Linking Data across Agencies: States That Are Making It Work

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For policymakers, educators, parents and students to have the information they need to improve student and system performance, states must ensure that as they build and enhance state K-12 longitudinal data systems, they also continue building linkages to exchange and use information across early childhood, postsecondary and the workforce (P-20/workforce) and with other critical agencies, such as health, social services and criminal justice systems (cross-agency), to answer key policy questions.

This issue brief captures the current status of states’ ability to link data across agencies, the opportunities and challenges they face, and how leading states are breaking down silos to ensure data follow individual students over time to improve success. It also describes processes states can use in developing and implementing their cross-agency data sharing efforts.

This brief is co-authored by the Data Quality Campaign (DQC) and the Forum for Youth Investment, whose research on interagency collaborations, including children’s cabinets, was leveraged to illustrate how agencies can work together to implement a single vision for data sharing, especially between education and social services.

HIGHLIGHTS

In this brief, find out more about:
- The current status of states’ ability to link data across agencies;
- Processes to foster a culture of data-driven decisionmaking:
  - Prioritize critical policy questions to drive development and use
  - Ensure interoperability by adopting common standards, definitions and language
  - Protect personally identifiable information to reinforce that information is private and secure and data can be shared
- Federal support for cross-agency data sharing;
- The role governance structures play in linking data systems;
- Four states that are creating critical linkages between data systems to answer key policy questions:
  - Connecticut,
  - Florida,
  - Maine and
  - Washington; and
- Further reports and resources on sharing data across agencies to improve research and student success.

Current Landscape of Cross-Agency Data Sharing

The momentum behind sharing data across agencies is building. Every governor and chief state school officer has agreed to build statewide longitudinal data systems that can follow individual students from early childhood through K-12 and postsecondary education and into the workforce as a condition for receiving State Fiscal Stabilization Funds as part of the American Recovery and Reinvestment Act (ARRA).

The 2009–10 DQC survey on state longitudinal data systems reveals the current status of states’ P-20/workforce alignment.
This progress toward linking P–20/workforce data is promising, but states have much work to do in actively sharing this data. 

**States Make Progress toward Linking Data across the P–20/Workforce Pipeline**

Number of states that can link data between early childhood, K–12, postsecondary and the workforce

![Number of States*](image)

*DQC survey results include all 50 states, the District of Columbia and Puerto Rico.

Few states share student-level data among state agencies.

![Number of States*](image)

*DQC survey results include all 50 states, the District of Columbia and Puerto Rico.

Information and using it to make decisions, as only eight states have connected all the data systems outlined under Action 1: linking data systems with P–20/workforce and cross-agency. The figure above illustrates that states have made great strides in being able to link and share data between K–12 and early childhood (44 states) and between K–12 and postsecondary education (33 states). However, only 29 states can link individual-level workforce data with postsecondary, and just 10 states report being able to link data from K–12 with the workforce.

As the figure below illustrates, the majority of states report that they do not share individual-level education data with other state agencies, and when they do, it is most often with human services. In cases in which individual-level data are shared, the data often are shared only in one direction — with other agencies submitting their data to education, but education not reciprocating.

**Changing the Landscape: Processes To Help Guide Data System Development and Use**

States are making progress toward sharing data across the P–20/workforce pipeline and across state agencies, and the federal government is helping to fuel this momentum. As states work to meet the ARRA requirement to follow individuals through the P–20 pipeline and into the workforce by 2011, their progress will be expedited and supported by engaging in the following processes to guide the development and implementation of their cross-agency data sharing efforts.

- **Prioritize, through broad-based stakeholder input, the critical policy questions to drive the development and use of longitudinal data systems.**

**P–20/WORKFORCE AND CROSS-AGENCY DATA SHARING — PROCESSES AT A GLANCE**

- Prioritize, through broad-based stakeholder input, the critical policy questions to drive the development and use of longitudinal data systems.
- Ensure data systems are interoperable within and across agencies and sectors by adopting common data standards, definitions and language.
- Protect personally identifiable information through governance policies and practices that promote the privacy and security of the information while allowing appropriate data access and sharing.

