* developing a universal early childhood application for

The National Governor's Association has identified six actions that state leaders can take to become "ready states" where young children are supported by a comprehensive, high-quality early childhood system." These are:

- Coordinate early childhood governance through a state early childhood advisory council
- Build an integrated professional development system
- Implement a quality rating and improvement system (QRIS)
- Develop a longitudinal and coordinated early childhood data system
- Align comprehensive early learning guidelines and standards for children from birth to age 8 with K-3 content standards, and
- Integrate federal, state and private funding.

National Governor's Association,
<http://www.nga.org/Files/pdf/1010GOVSGUIDEEARLYCHILD.PDF>

² The Pennsylvania report is published by the National Conference of State Legislatures and is online at -- www.ncsl.org/portals/1/documents/Educ/PAEarlyChild-Stedron.pdf

³ National Conference of State Legislatures, <http://dataqualitycampaign.org/files/Maryland%20report.pdf>

⁴ The Rhode Island KIDSNET, www.health.ri.gov/family/kidsnet/index.php

services. The new universal application crosses many programs across state agencies and would, de facto, promote the standardization of child and family data.

- **Louisiana's** Bright Start initiative has developed a data-based Early Childhood Integration Budget based on its understanding that the "budget process is the spinal column of public policymaking."⁵ The Early Childhood System Integration Budget is a data-based system for analyzing state and federal resources for children younger than five, formatted by categories of service rather than by organized by state agencies. For each category of service, data is provided on the source of funds (by state agency) as well as the population and geographic areas served. The fiscal data system also generates annual reports on Louisiana's package of tax credits for early care and education providers, directors and teachers, businesses providing child care, and parents/consumers.

Massachusetts is also considered a leader in early childhood information system development. The federal Secretaries of Education and Health and Human Services have established an Interagency Data Working Group which met in August, 2010 with a five-state team working on early childhood information systems (Massachusetts, Connecticut, Illinois, Maryland and Pennsylvania). The federal team has invited regular communication from states working on early childhood information systems, and has been requested to sponsor a virtual early childhood information system "community of learners" over the coming year.

1.3 Statutory Authority of the Department of Early Education and Care for Data Development and Use

An analysis was also conducted of the department's statutory authority and obligation to collect and report on data related to children, families, and the programs receiving departmental funds. The legislative charge to the Department of Early Education and Care⁶ provides broad authority to plan for, fund, develop, deliver, regulate, and evaluate services and programs serving young children. As part of these responsibilities, there are explicit references to the department's authority and responsibility to establish and maintain a comprehensive database of children, providers, and educators (that is,

MINNESOTA has also utilized legislation to advance the improvement of their early childhood system. Executive Order 11-05 reestablishes the state's Early Learning Council, created in 2008.

The Order also affirms the administration's priorities of (a) ensuring the children arrive at kindergarten ready to learn and (b) making quality early education and care affordable and available to all children.

⁵ Strategic Financing for Sustaining Early Childhood System Building Initiatives, Louisiana Bright Start Early Childhood System Integration Budget. National Governors Association Ready States Meeting, New Orleans, December 5-7, 2010.

⁶ Massachusetts General Laws Annotated, Part I, Title II, Chapter 15D (2010). Department of Early Education and Care

workforce) compatible with other departments. The department is also directed to collect, analyze and report on data obtained by measuring child and program/service outcomes.

Although the statutes identify, quite specifically, *some* of the data that is to be collected, Massachusetts law generally identifies the functions to be served by an early childhood data system in terms of the kinds of policy, strategic projections, and outcome measures that need to be addressed. While this statutory framework gives much authority to the department to move forward in developing a comprehensive early childhood information system, it leaves other key issues unanswered. Some of these key issues are:

- **Data on All Children:** The Governor’s intent is for information to be tracked and mapped on *all children* and *from birth*. The Department is now authorized to include children in those programs that are defined as “early education and care” in statute and licensed, funded, or regulated in some way by the Department. Not all children and not all programs are specifically included in the current statutory authorization. Thus, there is a mismatch between the intent of data development and use, and the sources from which data can currently be gathered.
- **Data Interoperability:** The department’s statutorily-mandated data system must be compatible with “relevant databases at the department of elementary and secondary education and the Executive Office of Health and Human Services.” This will require the development of data extraction, matching, and analysis tools or structures not now in place across state agencies.
- **Unique Identifiers for Children, Programs, and the Workforce:** In order to avoid costly and time-inefficient data

KEY EXAMPLES OF STATE LEGISLATION IN SUPPORT OF EARLY CHILDHOOD DATA SYSTEMS

- **Connecticut** legislation (2009) specifically authorizes an Early Childhood Information System that includes specific child, program, and workforce data and requires the assignment of a unique child identifier to all children in any early care and education/ school readiness program that either receives public funding of any kind and/or is licensed by the Department of Public Health.
- **Rhode Island’s** KIDSNET statute designates the assignment of a unique child identifier at birth, used to ensure that all Rhode Island children have access to prevention and public health services, and care coordination.
- **Colorado** legislation requires development of a report outlining options for assigning a universal child identifier across state agencies *and* developing a universal early childhood application for services. The new universal application crosses many programs across state agencies and would, de facto, promote the standardization of child and family data.
- **Illinois** legislation lodges the development of early learning data within the state’s emerging P-20 Education Data System, anchored in individual student records with data to be shared, according to state and federal privacy requirements, on *any* early learning program.

matching processes, a comprehensive system may require the agreement of a unique child identifier, a unique program identifier, and a unique workforce identifier. Regardless, the system will require a cross-agency data governance structure to guide the development of interagency data access and sharing agreements that are aligned with state and federal privacy protections.

- **Real-time Data Sharing:** Authorization related to *real-time* cross-agency data sharing, particularly with regard to children and families being served by multiple agencies at the same time, or over time, must be addressed. This issue has implications for establishing an “early warning system” with which to identify the state’s most vulnerable young children for necessary cross-agency case management and intervention services. It can also serve to advance the delivery of preventive services in a more cost-effective manner.

To meet the needs represented in these key issues, the department will ensure that creation of the ECIS is aligned with regulatory requirements put forth by Governor Patrick. To do so, the department is proposing an amendment to current legislation as follows:

Amend Ch. 15D, §2 (q) [Early education and care department; duties] to add:

In designing and implementing said federated data system the Department shall allot a State Assigned Student ID (SASID) to each child up to the age of eight receiving any public funding that will be maintained as his/her unique identifier through the K-12 system. Said federated data system shall be used for the purpose of furthering the Department’s mandates under this Chapter. The Department may collect and maintain demographic, program participation, and developmental data pertaining to children participating in the Department’s licensed or funded programs and/or receiving any public funding, the purposes of which shall include: (1) monitoring the health, safety and school readiness of all children receiving early education and care from any program licensed or funded by the Department; (2) monitoring the characteristics of the programs in which such children are served; and (3) developing, coordinating and supporting public and private partnerships to aid early childhood initiatives and establishing positive outcomes of well being, health development, and caregiver and community capacities to determine program and policy levers. The Department shall promulgate regulations governing the collection, maintenance and use of said data, and shall ensure that said data is maintained in accordance with all applicable state and federal privacy protections; provided further that said regulations shall allow information to be shared with ESE, DCHD and EOHHS pursuant to a cross- agency data governance structure to the extent that such data sharing is aligned with state and federal privacy protections, or exceptions authorized by parental consent.

1.4 The Early Childhood Information System Strategic Planning Institute

On November 18th and 19th, the department hosted the 2010 Early Childhood Information System (ECIS) Strategic Planning Institute in partnership with the Harvard Graduate School of Education. The Institute created a forum for national, state, and local leaders, community providers, advocates, researchers and other early childhood stakeholders to explore best practices in ECIS development across the country. Seventeen national, state and local speakers participated along with 100 attendees.

An information package⁷ was created for all Institute participants and posted online prior to the event. The package summarized the results of the literature review of work in other states along with a summary of the department's statutory authority for data development and use. In addition, the package presented a family case study that was used to illustrate information sharing challenges across state agencies with which the hypothetical family was involved.

As is appropriate for a department charged with improving the developmental outcomes of all young children in the Commonwealth, the work of the Institute was anchored in the rapidly expanding base of research on early brain development and its relation to learning, behavior, and mental and physical health for young children today and throughout their lifespan. This work has been advanced over the past decade by the National Scientific Council on the Developing Child and is now anchored in the work of the renowned Harvard University Center on the Developing Child.⁸ The Center is led by Professor Jack Shonkoff, a noted pediatrician and the Julius B. Richmond FAMRI Professor of Child Health and Development at Harvard University.

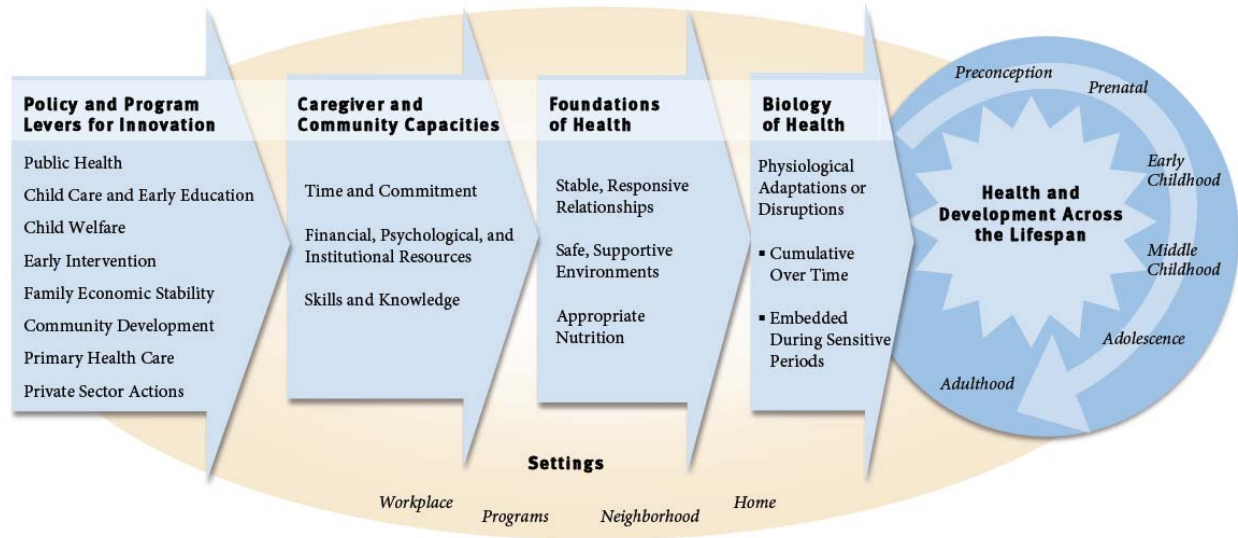
At the Institute, Shonkoff presented data revealing that the science of early childhood development and neurobiology can, through its application to childhood programs and policies, benefit health and development *across the lifespan* of a child. A schematic⁹ of this lifespan relationship is presented on the next page. Research clearly shows that healthy brain development is shaped by early experiences, most specifically through reciprocal experiences with nurturing adults in safe environments. These experiences have a demonstrable impact on children's learning capacities, behaviors, and mental and physical health. When experiences are positive and sustained, incredible neural growth and multi-faceted learning occurs. Data also shows that when young children experience adversities, such as nutritional deficits, respiratory disease, or prolonged periods of high-level, chronic stress ("toxic stress") in the early years, brain development and functioning are impaired, and learning, development, and behavioral controls are negatively impacted. Thus parents, policy makers, practitioners, and providers share a common goal in the early years of life: to create conditions in which positive, interactive

⁷ 2010 Early Childhood Information System (ECIS) Strategic Planning Institute Materials, <http://publicconsultinggroup.com/conferences/ECIS/index.html>

⁸ Harvard University Center on the Developing Child, <http://developingchild.harvard.edu/>

⁹ Harvard University Center on the Developing Child, *A Science Based Framework for Early Childhood Policy*, http://developingchild.harvard.edu/library/reports_and_working_papers/policy_framework/

experiences occur between adults and young children that support their healthy, age appropriate development.



Anchored in this compelling presentation of the importance of controlling and remediating negative stressors in the lives of young children, Institute participants considered the role of data development and use as a critical tool for creating early warning systems for young children and their families, and better coordinating services and supports across state agencies.