To view state progress toward all of DQC’s 10 State Actions To Ensure the Effective Use of Data, visit [www.DataQualityCampaign.org/survey/actions](http://www.DataQualityCampaign.org/survey/actions).
Now that a growing number of states have the technical capacity to collect, share, link and analyze longitudinal data within and across multiple systems and agencies, governors, legislators, boards and agency heads must work collaboratively to define common goals and create a single vision that spans the various sectors and systems to ensure data are linked for a clear purpose and not simply for “data’s sake.” Rather than leading with the abstract goal of “aligning cross-agency data systems,” progress will be expedited by prioritizing key policy questions to inform which data are linked and for what purposes, such as:

- To what degree does participation in early childhood programs increase kindergarten readiness? Are these gains sustained through 3rd grade?
- What indicators provide early warning that students are at risk of dropping out? On track for college and career readiness?
- How many high school graduates require remediation in their first year of postsecondary education?
- Which industries employ the majority of our state’s high school and college graduates?

**State Examples**

The **Massachusetts** Child and Youth Readiness Cabinet, jointly chaired by the secretary of education and the secretary of health and human services, developed a strategic plan for its statewide integrated data sharing system. The project vision incorporates three parts: (1) a dropout early warning, identification and intervention system to target at-risk youth; (2) a readiness passport to chronicle a child’s educational experiences and other services and supports that can follow that child anywhere; and (3) a school support coordinator/readiness coach responsible for using these tools to intervene.

To meet the governor of **Minnesota’s** goal of connecting the K–12 and postsecondary systems, the state worked through the P–16 Education Partnership, a voluntary advisory group tasked with improving student transitions from P–12 to postsecondary education and creating a common vision for P–20 data sharing. The full P–16 Education Partnership, including private and public postsecondary systems, teachers unions, the Career College Association, and the Minnesota Department of Education, defined a clear vision and determined the questions that this data sharing would answer. The P–16 Student Identification System Working Group was developed to help determine which P–12 and higher education data should be collected and potentially shared to provide these answers and fulfill this vision.

To drive the design of its longitudinal data system, **South Carolina** identified key questions by first conducting a landscape review of existing questions from a variety of sources (e.g., National Center for Education Statistics, various state stakeholder groups and state legislation) and then prioritizing the resulting list of almost 400 questions to narrow it down to six critical questions based on the ease and availability to access the data needed to answer them. The South Carolina team then built and enhanced its data system with this set of six questions as the primary driver.

Staff from the **New Mexico** Office of Education Accountability developed the notion of “killer questions” in conjunction with several other states to describe the key policy questions that come up over and over again across districts and states when confronted with quality data. In an effort to begin to identify and prioritize these “killer questions,” New Mexico developed a template to help categorize its policy questions and to then develop the corresponding data and political questions it would need to answer to help solve a given policy problem.

- **Ensure data systems are interoperable within and across agencies and sectors by adopting common data standards, definitions and language.**

States currently have multiple data systems that often were built in silos and have been used primarily for accountability and compliance reporting within individual sectors. As a result, state agencies have established data standards, definitions and
language in isolation or by adopting sector-specific standards to meet their unique collection and reporting needs without ensuring data can be linked across systems and, if a state priority, across state lines. But students are mobile, moving between schools and grade spans and from state to state, and states must be able to link data across traditional boundaries to answer questions such as “Where do our students go after high school, and were they adequately prepared?”

Common data standards are essential to creating interoperability, which makes data sharing among districts, between districts and states, and within and among agencies and states more efficient. The lack of common data definitions and technical specifications not only limits the ability of data analysis and use to inform critical questions but also makes linking data across multiple systems costly and inefficient and inhibits the development of new tools and services. Without commonly agreed-to voluntary data standards, vendors are forced to tailor products to each system or state’s specifications, increasing time and costs.

State Examples
To meet the demands of researchers and other state agencies requesting individual-level data, Washington state’s

FEDERAL FUNDING AND ACTIVITIES SUPPORTING THE USE OF CROSS-AGENCY DATA SHARING FOR CONTINUOUS IMPROVEMENT

Federal dollars available through ARRA not only provide states the opportunity to build on growing momentum and progress toward implementing state longitudinal data systems, but they also offer state agencies the opportunity to think creatively and break down traditional barriers as they leverage these one-time funds to “Race to the Top.” The DQC created a roadmap that identifies federal funding sources from three federal agencies that can support data-related activities, including funds that states can leverage to support P–20/workforce and cross-agency data sharing, such as the Statewide Longitudinal Data Systems Grant Program, the State Fiscal Stabilization Fund, the State Incentive Grants (i.e., Race to the Top), State Advisory Councils on Early Childhood Education and Care, and the Workforce Investment Act.

Various federal agencies also are initiating efforts to improve cross-agency data coordination at the federal level:

► The U.S. Department of Education and Human Services’ Federal Health Architecture (FHA) brings agencies together to improve efficiency and effectiveness in government health information technology operations and build shared solutions that will have an impact on the nation’s health. FHA is currently investigating opportunities to work with local, state and federal agencies to address challenges related to sharing child-related health and well-being data and information with other agencies, including education.

► The U.S. Department of Education is working with the U.S. Department of Labor and the U.S. Department of Health and Human Services to launch an interagency data strategy initiative to coordinate efforts within those three agencies to promote the development and use of state longitudinal data systems. A central goal of this two-year initiative is to coordinate communications to state partners on federal programs, policies and resources related to longitudinal data systems.

► The Early Learning and Development Data Systems Study Group is part of a federal interdepartmental initiative co-led by the U.S. Department of Education and U.S. Department of Health and Human Services. It seeks to inform federal staff of the current status and promising initiatives related to early learning and development data systems and build federal capacity for advancing their creation, implementation and sustainability. The Data Study Group will examine the features, key issues and challenges of a coordinated, high-quality early learning and development data system.

► The U.S. Department of Health and Human Services’ Federal Health Architecture (FHA) brings agencies together to improve efficiency and effectiveness in government health information technology operations and build shared solutions that will have an impact on the nation’s health. FHA is currently investigating opportunities to work with local, state and federal agencies to address challenges related to sharing child-related health and well-being data and information with other agencies, including education.
Office of Superintendent of Public Instruction (OSPI) created a “Research ID” for each student that is internally, securely linked to the state’s unique student ID. When an outside state agency or researcher seeks to link student data with its own individual-level data, the organization's data records are provided to OSPI, which then merges the data to include student information and provides the receiving organization with merged, de-identified, individual-level data records.2

Following the deaths of four sisters, Washington, DC, found that six different district agencies held siloed information about this at-risk family that, if better coordinated, might have prevented this tragedy. If passed, the Jacks-Fogle Family Preservation Case Coordination Authorization Act of 2009 revises the local statutes to align with federal privacy laws (HIPAA and FERPA) and creates a case coordination and services integration system across 11 of the District’s health and human services agencies.

State Examples

The efficiency and collaboration that comes from using common language is a first step to adopting common data standards. Maryland Children’s Cabinet, the Ohio Family and Children First Cabinet Council, and the Pennsylvania Governor’s Cabinet and Commission on Children and Families all have been building child and youth results frameworks with measureable population-level indicators that can be tracked over time and across departments and that span the ages and developmental areas of a young person’s life. The next step for these states is to adopt common data standards and definitions that allow agencies to communicate relevant indicators of the results they seek for children and youth as defined by the Cabinets.

The Utah 2007 Institute of Education Sciences Statewide Longitudinal Data Systems grant application explains that although student record collection is uniform, student record/transcript exchanges that occur as students move from one local education agency to another are neither automated nor uniform because of a lack of common data standards. The grant funding provided the state the opportunity for all stakeholders to be able to use common standards and an automated architecture for student record/transcript exchanges to improve data quality on all levels and for all processes, reporting and research.