Information was gathered from this diverse group of stakeholders to inform the eventual development of an information system capable of providing the data necessary to link families to learning and support opportunities. State agencies presented the current status of their data gathering efforts and illustrated the need for interagency efforts directed towards collaborative data collection, analysis, sharing, and use. In addition, discussion at the Institute produced information necessary to define needed program and community supports and services designed to promote child health, development, and learning, for inclusion in the ECIS.

Two key findings of the Institute were the lack of a coordinated process for gathering information across Commonwealth agencies and the absence of data sharing agreements that could ensure appropriate data use while at the same time respecting family privacy. Institute speaker Elizabeth Laird of the national Data Quality Campaign in Washington, DC spoke to these issues specifically. The Data Quality Campaign (DQC) is “a national, collaborative effort to encourage and support state policymakers to improve the availability and use of high-quality education data to improve student achievement.” The

Campaign, along with six other national early childhood partners,¹⁰ has identified ten data elements central to development of an early childhood data system¹¹:

- Assignment of a unique statewide child identifier
- Child-level demographic and program participation information
- Child-level data on child development
- Ability to link child-level data with K–12 and other key data systems
- Assignment of a unique program site identifier with the ability to link with children and the ECE Workforce
- Program site data on structure, quality and work environment
- Assignment of a unique ECE workforce identifier with ability to link with program sites and children
- Individual ECE workforce demographics, including education, and professional development information
- Creation or designation of a state governance body to manage data collection and use
- Transparent privacy protection and security practices and policies.

Another core component of the Institute was involvement of all participants in a series of focus group sessions designed to elicit key themes related to ECIS development. These are summarized below.

A universal need for data sharing and exchange. All state agencies acknowledged that their systems were built to meet federal and state reporting requirements, and not necessarily to track and promote child well-being. However, participants identified an immediate need for data across all programs to promote child well-being, including attendance, service, and transition data available from other state agencies and providers. Additionally, participants stressed the need for outcomes information, including: (a) access to child information post-service delivery to evaluate program quality and effectiveness; (b) ability to link child outcomes to workforce characteristics to inform professional development, training, and hiring; and (c) the use outcome data to generate longitudinal studies on the effects of programs, services, and demographics on child development.

System privacy and access. Participants agreed that an effective ECIS should be able to link data on children from birth to at least age nine from other state agencies and providers, but they noted limitations to data sharing including HIPAA and FERPA, the absence or limited utility of Interagency Service Agreements (ISAs), statutory restrictions on data sharing, and issues of parental or family consent. Participants also discussed the need for differentiation in user access to ECIS information, within the context of both aggregate and child-specific information. Finally, participants agreed upon the need for clear system ownership and maintenance responsibility.

¹⁰ The partnership is called the Early Childhood Data Collaborative and includes the Data Quality Campaign, the Center for the Study of Child Care Employment at UC Berkeley, the Council of Chief State School Officers, the National Conference of State Legislatures, the National Governors Association Center for Best Practices, Pre-K Now (Pew Center), and the Birth to Five Policy Alliance.

¹¹ *Building and Using Coordinated State Early Care and Education Data Systems: A Framework for State Policymakers*, <http://www.dataqualitycampaign.org/files/DQC%20ECDC%20WhitePaper-Nov8.pdf>

Focus on preventative, strengths-based measures. Participants indicated that, often, current systems and data can only provide the identification of risk “after-the-fact.” In contrast, an effective ECIS would (a) collect information about strength-based attributes of families and communities, (b) provide data to support preventive interventions, (c) convey important information about child growth and development, (d) educate families about science-based actions that directly affect child well-being, and (e) connect families to opportunities and resources necessary for their children’s well-being

Shared benefits. Participants agreed that successful development of a Commonwealth ECIS depends upon buy-in from all stakeholders. To achieve parental and family support, an effective ECIS must be able to provide information and services that enable them to positively influence their children’s development. It must also collect (and utilize) feedback from them on the usefulness of data provided. Engaging providers and community resources, including faith-based organizations, to market participation in the ECIS to parents and families was identified as one useful strategy to impact parental support.

To engage providers and other stakeholders, the ECIS host agency must clearly communicate the benefits of shared data access and then solicit feedback from all stakeholders during the process of ECIS development. Specifically, Commonwealth state agencies must be convinced that, through data sharing, clients can be more effectively and efficiently linked to federal benefits, programs, and resources being managed across the various agencies. Additionally, shared client and program data can assist state agencies in evaluating program effectiveness and the sustainability of service outcomes.

RHODE ISLAND’S
Department of Education
(RIDE) utilizes a PK-20 Data
Governance Committee to
oversee how the agency
manages its education data
systems. The committee
aims to ensure quality in
data that are collected and
establish standards and
procedures for this
collection.

Data selection challenges. Participants discussed the challenges in selecting data to be included in an ECIS. A first challenge is developing shared data priorities across various stakeholder groups. A second challenge is leveraging existing systems and resources to avoid duplication of effort. Finally, issues of data transfer, the universal definition of selected data elements, and the feasibility of quantifying qualitative data all require attention.

1.5 The Data Advisory Working Group

Following the Strategic Planning Institute, the department invited participation on an interagency Data Advisory Working Group to support the design and development of the Early Childhood Information System (ECIS) in Massachusetts. The Working Group brings together representatives from state agencies, providers, and the legislature, and is assisting in advancing data sharing across state agencies to promote Massachusetts children’s health, development, and learning. Group work fosters

collaboration between state agencies that collect data on young children in order to meet the governor's goal of promoting the development of all children in the Commonwealth, beginning at birth.

State agencies participating as members of the Working Group include:

- **The Department of Public Health (DPH)**, which collects public health information on children in the Commonwealth. DPH holds data on both birth records and the early intervention program within Massachusetts and is willing to share all data if parental consent is obtained.
- **The Department of Transitional Assistance (DTA)**, which collects information on children enrolled in assistance programs, including Temporary Assistance for Needy Families (TANF) and the Supplemental Nutrition Assistance Program (SNAP). DTA has expressed support for the development of the ECIS as data sharing is invaluable in relation to DTA's ability to provide quality services.
- **The Department of Elementary and Secondary Education (DESE)**, which collects information in the Commonwealth's schools and districts. DESE has been supportive of the ECIS and is currently in the process of implementing the State Longitudinal Data System (SLDS) grant.
- **The Department of Mental Health (DMH)**, which collects information on children accessing mental health services in the Commonwealth. DMH has been an advocate of the coordination of state agencies in the hopes of better serving families and children.
- **The Department of Children and Families (DCF)**, which collects information on children at risk of abuse or neglect. DCF has supported the need for greater data sharing among the agencies serving the Commonwealth's children.
- **The Department of Housing and Community Development (DHCD)**, which collects information on children accessing Emergency Assistance, shelters, public housing, and other housing stabilization programs. DHCD has emphasized the importance of establishing trust with parents to communicate benefits of the ECIS in supporting children and families.
- **The Department of Higher Education (DHE)**, which collects information on students participating in institutions of higher education across the Commonwealth. DHE holds data on both the higher education outcomes of children

In 2008, **COLORADO** established a cross-state agency working group through House Bill 08-1034. The group was charged with examining and recommending ways to assign a unique identifier to children who receive subsidized early childhood services and to children not receiving subsidized services, as well as formulating protocols for agencies to implement the unique identifier. The group presented its findings through a report that also identifies action steps for moving the state's agenda forward.

and the early childhood workforce.

For a complete list of Data Advisory Working Group Invitees, please see **Appendix 3.2**.

Members of the Data Working Group are charged with:

- Establishing agreement on the functionality of the ECIS, taking into consideration (a) input from the first two days of the Strategic Planning Institute and (b) the unique benefits and challenges represented by each agency and provider.
- Establishing agreement around the development of unique identifiers across Massachusetts state agency data systems.
- Identifying needed fields of data to be shared in the ECIS.
- Advancing data sharing across state agencies through creation of Interagency Service Agreements (ISAs).
- Identifying solutions to uphold privacy requirements of HIPAA and FERPA.
- Identifying a data-sharing process specific to young vulnerable children that allows coordinated case management and supports cross-agency service delivery to the child and family.
- Identifying strategies for communicating information about the ECIS to families and communities.
- Identifying the need for parental consent and/or regulatory authority in data collection.

The Working Group has identified several required characteristics of the ECIS, from the perspective of agencies, parents, and families, and the group as a whole.

- **The ECIS must be family-centered.** The top priority of the ECIS is to aid families in promoting children's healthy development and learning. The data needs of state agencies are secondary to the needs of families.
- **Collaboration is critical.** Meaningful collaboration across stakeholder groups is crucial in order to develop a system that is most beneficial to families and children.
- **Communications must be sensitive to families and communities.** Messages to families need to be positive, person-centered, straightforward, and concise. Communications need to show parents that the ECIS is focused on early childhood growth and development and is NOT a tracking mechanism for the convenience of agencies.

In addition to reaching agreement on the key characteristics of the ECIS, the Working Group has come to consensus on the following:

- **Core data elements.** The core data elements needed for a cost-efficient matching process for young children and their families (in accordance with SASID assignment) are:

1. First Name
2. Middle Name
3. Last Name
4. Full Address
5. Date of Birth
6. City of Birth
7. Gender
8. EEC District Number (as appropriate)
9. DOE ID (as appropriate)

Choice of these three matching criteria is based on several considerations. First, by not requiring the names of the parent or other adult family members, family privacy is respected. Second, securing the home address also allows for individual case records to be linked to community resources that exist in reasonable proximity to the child and family. Third, these are the elements necessary for SASID assignment.

- **Core developmental and academic points for data gathering and analysis.** The Working Group has agreed to five key age/development points at which to seek cross-agency information about specific children, and their families. These points, which match recent guidance from the federal Department of Health and Human Services, are: (a) at birth; (b) at age three; (c) at age four; (d) at age five, and (e) at the conclusion of the 3rd grade.

Other benchmark points may also be added upon agreement. These may include, for example, during the prenatal period, at exit from preschool, and at the end of 1st and/or 2nd grade.

- **Messaging for Parents.** The Working Group has agreed on proposed language for communicating with parents about the ECIS. This language covers basic information about the ECIS, as well as confidentiality and data sharing issues. For more detail on this language, please see **Section 2.2 Parental Consent**.
- **Draft Amendment Language.** The Working Group has reviewed, edited, and approved EEC's proposed language for an amendment that will increase the capacity of EEC to create the ECIS in line with state regulatory requirements (as previously documented in **Section 1.3 Statutory Authority of the Department of Early Education and Care for Data Development and Use**).

To date, the Working Group has also identified three priority questions for the ECIS to answer as well as the corresponding data elements needed to answer the questions. These top priority questions are:

- What opportunities are available in the Commonwealth or local communities that support healthy child growth and development?
- How are Massachusetts families and communities doing in supporting child well-being and success?

- Are children meeting developmental milestones (including cognitive development, social and emotional development, physical development, language and literacy, and approaches to learning) at Birth, age 3-5, and 3rd Grade? What gaps, if any, exist in the development of groups of children?

The Working Group is currently working to identify the top data elements needed to answer each of these questions. For a detailed list of data elements as they correspond with these questions, please **See Appendix 3.3.**

2. THE COMMONWEALTH'S BOLD VISION

❖ WHAT IS THE EARLY CHILDHOOD INFORMATION SYSTEM?

2.1 Vision of the Early Childhood Information System (ECIS)

As previously described, the Massachusetts Early Childhood Information System (MA ECIS) is conceived of as a way to share and analyze an expanding number of data elements related to the health, safety, and learning of the Commonwealth's youngest citizens. These data are collected and used by various state agencies in the Commonwealth, most often independently from each other.

The design of the ECIS flows from an extensive analysis of early childhood data development in other states and the statutory mandates of the Department of Early Education and Care (EEC) to produce key information about both the children it serves and about all of the youngest children in the Commonwealth. It is also anchored in the rapidly expanding neuroscience of early childhood development as revealed in the November 2010 ECIS Institute, co-hosted by the Department and the Harvard University Graduate School of Education. As previously noted, key points in early childhood that will be used to anchor development of the ECIS are: at (or before) birth; at ages of three and four; at age five (entry to Kindergarten for most children); and again during children's 3rd or 4th grade year in school.

The evolving neuroscience also strongly suggests that development of the ECIS pay close attention to the co-occurrence of risk factors in the areas of biology, health, and community and caregiver capacity in the early years. Chronic, unremitting vulnerabilities in the lives of young children (e.g., family violence, environmental toxins, maternal depression, parental substance abuse) can impair brain development and contribute to early learning challenges (such as developmental and language delays, and early childhood mental health problems) as well as health problems (such as diabetes and health disease) later in life.