2 See p. 9 to read about another effort in Washington — the Education Research and Data Center.
As states work to link traditionally siloed data systems, they must establish a formal governance structure to define the roles and responsibilities needed to institutionalize their commitment to data quality and use and protect individual student privacy. Without a data governance strategy, there is no clear ownership of the data; no clear business processes for collecting, reporting and using data; and no accountability for data quality.

Governance structures can be established through existing coordinating bodies to ensure that data linking and use are embedded in broader cross-agency efforts. Examples of these bodies include P–20 councils, such as the [New Mexico P–20 Data Warehouse Coordinating Council](http://www.nmchildrenscabinet.com) created via executive order and the Georgia Alliance of Education Agency Heads, and children’s cabinets, which are explained in more detail in the text that follows. Please see DQC’s [State Action 3: Data Governance](http://www.educationqualitycampaign.org) on the DQC Web site for more details.

**Children’s Cabinet Data Interests and Involvement**

The Governor’s Children’s Cabinet Network, managed by the Forum for Youth Investment, connects the directors, chairs and members of state cross-agency coordinating bodies that consist of the heads of state agencies that administer child and youth programs from more than 20 states across the country. Just as states are improving their education data systems, other state agencies, such as health, social services and criminal justice, are identifying their key policy questions and developing ways to share individual data across agencies in an effort to improve real-time, point-of-service response to each young person’s needs. In 2008, the directors identified integrating data sharing efforts as one of their two key priorities, specifically (1) to support the alignment of data across child- and youth-serving agencies in their states and (2) to ensure that data are useful in determining success in implementing basic supports and other learning opportunities for youth. The cabinets are interested in three types of data to support policy decisions and service provisions:

- **Child and youth outcome data** focusing on aggregated, population-level result and indicator data (such as an "[overall children’s report card](http://nmchildrenscabinet.com/2009Report.pdf)"), which cover the full range of education, health, social, civic and vocational outcomes and can be disaggregated geographically and by race, ethnicity, socioeconomic status and disability, used for planning and accountability; and individual-level child data used for case management to personally identify an individual person across data systems to provide a comprehensive, tailored set of services;

- **Programs, services and supports data** to build quality assessment systems across agencies that allow data about programs to link to data on accessibility and availability of programs; and

- **Leadership and resource capacity data** to track information on resources and budgets (such as "[Children’s Budgets](http://forumfyi.org/node/86)") by intended outcome, ages supported and type of programs and on the workforce supporting youth and their capacity, retention and training.

While still the exception, a few members of the Governor’s Children’s Cabinet Network have begun efforts to align disparate child and youth data systems and taken a leadership role in facilitating data exchange. Examples of states include Connecticut; Florida; Maine; Maryland; Massachusetts; New Mexico; Ohio; Pennsylvania; and Washington, DC, which are highlighted elsewhere in this brief.

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The following case studies highlight leading states that are currently sharing data across systems and agencies to improve student success.

**Connecticut**

In July 2006, Connecticut’s Early Childhood and Education Cabinet, with representation from executive and legislative branches as well as all state agencies that serve young children, adopted state goals for children ages birth to 9. As part of its accountability mandate, the Cabinet tracks progress toward these goals and supports the work of early childhood data and data systems to answer the following key policy questions:

- What percentage of babies are born into circumstances of risk that can result in developmental challenges in the first five years of life?
- How many children demonstrate the full set of skills expected at kindergarten entry?
- As they exit third grade, what percentage of children demonstrate the state’s expected level of reading mastery?
- What is the quality of all early childhood programs, and how can it be improved?
- Are goals for the state’s early care and education workforce being met, and what additional planning and professional development are required?

The Cabinet’s work is anchored in Results Based Accountability, a management and regulatory tool that requires a common vision with clearly articulated goals and the tracking and analysis of data to address whether results have been achieved. The Early Childhood Information System (ECIS) contains unique child identifiers assigned to young children in the Department of Developmental Services B-3 program, children enrolled in state-funded and local education agency-funded preschool, and all children entering kindergarten in a public school. ECIS also includes workforce registry information, such as information on employment history, education and training. Future plans include creating a cross-agency unique program identifier for state-funded early care and education programs to interface with the public school information system to follow the progress of children through grade 12.

In addition, the departments of Labor, Higher Education and K–12 Education have worked together to ensure data on postsecondary education, training and employment can be exchanged, matched and linked to better serve individuals, provide state policymakers with key information on education and labor market outcomes, and improve programs and services throughout the education pipeline.

**Florida**

The Florida Department of Education has linked data across the P–20/workforce pipeline for the past 30 years. The department’s Division of Accountability, Research and Measurement is responsible not only for operating and maintaining its respective databases but also for managing key data exchange relationships with other state agencies, including the Florida Board of Governors, Department of Children and Families, the Department of Juvenile Justice, the Department of Corrections, and others. The Florida PK20 Education Data Warehouse was created to integrate data from 26 state-level systems and provide a view across systems that reflects the K–20 public education environment. However, personally identifiable data are not stored in the data warehouse, and data are only collected point-in-time throughout the year. While the Florida PK20 data warehouse can answer critical research and policy questions, there also is a need for real-time, on-demand data that can improve the provision of services for individual children, youth and families throughout the state.
In an effort to systematically link data across agencies and provide live data to local stakeholders, the governor of Florida initiated the Florida Children and Youth Cabinet, composed of all child- and youth-serving state agencies, including the Florida Department of Education. Part of the Children and Youth Cabinet mandate is to “design and implement actions that will promote collaboration, creativity, increased efficiency, information sharing, and improved service delivery between and within state governmental organizations that provide services for children and youth and their families.” Based on the information sharing needs articulated by the Cabinet, a member suggested that the state court’s data system could be adapted to meet the data needs of the Cabinet. The process began when the court’s $4 million data system was offered to the Cabinet to build and expand to meet all of the agencies’ data needs.

The Children and Youth Cabinet Information Sharing System project was initiated in 2008 and currently uses eight unique data points from six different agencies, incorporating health, human services and education data into the system. The system will include access to public assistance data; child protector investigation data; birth, death, marriage and divorce data; unemployment data; residential or detention status data; and Medicaid eligibility data. Each agency will be able to access data from the system in a timely manner regarding individual children for caseworkers and other critical service providers to improve services.

The Florida Department of Education is a member of the Cabinet and receives data from many of the participating Cabinet agencies, but it does not currently contribute data to the system in response to privacy protection concerns. A working group will be formed in the near future consisting of representatives from health and human service agencies, legal experts, and the Florida Department of Education charged with thinking through creative solutions to address the real and perceived barriers posed by FERPA to cross-agency data sharing. Ideally, members of the Cabinet would have access to education data such as truancy, attendance, suspension, grades, special language or remedial classes, afterschool participation, dropout and postsecondary access, and completion data.

**Maine**

Actions on both data and programmatic system change efforts in Maine have been led by a children's cabinet in place for more than 10 years. It is composed of the commissioners of education and the departments of Health and Human Services, Public Safety, Corrections, and Labor and is chaired by Maine’s First Lady, Karen Baldacci.

As part of Maine's longitudinal data system, the commissioner of education uses a single student identifier and is looking to use that identifier within her role in the Maine Governor’s Children’s Cabinet to link critical data across state agencies. Supporting her efforts, the Maine Legislature passed LD 1356, Chapter 448, to improve the ability of the Department of Education to conduct longitudinal data studies and compile, maintain and disseminate information concerning the educational histories, placement, employment and other measures of success of participants in state educational programs through the use of Social Security numbers. These steps lay the foundation for linking data across agencies that include postsecondary institutions, workforce, health and human services, corrections, and the finance authority.

The priorities of the Children’s Cabinet are supporting and pushing this effort to link systems, including a cross-agency effort to increase the graduation rate (with a special emphasis on young people in foster care, those who are incarcerated, and those experiencing education and life challenges). Additionally, the Cabinet is using cross-agency data to support an initiative developed by New England’s Educare Center to shift policies and practices to ensure quality early childhood education.