Research also shows that protective factors, delivered in a high quality manner, can help to offset the risk factors noted above. These factors include a language-rich, positive experience with caregivers, high quality early child care and early education, and access to health services early in life. In addition, family and parenting supports and a strong sense of connection to a person's community can aid in buffering both the child and family from the effects of chronic, multi-risk experiences. As such, the ECIS will focus on core risk and protective factors impacting young children.

Goals & Objectives of the Early Childhood Information System

The goal of the Massachusetts Early Childhood Information System (ECIS) is to provide the data necessary to plan for, supply, and evaluate necessary supports and services for young children and their families across the Commonwealth. The Massachusetts ECIS will include improvements in the

department's child, program, and workforce data as well ensure solid linkages with K-12, higher education, and other state and local agencies serving young children.

To accomplish these broader goals, the ECIS will:

- Collect children's demographic data (such as birth date, gender, race, ethnicity, language, disability status, etc.).
- Report on the status of children across ages and over time, encompassing data on home and community environments.
- Document child outcomes across developmental domains (including health, early literacy, and social-emotional development) that can be linked across sectors, agencies, and programs (e.g. infants/toddlers, preschool, Early Intervention, family child care, etc.).
- Assist in the identification of early warning indicators at the pre-school level.
- Ensure confidentiality of child and family data, adhering to the privacy requirements of both HIPAA and FERPA, and seeking parental consent when necessary.
- Support geographic analysis useful to EEC, other state agencies, and communities that are engaged in Birth-9 strategic planning, resource management, program improvement, and accountability.
- Provide internal and external policy makers, EEC staff, researchers, and other stakeholders with early childhood data in diverse formats.
- Link parents to state and local community resources and opportunities.

Core Elements of the ECIS

Amassed, the work to-date reveals that the Commonwealth's development of an ECIS must include the following core elements:

- **Family Engagement:** The ECIS must engage families to provide:
 - Parental Consent – Parental consent will be sought to collect, match, and report out child-level data across state agencies. This allows the department to avoid being confined by many of the data sharing restrictions established through Family Educational Rights and Privacy Act 1974 (FERPA) and the Health Insurance Portability and Accountability Act 1996 (HIPAA).
 - Core Child-level Identifying Data – Child name (first, middle, and last), date of birth, and address must be used for probabilistic matching on child-level data across state agencies.

Self-Assessment Data – The department hopes to encourage family participation in the ECIS by enabling them to contribute their own self-assessment information, including data on relationships and environments. As previously discussed, neuroscience reveals that supportive relationships and safe, stable environments serve as a buffer to adverse experiences in childhood, preventing outcomes such as developmental delay and health problems in adulthood.

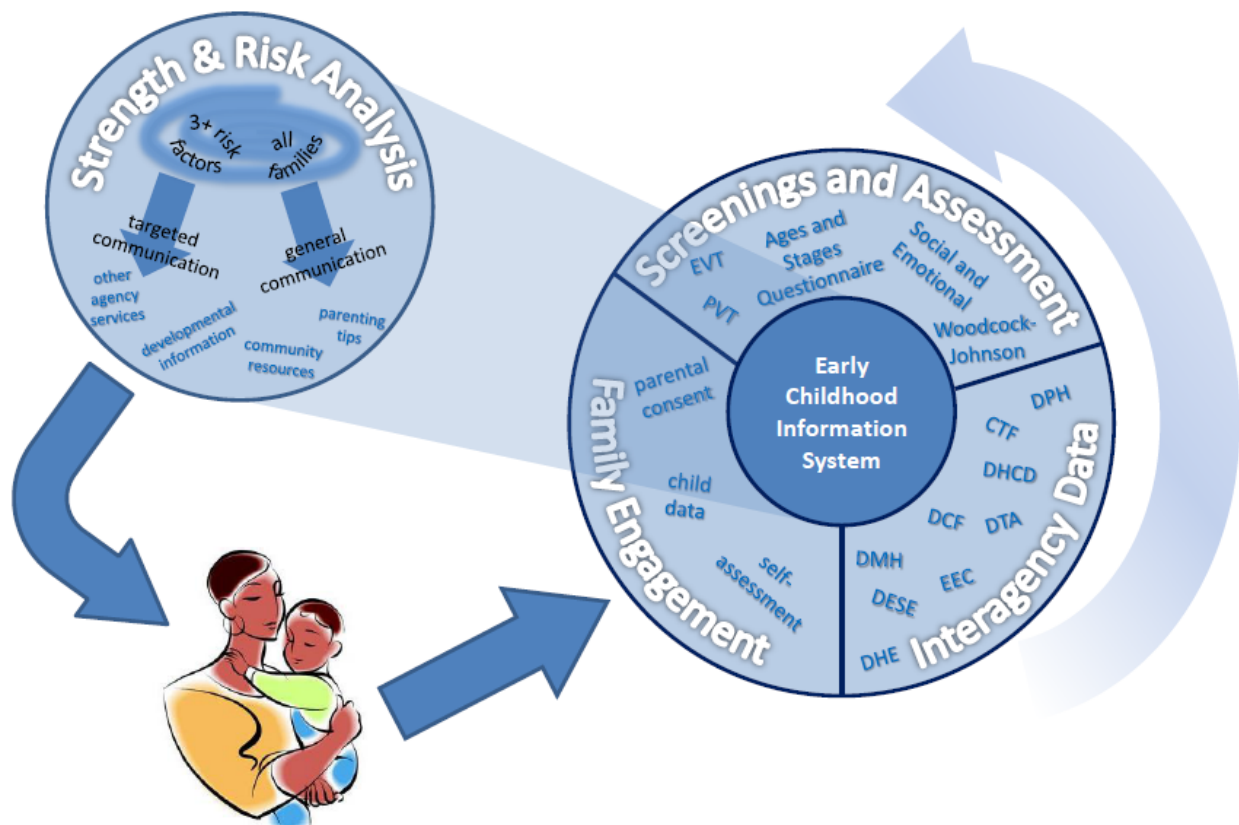
- **Child Development Screening & Assessment Data:** The ECIS will collect data on child development milestones through prescribed and tested screening and assessment tools. Some of the tools now in use include the Ages & Stages Questionnaire, Picture Vocabulary Test (PVT), Expressive Vocabulary Test (EVT), Social and Emotional Screening, and Woodcock-Johnson Test. Currently, the department’s Coordinated Family and Community Engagement (CFCE) grantees and child care providers receiving grants/subsidies are charged with administering these tools. As the ECIS evolves, the department hopes to collect assessment data through various agencies and settings where children might be receiving services.
- **Interagency Data:** The ECIS must utilize extant data on young children maintained by other state agencies in order to identify additional strength and risk indicators at the child-level. Through Interagency Service Agreements (ISAs), the department will both pull data from and provide data back to other state agencies.
- **Strength & Risk Analyses:** The ECIS must have the technological capacity to (a) pull child-level case data across the aforementioned data sources (family engagement data, screening data, and other agency data), (b) match child-level data across agencies, and (c) report out on child-level critical strength and risk factors. The ECIS must also be able to present the data on a child-specific and/or aggregate level (depending on user restrictions) for analysis and use by individual agencies or groups of agencies working in partnership.
- **Communication:** The ECIS must be able to link families to child development opportunities and needed program and community supports/services that promote child health, development, and learning.

General Communication: All parents should receive a base of information about where community programs and supports already exist on a town-by-town basis as well as general child development advice and guidance.

Targeted Communication: Parents with children who are identified as having three or more risk factors should receive targeted communications related to specific other state agency services and community supports that may help to alleviate those specific risks.

The following diagram provides an illustration of the ECIS and the inclusion of the five core elements described above. Three core inputs or sources of data that will feed the ECIS include the family engagement data, screening and assessment data, and interagency data. Using this data, the system will generate strength and risk analyses, which, depending on the ISA and user access rights, may be available for access by other state agencies. All parents who have provided core child-level data and parental consent will receive information on community programs and supports and general child development advice and guidance. For those parents with children who have three risk factors or more, targeted communications will be provided.

Note that the arrows in the diagram suggest a cyclical process flow. The goal is for the ECIS to both continue to receive information from parents and produce information for parents. Similarly, the system should continue to receive information from other state agencies and the community and provide information back to those agencies and community organizations. This will ensure mutual and continuing benefits for all parties involved in the ECIS.



The following pages provide additional detail regarding each of the five core elements of the ECIS and the technical components required for the system.

Family Engagement: Parental Consent

In developing the ECIS, a critical consideration is in how to establish the parental consent necessary in order to share data across state agencies. The department has thoroughly researched and discussed the Commonwealth's options for ensuring parental consent is meaningfully and appropriately obtained prior to sharing data. The Data Advisory Working Group has provided feedback on the process of obtaining parental consent. In particular, the Working Group has supported EEC in creating language for communicating with parents and families. Draft language for such communications follows:

What is the ECIS?

The ECIS is the Massachusetts information system that provides families with opportunities and resources to help their children grow up healthy and learning. The system also provides a tool for the Commonwealth and local communities to partner with families and children to support the important work of the development of young children.

What can the ECIS do for me and my family?

- ✓ *Help you find services or opportunities/experiences for children in your community.*
- ✓ *Provide parenting tips and information about developmental milestones relevant to your child's age.*
- ✓ *Provide information about the quality of early education and care services that your child is using or would like to use.*

Why is Massachusetts using the ECIS?

- ✓ *To answer your questions about your child's growth, learning, and development.*
- ✓ *To make it easier for you to find and choose high quality services and supports for you and your family in helping your children to grow.*
- ✓ *To create a vehicle for parents to communicate about a full range of services for young children.*

Is my child's information safe?

The ECIS is dedicated to ensuring that your children's information entered into the system is safe and secure. ECIS information is confidential, as protected under State and Federal privacy laws. For more information related to the protection of data, please see web link [[www.xxxxx](#)]

The department hopes to begin obtaining consent from parents whose children are currently being assessed through CFCE grantees. The department also intends to collect consent from parents whose children are receiving subsidized child care and other department-associated services as well as services

from other state agencies and community partners. By utilizing trusted advisors such as CFCE grantee staff or other state agency case workers, EEC hopes to obtain as many parent consents as possible through as careful and parent friendly a process as possible.

Obtaining parental consent for sharing data is particularly important in light of federal standards established through the FERPA and HIPAA. FERPA protects the privacy of student education records, while HIPAA protects the privacy of patients' personal health information. The department is working to ensure that the ECIS shares data in accordance with the standards established through these federal laws. In accordance with FERPA and HIPAA regulations, the ECIS can match data on an individual level and report out information in a de-identified or aggregate manner. The extent to which HIPAA applies to early care and education programs depends on whether the program collects data on children's health, and if so, and the type of data collected. If health data collected in an early care and education program is not already protected under FERPA, the data is regulated under HIPAA.

In accordance with these federal laws, please find in **Appendix 3.4**, a draft form for obtaining parental consent to share data using the ECIS. Note that the form includes a request for a family email address and/or phone number to receive child development information and resources.

Family Engagement: Core Data Elements for Matching

Much has been written in the emerging national literature about the need for a single unique identifier for young children. In the Commonwealth, as in many states, there is no single identifier for children or for families, and not all agencies even collect and use an individual's Social Security Number as the basis for unique individual identification. In fact, across and within the Commonwealth's state agencies, a single child or a single family will have multiple identifiers.

Fortunately, public and private entities have developed sophisticated matching programs that can take case data from multiple sources and determine (with a high level of reliability) which cases involve the same child or adult. Often, when the individual case has been identified and data sources are matched to it, a unique identifier (sometimes called an "alias") is then created. This reduces the time and cost of subsequent matching processes. This assigned identifier is often a randomly generated number. Once created in the ECIS, the alias can then carry the other identifying numbers already assigned, making subsequent data matches and analyses significantly more time and cost effective.

As previously mentioned, the Data Advisory Working Group has determined that a cost-efficient matching process can be built for young children and their families using the following core data elements:

- First Name
- Middle Name
- Last Name

- Full Address
- Date of Birth
- City of Birth
- Gender
- EEC District Number (as appropriate)
- DOE ID (as appropriate)

Parents will enter these core data elements through a central web portal connected to the ECIS. If other case matching data elements are identified, they can be added as required fields to the web portal and included in the matching algorithm to increase the accuracy of matches, overtime. Alternatively, core data elements will also be collected through paper and entered into the central web portal.

Family Engagement: Self-Assessment Information

EEC will seek additional family-level data from parents after they have provided their consent (including their email address and/or phone number) and their core child-level data identified in the previous section. An email and/or text message will be sent to the parents, providing a link to a page on the ECIS parent web portal. This page will request family-level information around family relationship and environmental stability factors. Below are sample questions based on research from the National Institute on Child Health and Human Development¹² and linked to the five domains of child development.

Social/Emotional
<i>Do you encourage your child to smile, laugh, and play with other children?</i>
Often
Sometimes
Never
Physical
<i>Do you encourage “tummy time”—activities an infant does when placed on his or her stomach while awake—to help neck and shoulder muscles get stronger and to encourage crawling?</i>
Often
Sometimes
Never
Cognitive
<i>Do you encourage your child to learn or have your child repeat learning phrases or items, such as saying the alphabet out loud, counting to 10, and naming shapes or objects?</i>
Often
Sometimes

¹² National Institute of Child Health and Human Development, *Study of Early Child Care and Youth Development*, http://www.nichd.nih.gov/publications/pubs/upload/seccyd_06.pdf

Cognitive
Never
Language and Literacy
<i>Do you repeat your child's words, comment on what your child says or tries to say, and answer your child's questions?</i>
Often
Sometimes
Never
Approaches to Learning
<i>Do you tell stories, describe objects or events, or sing songs to your child?</i>
Often
Sometimes
Never

Note that the link to the web portal page will be sent separately, after the core data is collected, in order to avoid discouraging any parents from initially enrolling in the ECIS. Also, additional self-assessment questions may be periodically requested for parents to complete via the web portal, overtime.

Screening and Assessment: Core Developmental and Academic Points for Data Gathering and Analysis

As previously noted, the Data Advisory Working Group has agreed to five key age/development points at which to seek cross-organization information about specific children, and their families. These points, which match recent guidance from the federal Department of Health and Human Services, are at:

- Birth
- Age three
- Age four
- Age five, and
- The conclusion of the 3rd grade.

At minimum, the department will seek to have screening and assessment data collected at these critical age milestones. As previously mentioned, CFCE Grantees and child care providers receiving grants or accepting departmental subsidies currently conduct screenings and assessments through the Ages & Stages Questionnaire, Picture Vocabulary Test (PVT), Expressive Vocabulary Test (EVT), Social and Emotional Screening, and the Woodcock-Johnson Test. The ECIS will maintain a portal for these early childhood providers to enter individual child-level scores. The scores of only those children with parents who have provided their parental consent to share this data will be included in the child-level strength and risk analyses within the ECIS.

Interagency Data: System Design Benefits to Other Agencies

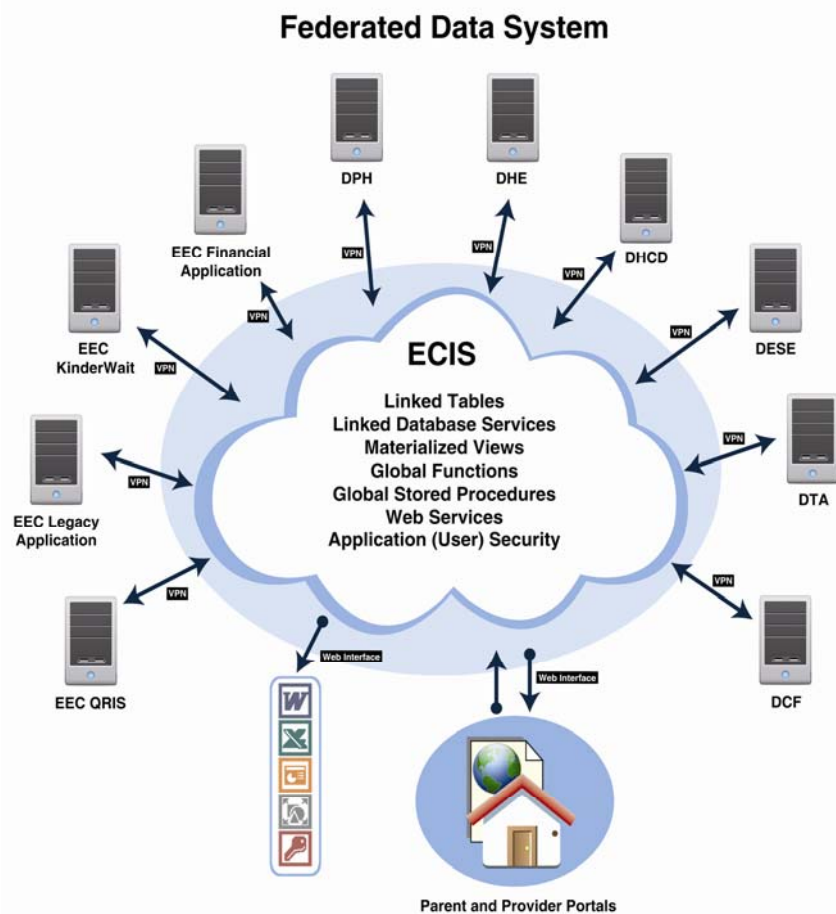
Because services to younger children and their families are often provided across state agencies, multiple agency involvement in the ECIS is critical to understanding the child development strengths and risks of young children. As aforementioned, participation in the ECIS will result in benefits to all agencies, including:

1. Allowing key stakeholders to access and exchange information necessary for policy, practice or program decisions.
2. Facilitating more efficient data inclusion and integration from multiple sources (including within other agency systems).
3. Providing a vehicle for communication of agency-specific events and services to families.

Achieving this vision is possible through PCG's proposed federated data system with service-oriented architecture (SOA).¹³ Using this structure, the ECIS will reduce redundant and incomplete data and be able to produce and provide useful information and reports for stakeholders.

What is a federated data system?

A federated data system is a virtual data system that serves as the on-ramp and gatekeeper for data access and reporting across a wide spectrum of agencies providing services to defined populations, in this case -- younger children and their families. A federated data system transparently integrates multiple and autonomous data sources into a single, virtual database.



¹³ Service oriented architecture is defined as a flexible set of design principles used during the phases of systems development and integration in computing. SOA defines how to integrate widely disparate applications for a Web-based environment and uses multiple implementation platforms. Rather than defining an Application Programming Interface (API), SOA defines the interface in terms of protocols and functionality.

A federated data system is NOT a data warehouse, which serves as a single data storage facility.

In a federated system, the databases of participating agencies are connected via a virtual private network (VPN) and, thus, can remain geographically decentralized. Since the constituent database sources remain autonomous, a federated data system is a useful alternative to the (sometimes daunting) task of merging together disparate systems.

Who could participate in the ECIS?

Technologically, there are few limitations or restrictions regarding which systems could be included within the ECIS envelope. As a virtual database, the ECIS will not retain very much data. It is simply a pass-through mechanism allowing data to be viewed in extant databases. At its most basic level, the ECIS serves as a traffic cop that allows non-owning systems to read only the data that has been pre-authorized to be seen and at the appropriate level of granularity for the viewing system.

Would participation in the ECIS require a high cost investment or changes for participating agency systems?

No. The design for the ECIS anticipates likely budgetary and human resource constraints that the Department of Early Education and Care and/or other agencies may have and is able to address these challenges with minimal cost or extra effort.

The ECIS will present linked tables directly or create materialized views which mirror a calling application's¹⁴ original table structure. It will not matter to the viewer where the underlying data is physically stored and how it is organized. At a minimum, materialized views in the ECIS could use the same name for the view as a calling application's original table name, requiring only very slight change to the calling application code. For example, if the Department of Transitional Assistance (DTA) has labeled the column in its database table for first name as "FName" and KinderWait uses "First_Name", the ECIS view would manage the translation of names and "hide" the fact that the two systems were using different names for essentially the same purpose. A developer at DTA would simply need to search for the name (s)he is already familiar with.

The fractional cost to implement this approach will have a significant payback over time due to the reduced number of tables and redundant data that would be removed throughout the ECIS. This approach will also result in an overall reduction in total storage requirements for agency databases as well as maintenance costs. Finally, overall development time can also be reduced due to a diminished learning curve. Developers of linked-in systems will find navigating the materialized views in the ECIS easy since they will mirror the data structures of their own system.

¹⁴ A calling application is one system 'talking' to another system. For example, if DTA's application makes a request of EEC's application, the calling application is DTA's application.

What data from other state agencies has the department requested to be included in the ECIS?

Please refer to **Section 2.2 Interagency Service Agreements** for more information.

Strength & Risk Analysis: Identifying Core Risk Indicators

As previously noted, data reported to the State Board of Early Education in November 2009 revealed that between 8% and 30% of the Commonwealth’s early childhood population experiences at least one risk factor and may experience multiple risks. Prior to build-out of the system, the Interagency Data Advisory Working Group will finalize up to five core indicators for which data are already collected by one or more of the state agencies participating in the Working Group and for which data can be extracted, matched to identify individual children (and families), and then analyzed to answer a range of policy, practice and program questions.

Key indicators under discussion by the Working Group, as linked to Dr. Shonkoff’s framework for child health and development, include:

Key Indicators Under Discussion by the Working Group		Link to Dr. Shonkoff's Framework for Health and Development Across the Lifespan (p. 8)
1	Low family income, defined as 185% of the Federal Poverty Level. Note: There are many income-related indicators and proxies, such as enrollment in programs for children or families below specific income levels.	Caregiver and Community Capacities
2	Maternal education level, particularly those women who have not attained a high school degree.	Caregiver and Community Capacities
3	Low birth weight, data for which is available for all babies born in the Commonwealth by race and community.	Biology of Health
4	Identification for service by the state’s Early Intervention Program (related to developmental delays in the first three years of life) and remediation of presenting problems. Note: Most developmental problems addressed by the Early Intervention Program involve early language development.	Policy and Program Levers for Innovation
5	Enrollment in preschool and elementary school special education, and remediation of presenting problems.	Policy and Program Levers for Innovation
6	Academic performance reported as annual statewide mastery scores in reading for grades 3-8 and 10.	Policy and Program Levers for Innovation
7	Participation data on a child/family basis such as attendance and reasons for absences.	Foundations of Health

Key Indicators Under Discussion by the Working Group		Link to Dr. Shonkoff's Framework for Health and Development Across the Lifespan (p. 8)
8	Residential instability, including homeless children and families, those living in shelters or motels, and children who frequently change schools over a short period of time.	Foundations of Health
9	Children or families receiving food assistance.	Policy and Program Levers for Innovation
10	Families reported for child neglect or abuse. Note: About two-thirds of all referrals involve neglect rather than abuse. The ratio of neglect to abuse substantiations is ever higher.	Caregiver and Community Capacities
11	Families living in high crime neighborhoods.	Foundations of Health
12	Children with incarcerated parents.	Foundations of Health
13	Children with poor child development screening and assessment scores.	Biology of Health

Data for the indicators selected from the list above will be derived from other state agency data, screening and assessment data, and/or parent-reported self-assessment data. Child-level outcomes will only be reported for those children whose parents have provided consent and will only be accessed by other state agencies with appropriate ISAs established. An algorithm will be designed to identify the number of risk factors facing each child. Families with children who present three or more risk factors will receive targeted communications, while others will receive general information, as detailed in the following section.

Communication: General Information for Parents

As previously discussed, all parents who provide their consent will be given information and resources on early childhood health, learning, and development. Using either the family email address or phone number provided with the Parental Consent Form, the ECIS will generate texts and/or emails that may include:

- Information on developmental milestones (using child date of birth data)
- Information on community resources, services, and/or supports within the child's community (using child address data), such as:
 - Local parks and recreation facilities
 - Area public and private schools
 - Area early education and care programs
 - Neighborhood health centers

In addition to the information above, the department and other state agencies will be offered the opportunity to utilize the ECIS system to send a monthly targeted event and/or informational text/email. Each month, a state agency will be selected to utilize the ECIS to send out information that it would like to provide to families with young children related to the agency. For example, DESE may wish to send a text/email in March about kindergarten enrollment. Or, DTA may choose to send out information on Supplemental Nutrition Assistance Program (SNAP) enrollment. All agencies will have the opportunity to participate.

As the ECIS evolves, it will also serve as a web-based reporting center for parents to obtain child development and area resource, service, and support information. Interactive tools and modules will be built to help parents learn and become an active participant in their own child's development.

Communication: Targeted Information for Parents of Vulnerable Young Children

For parents with children who are identified as having three or more risk factors within the ECIS, more targeted communication will be generated. In addition to the texts and/or emails previously described, the ECIS will generate texts and/or emails that include information about specific resources, services, and/or supports that may help to alleviate specific risks identified. The department will work with other state agencies to collect a list of resource/service centers, websites, and/or contact information that will be included in these targeted emails/texts.