5402.56 Florida 2007 Statutes.
care and learning for children prenatal to age 5. Educare Center is a demonstration site for high-quality early childhood services, parent education, comprehensive supports, an onsite teaching lab and early childhood degree programs. Multiple agencies involved in the Children's Cabinet hold critical pieces of data that will be linked and shared as part of this effort to understand the needs of children and their families.

**Washington**

In 2007, Senate Bill 5843, the Educational Data and Data Systems Bill, expedited Washington state’s progress toward sharing data across education and workforce agencies by establishing the Education Research and Data Center (ERDC) to “conduct collaborative analyses of early learning, K–12, and higher education programs and education issues across the P–20 system.” This legislation also required the collection of student and teacher data for each K–12 class offered.

To fulfill its charge, the ERDC, jointly managed by the Office of Financial Management (OFM) and the Legislative Evaluation and Accountability Program within the Legislature, established data sharing agreements with many of its participating state agencies, including OSPI, the public baccalaureate higher education institutions, the State Board of Community and Technical Colleges, the Higher Education Coordinating Board, and the Employment Security Department.

The ERDC initially matched student-level K–12 data with postsecondary data through the use of an ERDC-assigned research ID, with the long-term goal of linking with workforce, health and human services, and early learning data. Links have been made among K–12 and public two-year and four-year institutions, as well as to financial aid records. Additionally, the ERDC established a critical link between social services data and K–12 student data in a high-priority project for OFM and the Governor’s Office. The ERDC was uniquely situated to make the necessary matches because of established data sharing agreements with OSPI and the Department of Social and Health Services (DSHS); OFM analysts may access individual-level DSHS data if it is for purposes of WorkFirst program administration. Discussions leading to the incorporation of corrections data have been initiated.

**Conclusion**

States are leading the effort to create statewide longitudinal data systems from P–20 through the workforce and across other critical agencies, such as health, social services and criminal justice, and the federal government is providing leadership and resources to accelerate their work. However, to ensure progress toward the goal of continuous improvement, policymakers need to continue building longitudinal data systems and ensure that linking data systems across the P–20/workforce pipeline and across agencies is not the impetus for action but rather the solution to answering key policy questions aligned with a state’s vision.
Resources

The Data Quality Campaign Web site is host to numerous resources for readers to gain in-depth knowledge about P–20/workforce and cross-agency linkages, including resources in the following topic areas: common data standards, data governance, FERPA, P–20 data systems, and ARRA. Select DQC resources include:


The Forum for Youth Investment Web site is host to resources relating to building and sustaining coordinating/governance structures, such as children's cabinets, framing a common vision and set of results, and data tools. Select Forum resources include:


Other State Resources and Tools


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 will provide tools and resources that will help states implement and use longitudinal data systems, while providing a national forum for reducing duplication of effort and promoting greater coordination and consensus among the organizations focused on improving data quality, access and use.

The **Forum for Youth Investment** is a nonprofit, nonpartisan “action tank” dedicated to helping communities and the nation make sure all young people are Ready by 21º: ready for college, work and life. Informed by rigorous research and practical experience, the Forum forges innovative ideas, strategies and partners to strengthen solutions for young people and those who care about them. A trusted resource for policymakers, advocates, researchers and program professionals, the Forum provides youth and adult leaders with the information, connections and tools they need to create greater opportunities and outcomes for young people.

Managing Partners of the Data Quality Campaign include:

- Achieve, Inc.
- Alliance for Excellent Education
- Council of Chief State School Officers
- Education Commission of the States
- The Education Trust
- National Association of State Boards of Education
- National Association of System Heads
- National Center for Educational Achievement
- National Center for Higher Education Management Systems
- National Conference of State Legislatures
- National Governors Association Center for Best Practices
- Schools Interoperability Framework Association
- State Educational Technology Directors Association
- State Higher Education Executive Officers