Communication: Information for Local Communities, Schools, and Cities

It is anticipated that as the ECIS evolves and advances its volume of data collection and analysis, it will also serve as a tool for the distribution of helpful information to communities, schools, cities, and neighborhoods. Through a dedicated web portal, the ECIS will report out on data to help communities better understand the trends in their own children's well-being and success, further supporting the mutual and continued benefit of the ECIS to all stakeholders involved.

2.2 Interagency Service Agreements

In order to facilitate data sharing across state agencies, especially related to critical health, safety and learning risk/protective factors, Interagency Service Agreements (ISAs) must be established. PCG has held several meetings with various state agencies identified as having data that might be useful for the inclusion in the development of the ECIS. The meetings were typically two hours in length and were extremely beneficial in clarifying the potential for ISAs and identifying what data other agencies are keeping on children in Massachusetts.

The table below lists agencies maintaining useful data for inclusion in the ECIS as well as the names and high-level descriptions of their primary system(s):

Department	Systems	Description
Department of Elementary and Secondary Education	SIMS, EPIMS, Education Data Warehouse, MassONE, P-20/iPassport	Student level data, curriculum planning, performance data
Department of Revenue	MassTax, COMETS, COMETS FM	Tax information, demographic, and account information related to child and medical support, financial tracking for child support
Department of Public Health	EIIS, PELL, Vital Records	Birth records, pre-natal data, and early intervention eligibility, service, and demographic data
Department of Children and Families	FamilyNet	Intake, investigation, assessment, clinical/case management, adoption, financial, legal and provider services data
Department of Transitional Assistance	BEACON 3	Eligibility, intake, and case management data for TANF, SNAP and other DTA programs
Department of Housing and Community Development	SHORE (Current) ETO/HMIS (Go-Live in July)	New system will be more comprehensive, but SHORE collects data on homelessness (patterns of assistance, effectiveness of the service delivery system, etc.)

Below are summaries of PCG's interviews. Included at the end of each summary is a truncated list of data elements that relate to possible protective/risk factors for children.

Department of Housing and Community Development (DHCD):

DHCD's Statewide Homeless Research Environment (SHORE) system houses and gathers a diverse range of data on homelessness (DHCD is currently performing a system upgrade to their new ETO/HMIS system which will replace SHORE). Its goal is to analyze trends in homelessness to avoid duplicate counting of homeless people, as well as determine what the most common forms of assistance are and measure how effectively DHCD is meeting the needs of the homeless in Massachusetts.

All of DHCD's systems are independent (not linked) and are for programs that serve families that range in size. DHCD defines a family as having dependents under the age of 18 and can typically identify all of the members of the family.

The type of DHCD program dictates how often information is collected. For example, a general program may only conduct data collection/updates once per year, while for special programs it could be as often as once per week.

DHCD also identified data that it would like to obtain through the ECIS:

Self sufficiency:

- Parent educational attainment information
- Absenteeism and academic performance of students who are in homes vs. those who are in a shelter

Transiency:

- Number of heads of household a child has had
- Number of address changes experienced by children

Parent/Child relationship

- Exposure to a second parent
- Where/how involvement of a second parent takes place

ISA development with DHCD is promising. Tina Brooks, Undersecretary, expressed that she is willing to work with EEC to push ISA development forward and is excited about the possibilities an integrated ECIS would provide. From an IT perspective, the outlook is positive to at least have access to views of data that DHCD maintains within its own systems. The Department of Housing and Urban Development (HUD) may need to weigh-in on certain data elements due to confidentiality and ownership of data.

DHCD Protective/Risk Factor Data Elements:

Data Element	Protective Factor	Risk Factor
Subsidized Housing		✓
Homeless		✓
Health Coverage	✓	
Parental Employment Status		✓
Family Income/Community Services Information (TANF, SNAP, etc.)		✓

Department of Public Health (DPH):

DPH collects a wealth of data on young children in Massachusetts. It primarily utilizes three systems: Vital Records, Pregnancy to Early Life Longitudinal Linkage (PELL) system, and EIS (Early Intervention Information System). Through PELL and Vital Records, DPH maintains a host of birth and pre/post-natal data, including Kotelchuck and Kessner Index scores. Through an ISA between DPH and the Division of Health Care Finance and Policy (DHCFP), DPH is able to collect and share/link hospital utilization data. Data linking occurs through Linkpro and involves a five step algorithm that links 99% of the available data (a manual process links the last 1%, if necessary). The EIS maintains data related to the Early Intervention program. Data includes child and family demographic, case management, service delivery, and developmental screening data. Developmental Screenings conducted include the Battelle and the Michigan.

The development of an ISA with DPH is promising. DPH has indicated that data sharing is possible as long as parental consent is obtained.

DPH Protective/Risk Factor Data Elements:

Data Element	Protective Factor	Risk Factor
Birth Weight		✓
Gestational Age		✓
Kotelchuck Scores/Kessner Index Scores		✓
Early Intervention Involvement		✓
Battelle Scores/Michigan Scores		✓
Referral Source(s)		✓
Family Background Characteristics Data		✓
IFSP Services and Number of Hours for Monthly Services	✓	

Department of Transitional Assistance (DTA):

BEACON 3 is DTA’s web-based case management system for granting and tracking Supplemental Nutrition Program (SNAP) and Temporary Assistance for Needy Families (TANF) assistance to eligible citizens in Massachusetts. It was recently re-platformed and includes valuable information on child and family participants. Some of this information includes demographic (age, gender, race, ethnicity, etc.), income, medical, and service information.

The Department of Revenue (DOR) currently has a data sharing agreement with DTA. This agreement is primarily one-sided (DTA sends information to DOR). The exchange of data takes place through linked database views between the agencies. However, DTA noted that this ISA process was lengthy and that establishing an ISA with EEC for view access may also be a difficult process.

DTA has indicated that its preferred method for data sharing is via export transfer load (ETL). An example would be a spreadsheet that is shared via secure e-mail. Linking databases to a federated data system, as proposed by PCG, may still be possible, but the ISA process for it may be more difficult.

DTA Protective/Risk Factor Data Elements:

Data Element	Protective Factor	Risk Factor
Free and Reduced Lunch Eligibility	✓	
Participation in TANF		✓
Participation in SNAP		✓
Parent Substance Abuse		✓
Homelessness		✓

Department of Revenue (DOR):

DOR utilizes a Unisys hierarchical legacy database, not a relational database, to store its data. A relational database matches data based on common characteristics found within a dataset and have data access through Structured Query Language (SQL). A hierarchical database consists of various “one-to-many” data relationships. This type of database is commonly referred to as having a tree structure, with the data element at the top of the tree considered the “root.” An obvious advantage of this type of database is that it represents hierarchical information accurately and allows for efficient searches of information. A hierarchical database example is: one parent can have many children, but a child can only have one parent. A problem with this type of database is that any non-hierarchical data is difficult to represent and may result in some redundancy.

All of the data matches that DOR conducts begin with SSN, and then trickle down into probabilistic matches. Because of its database structure, DOR must do any of the matches required by other state agencies. Other state agencies cannot conduct the matches themselves.

EEC information on household address would be beneficial to DOR. Given many people use debit cards/direct deposits for reimbursements and no longer have checks mailed to their homes, accurate and up-to-date addresses are not maintained by DOR. Though DOR may have an initial address, it is difficult to maintain addresses for those families that move often.

While DOR does keep some information that would be valuable to the ECIS, the potential for data sharing is limited. DOR has confidentiality and security requirements in place that are extremely strict.

Additionally, some of DOR’s data is incomplete and may require cleanup in order to move forward on an ISA. This concerns DOR because they are not confident that they possess the resources to accomplish this data cleanup. While DTA and DOR already have a data sharing agreement in place (EEC would presumably want a similar agreement), DOR estimates that it would take at least two and a half years to establish any data sharing agreement.

DOR Protective/Risk Factor Data Elements:

Data Element	Protective Factor	Risk Factor
Low Income Status		✓
Parent Employment Status		✓

Department of Elementary and Secondary Education (DESE):

Information housed at DESE is essential to the effective functioning of the ECIS, as the majority of the Commonwealth’s children are served by DESE and/or the department. Establishing a unique identifier would be a great start to identifying and de-duplicating children in state databases and will allow work towards a single point of entry for demographic information to progress.

DESE is in the process of gathering requirements for its new P-20 data system (tentatively called iPassport), which will include several data elements of use to the ECIS. The P-20/iPassport is envisioned as a data system that allows state and district staff to have access to data that will aid in improving both the education of students and development of sound educational policy. Access to the system will be based on roles and permission; its products will include early warning indicators, dashboards, and analytical tools.

Data/information that DESE is interested in obtaining from the ECIS includes:

- Data on programs and how children are progressing developmentally
- Tracking of receipt of parental consent

As DESE continues through its requirements gathering process for the P-20 system, it will seek additional and more specific data from EEC and the ECIS.

ISA development with DESE seems promising given there are several overlapping and mutual goals of the ECIS and the P-20/iPassport, as well as, the existence of a master ISA that is already in place amongst DESE, DHE, and EEC . The master ISA covers information sharing across the agencies as long as it is for research/IT purposes. Since EEC falls under the same secretariat as DESE and DHE, there is potential for data sharing to take place that falls under FERPA compliance. Additionally, with the release of the new proposed FERPA rules, a draft agreement has been developed between DESE and EEC to share the SASID both up and down the education vertical.

DESE Protective/Risk Factor Data Elements: EEC would like to obtain the following information for both children themselves as well siblings within the ECIS. DESE has agreed that, if parental consent is obtained, data sharing could occur for these elements, currently.

Data Element	Protective Factor	Risk Factor
Third Grade Reading Scores		✓
Special Education		✓
Free and Reduced Lunch	✓	
Attendance and Suspensions/Expulsions		✓

Department of Children and Families (DCF):

DCF houses critical data on children across the Commonwealth who are at risk of abuse and/or neglect that may be shared through the ECIS. DCF maintains FamilyNet as its primary front-end system for data entry and a data warehouse, which operates off of Oracle, for back-end data storage. It should be noted that DCF is in the process of migrating FamilyNet to iFamilyNet, which will only affect their front-end user interface and not the data warehouse.

In discussion with DCF, the agency indicated that it may have several uses for the ECIS. Specifically, DCF would like to 1) know which DCF involved parents/caregivers are accessing the services that EEC provides, when, and where, 2) distribute information to parents through the ECIS text/email blasts, and 3) be able to investigate why DCF involved children stopped attending child care. Additionally, DCF would like to obtain additional and more up-to-date information on child care slot vacancies in order to more efficiently and effectively place DCF involved children in child care.

There is potential for ISA development with DCF. The agency already has data sharing agreements in place with EEC, DTA, DYS, and DESE. Additionally, DCF tracks SASIDs for children in their custody, who are receiving educational services from DESE in the K-12 system. This could serve as an additional/supplemental data element for matching children within the ECIS. DCF would also like to obtain any SASIDs for children living in the community through the ECIS, if possible.

DCF staff reiterated concerns expressed during meetings with the Data Advisory Working Group, indicating that parents may have the perception that if they allow their information to be shared with other agencies through a parental consent form, their benefits may be reduced. This should be taken into consideration in marketing parental consent forms.

Much of DCF’s assessment data is logged in narrative form, so it will not be particularly useful in aggregate reporting, but there are several data elements that would be useful to include within the ECIS. These include:

Data Element	Protective Factor	Risk Factor
Type of Care (residential, group, kinship, etc.)	✓	
Length of Stay (start and end dates only, not daily attendance)	✓	✓
Family Risk Factors		✓
Changes in Placement	✓	✓

In addition to the agencies above, EEC may also seek ISA development with the Department of Health Care Finance and Policy (DHCFP). This agency may have health coverage information on families, a critical risk/protective factor.

In order to move forward with ISA development, general counsels from each of the aforementioned agencies and EEC must meet to discuss the templates provided in the appendix.

2.3 ECIS Scaled Approach (Short-Term, Mid-Term, and Long-Term)

Recognizing that the ECIS will evolve overtime, the department will implement various aspects of the ECIS over the short-, mid-, and long-term.

Short-Term (1-2 Years)

Short-term actions will include cleansing the department's current legacy system data and identification of links to the new Financial System, Workforce Registry, KinderWait, and Quality Rating and Improvement System (QRIS). The department, and its technology consultants, will develop the federated database architecture, which will include linkages to all legacy systems, as well as design the web portals for (a) parent entry of core child-level data and self-assessment data and (b) early childhood provider entry of screening and assessment data. In the short-term, the department will also seek to finalize as many ISAs with other state agencies as possible and identify view access/VPN links to critical data held by those agencies.

In order to jumpstart the data collection process, the department will begin collection on data to answer the three priority questions identified by the Data Advisory Working Group (p. 13) within 18 months. These priority questions will serve as building blocks for the ECIS to expand data collection and analysis to focus, first, on the most vulnerable children.

Informed by the results of early brain research, work to develop the ECIS has focused largely on the youngest and most vulnerable of children living in the Commonwealth. The department and several other state agencies have an obligation, however, to identify and address needs of *all* children residing in the Commonwealth of Massachusetts. This presents a substantial challenge for data development. While the *most vulnerable* children are likely already being served by one or several state agencies, and are thus in someone's database already – data on *all children* is rarely collected. Exceptions to this situation exist at birth, when all children born in the Commonwealth are captured as part of the state's Vital Records process and when virtually all children enroll in school and are captured as part of the Department of Elementary and Secondary Education's data system(s). As a result, **the ECIS will focus on the most vulnerable children, in the short-term, but still seek to ultimately develop a system for data capture, analysis, sharing and reporting that can, over time, provide information about all of the children in the Commonwealth.**

Key information that would contribute to a more universal data acquisition and analysis process could come from the Commonwealth's universal health care program (that supports in excess of 90% of children and families), the Commonwealth's universal immunization process, and K-12 public education in Massachusetts. Finally, as the Commonwealth adopts a process for assessing the school readiness of all children entering public school, this will provide yet another point for universal data on the well-being and success of the state's younger children.

Mid- and Longer-Term (2-5 Years)

The mid-term solution involves moving towards more in-depth linking across EEC's legacy systems to effectively create a single place where workers, providers, and parents can access the various forms of early childhood information necessary to meet their needs.

Once individual case records have been established and are maintained, longitudinal analyses will be possible throughout the full period of early and middle childhood, the high school years, and into young adulthood. This will allow the Commonwealth to conduct analyses and answer such questions as:

- Is school readiness at entry to kindergarten aided by participation in a high quality preschool experience?
- Do 3rd grade reading scores vary by the nature of children's earliest experiences, including risks in the birth to age three years, or by participation in high quality PreK-3rd grade early education?
- If parents without a high school degree send their children to a high quality preschool, does that increase the likelihood that their children will be ready for kindergarten and reading at grade level by the end of 3rd grade?
- Is the Commonwealth reaching all very young children (B-3) living with environmental, economic and developmental risks with such evidence-based programs as Early Intervention and high quality infant and toddler care?

In the long term, the ECIS will also allow the Commonwealth to answer three key policy questions related to the development of young children and their access to state and locally-funded resources that can support their well-being:

- What opportunities are available in the Commonwealth or local communities that support healthy child growth and development?
- How are Massachusetts families and communities doing in supporting child well-being and success?
- Are children meeting developmental milestones from birth through the 3rd grade, and what gaps exist for individual and groups of children?

Finally, such data over time will enable the Commonwealth to target its resources to (a) critical points in the lives of children and (b) effective programs serving them, thus producing the greatest possible return on investment for the Commonwealth as a whole.

3. APPENDIX

3.1 2010 Early Childhood Information System (ECIS) Strategic Planning Institute, November 18-19, 2010

Name	Agency/Organization
Sherri Adlin*	ED, South Shore Day Care Services
Carole Allen	Massachusetts Chapter – American Academy of Pediatrics
Jennifer Amaya-Thompson*	Department of Early Education and Care
Mary Ann Anthony*	Catholic Charities
Robert Aseltine*	Connecticut CHINS Representative
Bryant Ayles*	Children's Trust Fund
Karla Baehr	Asst Commissioner, MA ESE
Suzanne Bartley	Children's Trust Fund
Ron Benham*	Massachusetts Department of Public Health
Helen Bettencourt*	MA Dept. of Elementary and Secondary Education
Kathy Betts	Deputy Assistant Secretary, MA Office of Children, Youth and Families
Judyann Bigby	EEC Board
Eileen Bisson*	Boston Alliance for Early Education
Paul Blatt	ACF
Margaret Blood	President, Strategies for Children
Melinda Boone*	Superintendent, Worcester Public Schools
Kelly Bovio	Horizons for Homeless Children
Terri Bowie	Springfield, MA Principal
Katie Britton*	Ready City/DART Manager, Thrive in 5
Robin Brooks	Community Action, Inc.
Tina Brooks	DHCD
Patricia Cadet*	Boston Alliance for Early Education
Mike Cahill	City Councilor, Beverly YMCAs of Massachusetts
Flossy Calderon*	ABCD Head Start
Gale Candaras	State Senator: Chair of the Joint Committee on Children, Families, and Persons with Disabilities
Rep. Steve Canessa	Appointed Member Advisory Council
Helen Charlupski*	Early Education and Care Advisory Council :Massachusetts Association of School Committees
Marilyn Chase	Assistant Secretary, Office of Children, Youth, and Family Services
Nina Chen*	Massachusetts Business Alliance for Education

Name	Agency/Organization
JD Chesloff	EEC Board
Mitchell Chester	Commissioner Elementary and Secondary Education
Elizabeth Childs	EEC Board
Leslie Christian	Early Childhood Community Representative
Joan Clark*	Clark
Rep. Katherine Clark	Appointed Member Advisory Council
Maryellen Coffey*	BOSTnet (Build the Out-of-School Time Network)
Keith Collar	Associate Dean for Planning and Research, Harvard GSE
Mary Coonan*	Center For Social Policy - UMass Boston
Erin Craft*	Department of Early Education and Care
John Cuneo	Community Action, Inc.
Robert Curtin*	Massachusetts Department of Elementary and Secondary Education
Dianne Curtin	HES North Shore Head Start
Chad D'Entremont	Designee of Amy O'Leary: Advisory Council
Birgitta Damon	DTA
Robert DeLeo	Speaker, Massachusetts House of Representatives
Rachel Demma	National Governors Association
Patricia DeSiata	Appointed Member Advisory Council
Melissa DeSousa	Massachusetts Independent Child Care Organization (MICCO)
Margo DiBiasio*	Chelsea Public Schools/John Silber Early Learning Center
Donna DiFillippo*	Raising A Reader MA
Titus DosRemedios*	Early Education for All/Strategies for Children
Anne Douglass*	UMASS Boston
Bill Eddy	ED, MA Assoc. of Early Education and Care Providers & Worcester City Council
Eilene Edejer*	Boston Public Schools
Marie Egnochney	
Asa Fanelli*	Horizons for Homeless Children
Marcia Farris	Early Education and Care Advisory Council : Massachusetts Association for the Education of Young Children
David E. Fernie	Early Education and Care Advisory Council: Massachusetts Association of Early Childhood Teacher Educators
Maureen Ferris*	Committee on Children, Families and Persons with Disabilities
Jillayne Flanders	Early Education and Care Advisory Council :Massachusetts Elementary School Principals Association
Susanna Flug*	City of Cambridge, Department of Human Service Programs
Ann Flynn	United Way of Central MA

Name	Agency/Organization
Cathy Flynn	Joint Committee on Education Designee
Rosemarie Franchi*	WPS - Head Start Program
Karen Frederick*	Community Teamwork, Inc
Sally Fuller*	Irene E. & George A. Davis. Foundation
Jon Fullerton*	Harvard Graduate School of Education
Diane Gagnon	Principal of German Gerena Community School
John Gardner	Educator
Gail Garinger*	Office of the Child Advocate
Tim Garvin*	CEO, President, United Way CM
Hannah Gebretensae*	Urban College of Boston
Judy Goodwin*	Springfield Public Schools
Amanda Gorner*	The Dimock Center
Thomas Gosnell	American Federation of Teachers
Susan Gosselin*	Springfield Public Schools
Victoria Griffin	Joint Committee on Education Designee
Janice Gruendel*	Gruendel and Associates
Darla Gundler*	DPH, Early Intervention Parent Leadership Project
William Haberland	Designee for Senator Robert O'Leary: Advisory Council
Caroline Haines	Pathways for Children
Sue Halloran	Designee of Pam Kuechler: Advisory Council
Sarah Harding*	MA Department of Early Education and Care
Deborah Harris	Mass Law Reform Institute
Bill Hart	Joint Committee on Education Designee: Academic Representative
Kim Haskins*	Civic Representative: Barr Foundation
Stephen Hemman	Designee: Dr. Ralph Hicks, Advisory Council
Lynn Hennigan*	Together For Kids Coalition
Dr. Ralph Hicks	Massachusetts Association of Regional Schools
Mal Hughes	Preschool/Head Start Director, CCCD
Vladimir Hyppolite*	DESE
Alan Ingram	Springfield, MA Superintendent
Jose Irizarry*	Margaret C. Ells School/ Springfield Public Schools
Malka Jampol*	Joint Committee on Education Designee: research Analyst
Donna Jasek	Early Childhood Community Representative
Jackie Jenkins-Scott	President, Wheelock College MA
Jacqueline Jones	US DOE
Joan Kagan*	Square One (Springfield Day Nursery)
Charlotte Kahn*	Boston Foundation
Frederick M. Kalisz, Jr.	Parents Alliance for Catholic Education

Name	Agency/Organization
Kristie Kauerz	Proj. Dir., PreK-3rd Edu, Harvard GSE
Julia Kehoe	Commissioner, DTA
John Keller*	DHE
Mina Kim	EEC Board
Tom Kingston	Early Education and Care Advisory Council : Massachusetts Association of School Superintendents
Deborah Kneeland	For Kids Only Afterschool
Pam Kuechler*	Massachusetts Child Care Resource and Referral Network
Elizabeth Laird*	DQM
Jonie Latimer-Brady*	Ayer Kiddie Depot
Martha Levine	Massachusetts Early Intervention
John Lippitt	Thrive in 5
Joan Lombardi	Deputy Assistant Secretary and Inter-Departmental Liaison for Early Childhood Development, ACF
Alina Lopez*	Department of Early Education and Care
Oscar Loureiro*	Brookline Schools, Director of Data Management and Evaluation
Ben Lummis	Civic Representative: Massachusetts 2020 Foundation
Carolyn Lyons	Chief Operating Officer/Director of Strategic Partnerships, Strategies for Children and the Early Education for All Campaign
Helen Lyons*	University of Massachusetts Lowell
Anne MacDonald*	YOU, Inc.
Katie Magrane	Massachusetts After-School Partnership
Marilyn Mahoney	Early Childhood Community Representative
Todd Maio*	Department of Transitional Assistance
Charlene Mara	Joint Committee on Education Designee: Academic Representative
Thomas Marino*	Early Education and Care
Janine Maritza Matho	Dir. Of Admin. And Communications, Harvard CEPR
William Mass*	UMASS Lowell
Sandra McElroy	Pine Manor College
Tommy McGee	State Senator
David McGrath	Department of Early Education and Care
Angelo McLain*	Commissioner, DCF
Mary Pat Messmer	EEC Board Member
Khari Milner*	CAMBRIDGE PUBLIC SCHOOLS
Vicki Milstein	Principal, Brookline Early Education Programs

Name	Agency/Organization
Anita Moeller	EEC
Sarah Montoya*	ABCD - Head Start & Children's Services
Wendy Moran	Associated Early Care and Education
Keith Motley	Chancellor, Umass Boston
Therese Murray	Legislator
Ophelia Navarro*	Thrive in 5 Data and Research Team Manager
Jeff Nellhaus	ECS
Jan Nisenbaum	DCF
Linda M. Noonan	Designee of Jean C. Wood: Advisory Council
Margaret O'Hare	Federation for Children with Special Needs
Amy O'Leary	Strategies for Children/Early Education for All
Carol O'Brien*	Westwood public schools
Lynne O'Brien	EEC Board
Robert O'Leary	State Senator: Advisory Council
Suzanne O'Malley	Children's Trust Fund
Jonathan Palumbo	EEC Board
Constantia Papanikolaou*	EEC
Jessica Perez-Rossello	Chief Information Officer, MA DESE
Patricia Quinn	Social Service Provider Representative
Al Race*	Harvard Center on the Developing Child, Director of Communications and Strategic Relations
Mary Reed*	Bessie Tartt Wilson Initiative For Children
Elliot Regenstein*	IL Early Childhood Learning Council
Bill Restuccia	Designee of Ardith Wieworka: Advisory Council
Paul Reville	Secretary of Education, Executive Office of Education
Susan Richards*	City of Cambridge Agenda for Children
Grace Richardson*	American Family Child Care Association
James Robertson*	Plowshares Education Development Center, Inc.
Dora Robinson	President and CEO, United Way Pioneer Valley
Sarita Rogers*	MA Children's Trust Fund
Kate Roper*	Department of Public Health
Marta Rosa	Director of Government Affairs, Wheelock College
Ruth Rose-Jacobs*	Boston University School of Medicine
Jason Sachs*	Boston Public Schools
Julie Salois*	Community Teamwork, Inc.
Yvette Sanchez	Federal Head Start Program

Name	Agency/Organization
Lourdes Sariol	Associated Early Care and Education
Elizabeth Schoetz	MA House (instead of K. O'Koniewski, aide to Kathleen Clark)
Chris Scott	Lowell, MA Superintendent
Sharon Scott-Chandler	EEC Board
Robert Sege	Boston Hospital Pediatrician
Jack Shonkoff*	Center on the Developing Child at Harvard University
Lauren Smith	MA DPH Medical Director
Peg Sprague*	Senior Vice President for Community Impact (UWMBMV)
Joy Staples*	Gruendel & Associates LLC
Beth Ann Strollo	Social Service Provider Representative
Amanda Szekely*	NGA
Paul Toner	President, MTA
Nancy Topping Tailby*	Early Education and Care Advisory Council :Massachusetts Head Start Association
Donna Traynam	MA ESE Early Ed
Kathy Treglia	Designee of Mike Cahill (Springfield YMCA)
Andrea Urbano*	Horizons for Homeless Children
David VanderWoude*	Massachusetts Afterschool Partnership
Eleonora Villegas-Reimers*	Wheelock College, DEEC Board member
Marty Walz	State Representative: Joint Committee on Education
James Ward	Early Childhood Community Representative
Velora Washington	
Anne Wass	Massachusetts Teachers Association
Joan Wasser Gish*	EEC Board
Tom Weber	Chief of Staff, EOE
Ardith Wieworka	Early Education and Care Advisory Council : Child Development and Education, Inc.
Pamela Wildnauer	Citizens for Citizens, Inc.
Nicole Wilkins*	Massachusetts Afterschool Partnership
Diana Wogan*	Joint Committee on Education Designee: Research Director
Alice Wolf	State Representative
Jean C. Wood	Massachusetts Business Alliance for Education
Sharon Wright	Chief Information Officer, Executive Office of Education
Wayne Ysaguirre*	Associated Early Care and Education

*indicates invitee attended Strategic Planning Institute

3.2 Data Advisory Working Group: Invitees

Name	Agency
Ophelia Navarro*	Associated Early Care and Education
Wayne Ysaguirre*	Associated Early Care and Education
Kira Taj*	Bessie Tarrt Wilson Initiative for Children
Jason Sachs	Boston Public Schools
Bryant Ayles	Children's Trust Fund
Suzin Bartley	Children's Trust Fund
Kathy Betts*	Children, Youth and Families, Executive Office of Health and Human Services
Maureen Ferris	Committee on Children, Families and Persons with Disabilities
Karen Frederick	Community Teamwork, Massachusetts Association of Early Education and Care (MADCA)
Angelo McClain	Department of Children and Families
Erin Craft*	Department of Early Education and Care
Sarah Harding*	Department of Early Education and Care
Marissa Cole	Department of Elementary and Secondary Education
Mitchell Chester	Department of Elementary and Secondary Education
Rob Curtin*	Department of Elementary and Secondary Education
Vladimir Hyppolite*	Department of Elementary and Secondary Education
John Keller	Department of Higher Education
Mario Delci*	Department of Higher Education
Richard Freeland	Department of Higher Education
Gretchen Weissman	Department of Housing and Community Development
Tina Brooks*	Department of Housing and Community Development
Barbara Leadholm*	Department of Mental Health
John Auerbach	Department of Public Health
Kate Roper*	Department of Public Health
Ron Benham*	Department of Public Health
Lauren Smith	Department of Public Health
Darla Gundler*	Department of Public Health, Early Intervention Parent Leadership Project

Name	Agency
Julia Kehoe	Department of Transitional Assistance
Min Zhang*	Department of Transitional Assistance
Gerry Williams*	Department of Transitional Assistance
Todd Maio	Department of Transitional Assistance
Nancy Topping Tailby*	Early Education and Care Advisory Council: Massachusetts Head Start Association
Tom Santry*	Department of Transitional Assistance
Sally Fuller	Irene E. & George A. Davis. Foundation
Malka Jampol*	Joint Committee on Education
Sarita Rogers	MA Children's Trust Fund
Robert Pulster	Massachusetts Interagency Council on Housing and Homelessness
Marilyn Chase	Office of Children, Youth, and Family Services
Gail Garinger	Office of the Child Advocate
Peg Sprague	Senior Vice President for Community Impact (UWMBMV)
Paul Foster*	Springfield Public Schools
Joan Kagan*	Square One
Sheri Adlin	Stars
Amy O'Leary*	Strategies for Children / Early Education for All
Corey Zimmerman*	United Way
Kristine Hazzard	United Way
Tim Garvin	United Way of Central Massachusetts
Carol O'Brien	Westwood Public Schools
Eleonara Villegas-Reimers	Wheelock College
Melinda Boone*	Worcester Public Schools

*indicates invitee attended Data Advisory Working Group meeting(s)

3.3 Data Advisory Working Group List of ECIS Indicators

Priority Question #1: What opportunities are available in the Commonwealth or local communities that support healthy child growth and development?

A) Do they exist?

B) Do families have access to them both in terms of proximity and capacity?

C) Are they quality opportunities? [Secondary Sub-Question]

D) Are families aware of these opportunities? [Secondary Sub-Question]

Five Domains of Child Development	Shonkoff Area of Development	Indicator	Data Elements Required	Data Source	ISA Needed	Parental Consent Needed
Availability of Resources that Support Cognitive Development	Biological Adaptations or Disruptions	Public Schools	Child address, School name, School address	DOE	X	X
		Early education and care programs	Child address, Program name, Program address, Waitlist (Y/N)	EEC		X
Availability of Resources that support Social/Emotional Development	Caregiver and Community Capacities	Family Resource Centers	Child address, Center name, Center address	Currently Unknown		X
		Home-visiting Programs	Child address, Program name, Program address, Waitlist (Y/N)	DMH	X	X
		Farmer's Markets	Child address, Farmer's market name, Farmer's market address	Department of Agricultural Resources Federation of Mass Farmers Markets	X	X
		Playgrounds	Child address, Playground name, Playground address	Department of Conservation and Recreation MA Recreation and Park Association	X	X
		Parenting Education Programs	Child address, Program name, Program address, Waitlist (Y/N)	Currently Unknown		X
		Grocery Stores	Child address, grocery store name, grocery store address	Currently Unknown		X
		Parks and Recreation Facilities	Child address, Facility name, Facility address	Department of Conservation and Recreation MA Recreation and Park Association	X	X
		Public Transportation	Child address, Public Transit Location address	MBTA		X
		Child and Parent Mental Health Supports	Child address, Center name, Center address, Waitlist (Y/N)	DMH	X	X
Availability of Resources that support Physical Development	Biological Adaptations or Disruptions	Pediatrician/Family Physician Offices	Child address, Pediatrician name, Pediatrician address	DPH	X	X
		Dentist Offices	Child address, Dentist name, Dentist address	DPH	X	X
		Neighborhood Health Centers	Child address, Center name, Center address	DPH	X	X
Availability of Resources that support Language and Literacy	Foundations of Healthy Development	Libraries	Child address, Library name, library address	MA Libraries/MA Board of Library Commissioners	X	X
		Book Programs	Parent name, Book program name, Book program address	MA Libraries/MA Board of Library Commissioners	X	X
Availability of Resources that support Approaches to Learning	Foundations of Healthy Development	Museums	Child address, Museum name, Museum address	Currently Unknown		X
		Community Centers (i.e. YMCA, Boys & Girls Clubs, YWCA)	Child address, Community Center name, Community Center address	Currently Unknown		X
		College/Community Collaborations	Child address, Collaboration name, Collaboration address	DHE	X	X

Priority Question #2: How are Massachusetts families and communities doing in supporting child well-being and success?

Indicator Category	Indicator	Data Elements Required	Data Source	ISA Needed
Maternal & Infant Health	Premature Births <i>Percentage of Live Births before 37 Weeks</i>	Number of Live Births before 37 Weeks, Total Number of Live Births	DPH	X
	Low Birth-Weight Infants <i>Percentage of Live Births Less than 2,500 grams</i>	Number of Live Births Less than 2,500 grams, Total Number of Live Births	DPH	X
	Infant Mortality <i>Rate of Infant Deaths per 1,000 Live Births (include deaths due to neglect)</i>	Number of Infant Deaths; Number of Live Births	DPH	X
	Adequacy of Prenatal Care <i>Percentage of Mothers Receiving Less than Adequate Prenatal Care by Adequacy of</i>	Number of Mothers Receiving Less than Adequate Prenatal Care by the APNCU Index, Number of Live Births	DPH	X
	Breastfeeding Intention <i>Percentage of Women Not Intending to Breastfeed at Hospital Discharge</i>	Number of Women Not intending to Breastfeed at Hospital Discharge, Number of Live Births	DPH	X
	Smoking During Pregnancy <i>Percentage of Women who Reported Smoking During Pregnancy</i>	Number of Women who Reported Smoking During Pregnancy, Number of Live Births	DPH	X
	Asthma Hospitalizations <i>Rate of Child Asthma/Asthma Related Hospitalizations per 100,000 Children</i>	Number of Child Asthma Hospitalizations and Asthma-Related Hospitalizations, Total population of Children	DPH	X
School Readiness	Early Intervention Enrollment <i>Percentage of Children Enrolled in Early Intervention</i>	Number of Children Enrolled in Early Intervention, Total Children Aged 0-3	DPH	X
	Children Waitlisted for an EEC Subsidized Child Care Slot <i>Percentage of Children Waitlisted for an EEC Subsidized Child Care Slot</i>	Number of Children Aged 0-12 Waitlisted for an EEC Subsidized Child Care Slot, Total Number of Children Aged 0-12	EEC	
	Poor School Attendance <i>Percentage of Children who Missed More than 11 Days of School per Year</i>	Number of Children who Missed More than 11 Days of School Per Year, Total Number of Children	DESE	X
Prevention of Child Injuries and Maltreatment	Child Maltreatment <i>Rate of Substantiated Child Maltreatment Reported per 1,000 Children</i>	Number of Substantiated Child Maltreatment Reports (for children aged 0-9), Total Number of Children Aged 0-9	DCF	X
	Unintentional Injury Hospitalizations <i>Rate of Inpatient Hospitalizations, Observation Stays, and Emergency Room Discharges</i>	Number of Inpatient Hospitalizations, Observation Stays, and Emergency Room Discharges Associated with Unintentional Injury, Number of Children	DPH	X
Parenting Stressors	Substance Use Disorder Hospital Admissions <i>Rate of Substance Use Disorder Admissions to DPH-funded Programs per 100,000 people</i>	Number of Substance Abuse Disorder Admissions to DPH-funded Programs; Total Massachusetts Population	DPH	X
	Children Aged 0-18 Living in Single Parent Households <i>Percentage of Children Aged 0-18 Living in Single Parent Households</i>	Number of Children Aged 0-18 Living with Single Male or Single Female Head of Household, Total Children Aged 0-18	DPH / US Census	X
	Infants Born to Mothers with Less than High School Education <i>Percentage of Births to Mothers with Less than High School Education</i>	Number of Births to Mothers with Less Than a High School Education, Total Number of Live Births	DPH	X
	Teen Births <i>Rate of Births to Females Aged 15-19 per the total Female Population Aged 15-19</i>	Number of Births to Females Aged 15-19, Total Females Aged 15-19	DPH	X

Indicator Category	Indicator	Data Elements Required	Data Source	ISA Needed
Family Economic Self-Sufficiency	Poverty <i>Percentage of Residents Living at or below 100% of FPL</i>	Number of Residents Living At or Below 100% FPL, Total Number of Residents	US Census	
	Unemployment <i>Percentage of Unemployed Individuals in Labor Force</i>	Number of Unemployed Individuals in Labor Force, Total Massachusetts Population	EOLWD	X
	Mothers Giving Birth Receiving Publicly-Financed Health Care <i>Percentage of Women Giving Birth Receiving Publicly Financed Health Care</i>	Number of Women Giving Birth Receiving Publicly Financed Health Care (Medicaid, Healthy Start, Other Government Free Care), Total Live Births	DPH	X
	Homelessness <i>Percentage of Children whose Families are Homeless</i>	Number of homeless children, Total number of children	DHCD	X

Priority Question #3: Are children meeting developmental milestones (including cognitive development, social and emotional development, physical development, language and literacy, and approaches to learning) at Birth, ages 3 - 5 and 3rd Grade? What are the gaps?

Age	Five Domains of Child Development	Indicator	Data Source	Parental Consent Needed
Birth - 12 Months	Language & Literacy	ASQ Communication Score	Ages & Stages Questionnaire	X
	Physical Development	ASQ Gross Motor Score	Ages & Stages Questionnaire	X
	Cognitive/Physical Development	ASQ Fine Motor Score	Ages & Stages Questionnaire	X
	Cognitive Development	ASQ Problem Solving Score	Ages & Stages Questionnaire	X
	Social & Emotional Development	ASQ Personal-Social Score	Ages & Stages Questionnaire	X
	Physical Development	ASQ - Referral Primary Health Care Physician	Ages & Stages Questionnaire	X
	Physical/ Social/Emotional Development	ASQ - Referral to Hearing, Vision, and/or Behavioral Screening	Ages & Stages Questionnaire	X
	Cognitive Development	ASQ - Referral to Early Intervention/Early Childhood Special Education	Ages & Stages Questionnaire	X
	Social & Emotional Development	Woodcock Johnson - Oral Expression	Woodcock Johnson Tests of Achievement	X
	Cognitive Development	Woodcock Johnson - Listening Comprehension	Woodcock Johnson Tests of Achievement	X
	Language & Literacy	Woodcock Johnson - Written Expression	Woodcock Johnson Tests of Achievement	X
3 Years Old	Language & Literacy	ASQ Communication Score	Ages & Stages Questionnaire	X
	Physical Development	ASQ Gross Motor Score	Ages & Stages Questionnaire	X
	Cognitive/Physical Development	ASQ Fine Motor Score	Ages & Stages Questionnaire	X
	Cognitive Development	ASQ Problem Solving Score	Ages & Stages Questionnaire	X
	Social & Emotional Development	ASQ Personal-Social Score	Ages & Stages Questionnaire	X
	Physical Development	ASQ - Referral Primary Health Care Physician	Ages & Stages Questionnaire	X

Age	Five Domains of Child Development	Indicator	Data Source	Parental Consent Needed
3 Years Old	Physical/ Social/Emotional Development	ASQ - Referral to Hearing, Vision, and/or Behavioral Screening	Ages & Stages Questionnaire	X
	Cognitive Development	ASQ - Referral to Early Intervention/Early Childhood Special Education	Ages & Stages Questionnaire	X
	Social & Emotional Development	Woodcock Johnson - Oral Expression	Woodcock Johnson Tests of Achievement	X
	Cognitive Development	Woodcock Johnson - Listening Comprehension	Woodcock Johnson Tests of Achievement	X
	Language & Literacy	Woodcock Johnson - Written Expression	Woodcock Johnson Tests of Achievement	X
4 Years Old	Language & Literacy	ASQ Communication Score	Ages & Stages Questionnaire	X
	Physical Development	ASQ Gross Motor Score	Ages & Stages Questionnaire	X
	Cognitive/Physical Development	ASQ Fine Motor Score	Ages & Stages Questionnaire	X
	Cognitive Development	ASQ Problem Solving Score	Ages & Stages Questionnaire	X
	Social & Emotional Development	ASQ Personal-Social Score	Ages & Stages Questionnaire	X
	Physical Development	ASQ - Referral Primary Health Care Physician	Ages & Stages Questionnaire	X
	Physical/ Social/Emotional Development	ASQ - Referral to Hearing, Vision, and/or Behavioral Screening	Ages & Stages Questionnaire	X
	Cognitive Development	ASQ - Referral to Early Intervention/Early Childhood Special Education	Ages & Stages Questionnaire	X
	Social & Emotional Development	Woodcock Johnson - Oral Expression	Woodcock Johnson Tests of Achievement	X
	Cognitive Development	Woodcock Johnson - Listening Comprehension	Woodcock Johnson Tests of Achievement	X
	Language & Literacy	Woodcock Johnson - Written Expression	Woodcock Johnson Tests of Achievement	X
5 Years Old	Language & Literacy	ASQ Communication Score	Ages & Stages Questionnaire	X
	Physical Development	ASQ Gross Motor Score	Ages & Stages Questionnaire	X
	Cognitive/Physical Development	ASQ Fine Motor Score	Ages & Stages Questionnaire	X
	Cognitive Development	ASQ Problem Solving Score	Ages & Stages Questionnaire	X
	Social & Emotional Development	ASQ Personal-Social Score	Ages & Stages Questionnaire	X

Age	Five Domains of Child Development	Indicator	Data Source	Parental Consent Needed
5 Years Old	Physical Development	ASQ - Referral Primary Health Care Physician	Ages & Stages Questionnaire	X
	Physical/ Social/Emotional Development	ASQ - Referral to Hearing, Vision, and/or Behavioral Screening	Ages & Stages Questionnaire	X
	Cognitive Development	ASQ - Referral to Early Intervention/Early Childhood Special Education	Ages & Stages Questionnaire	X
	Social & Emotional Development	Woodcock Johnson - Oral Expression	Woodcock Johnson Tests of Achievement	X
	Cognitive Development	Woodcock Johnson - Listening Comprehension	Woodcock Johnson Tests of Achievement	X
	Language & Literacy	Woodcock Johnson - Written Expression	Woodcock Johnson Tests of Achievement	X
3rd Grade (Age 8)	Social & Emotional Development	Woodcock Johnson - Oral Expression	Woodcock Johnson Tests of Achievement	X
	Cognitive Development	Woodcock Johnson - Listening Comprehension	Woodcock Johnson Tests of Achievement	X
	Language & Literacy	Woodcock Johnson - Written Expression	Woodcock Johnson Tests of Achievement	X
	Language & Literacy	Woodcock Johnson - Basic Reading Skills	Woodcock Johnson Tests of Achievement	X
	Language & Literacy	Woodcock Johnson - Reading Comprehension	Woodcock Johnson Tests of Achievement	X
	Language & Literacy	Woodcock Johnson - Reading Fluency	Woodcock Johnson Tests of Achievement	X
	Cognitive Development	Woodcock Johnson - Mathematics Calculation	Woodcock Johnson Tests of Achievement	X
	Cognitive Development	Woodcock Johnson - Mathematics Reasoning	Woodcock Johnson Tests of Achievement	X

3.4 Draft Parental Consent Form

Currently in the process of being developed by EEC Legal staff

3.5 Draft ISA Template

**INTERAGENCY SERVICE AGREEMENT BETWEEN
THE MASSACHUSETTS DEPARTMENT OF EARLY EDUCATION AND CARE
AND THE [REDACTED]**

This Interagency Service Agreement (“the Agreement”) is entered into on this [REDACTED]th day of [REDACTED], 2011 by and between the Massachusetts Department of Early Education and Care (“EEC”) and the [REDACTED] (“[REDACTED]”) for the purpose of sharing critical health, safety, learning, and development data on young children within the Early Childhood Information System (the “ECIS”) operated by EEC.

I. **PARTIES.** The Massachusetts Department of Early Education and Care is a state educational agency, authorized to collect and maintain children’s educational records and to receive information from early care and education and after-school programs consistent with applicable state and federal laws and subject to the Fair Information Practices Act (FIPA), M.G.L. c. 66A.

[INSERT PARAGRAPH ON STATE AGENCY – to be completed by agency’s legal counsel]

II. **PURPOSE.** The purpose of this Agreement is to document the terms under which [REDACTED] will share data with EEC for inclusion in the ECIS. As described herein, the ECIS has been designed to advance Governor Deval Patrick’s Executive Order #505 which seeks successful learning and development outcomes for all of the Commonwealth’s children. The purpose of the ECIS is to provide the data necessary to plan for, supply, and evaluate necessary supports and services for young children and their families across the Commonwealth. Two critical facets of the ECIS is that it will 1) link families to state and local community resources for child growth and development opportunities and 2) provide internal and external policy makers, EEC staff, researchers, and other stakeholders with de-identified aggregate level data on the growth and development of young children across the Commonwealth. To do so, the ECIS must acquire child-level growth and development information strength and risk data indicators from other state agencies.

[REDACTED] Child-Level Data Requested

In order to provide both the appropriate types of child growth and development opportunities to parents as well as gain a broader understanding of child growth and development statewide for all ECIS stakeholders, EEC requests view access to the following child level data from [REDACTED]:

- Child First Name
- Child Middle Name
- Child Last Name
- Child Full Address
- Child Date of Birth
- Child City of Birth
- Child Gender
- EEC District Number (as appropriate)
- DOE ID (as appropriate)
- SASID (as appropriate)

[INSERT LIST OF DATA ELEMENTS AND SOURCES SPECIFIC TO THE AGENCY]

III. AUTHORITY. In order to ensure compliance with state and federal regulations on data confidentiality and sharing, the ECIS will only collect and report out on data on children whose parents have provided their written and signed consent, except for de-identified aggregate level data.

IV. DATA DISCLOSURE. [REDACTED] shall provide view access to EEC for the following data for children whose parents have signed consent authorizing data sharing:

- Child First Name
- Child Middle Name
- Child Last Name
- Child Full Address
- Child Date of Birth
- Child City of Birth
- Child Gender
- EEC District Number (as appropriate)
- DOE ID (as appropriate)

[INSERT BULLETED LIST OF AGENCY-SPECIFIC DATA ELEMENTS AND SOURCES]

V. TERMS AND CONDITIONS. To affect the transfer of data and information that is subject to state and federal confidentiality laws and to ensure that the required confidentiality of personally identifiable information shall always be maintained, EEC agrees to:

1. In all respects comply with the provisions of HIPAA and FERPA. For the purposes of the Agreement, EEC will be granted view access to child-level data housed in [REDACTED]'s systems for only those children whose parents have provided data sharing consent. Nothing in this Agreement may be construed to allow either party to maintain, use, disclose or share children's educational record information in a manner not consistent with state or federal law or regulation.

2. Use data shared under the Agreement for no purpose other than the purpose described in this Agreement, and as authorized under applicable state and federal laws and regulation, including HIPAA and FERPA. Nothing in the Agreement shall be construed to authorize EEC to have access to additional data from [REDACTED] that is not included in the scope of the Agreement or to govern access to the data by entities other than the Parties. EEC further agrees not to share child-level data viewed under the Agreement with any other entity without prior written approval from [REDACTED]. EEC understands that the Agreement does not convey ownership of data to EEC.
3. EEC shall be provided reasonable notification of any changes in [REDACTED]'s policies regarding limits on the use of confidential data outside of those stipulated in this agreement.

VI. TERM. This Agreement takes effect upon signature by the authorized representative of each party and shall remain in effect unless terminated by either party.

This Agreement expresses the entire agreement of the parties and shall not be modified or altered except in writing executed by the authorized representatives of EEC and [REDACTED], and in a manner consistent with applicable state and federal laws.

Sherri Killins, Commissioner
Massachusetts Department of Early Education and Care

Date

Date

ISA INFORMATION: STATE AGENCY DATA AND SOURCES

The following matrix contains information that can be inserted into sections *II. Purpose* and *IV. Data Disclosure* of the ISA for each individual agency.

Agency	Data Indicators	Source Systems
DHCD	Subsidized Housing (Y/N) Homeless (Y/N) Health Coverage (Y/N) Parent Employment Status Family Income Level	SHORE (Current) ETO/HMS (Go-Live in July)
DPH	Birth Weight Gestational Age Kotelchuck Score/Kessner Score Battelle Score/Michigan Score Early Intervention Involvement (Y/N) IFSP Services & Number of Hours for Monthly Services	EIS PELL Vital Records
DTA	Free and Reduced Lunch (Y/N) Participation in TANF (Y/N) Participation in SNAP (Y/N) Parent Substance Abuse (Y/N) Homeless (Y/N)	BEACON 3
DESE	Third Grade Reading Scores Special Education (Y/N) Free and Reduced Lunch (Y/N) Attendance Record – Number of Missed Days Number of Suspensions Number of Expulsions	SIMS EPIMS Education Data Warehouse MassONE
DCF	Type of Care (Residential, Group, Kinship, etc.) Length of Stay (Start & End Dates) Identified Family Risk Factors Changes in Placement	FamilyNet
DOR	Low Income Status (Y/N) Parent Employment Status	MassTax COMETS