DATA QUALITY CAMPAIGN
Using Data To Improve Student Achievement

# Building and Using Statewide Longitudinal Data Systems: Implications for Policy

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U.S. schools are expected to perform better than ever in preparing all students with the knowledge and skills they need for postsecondary education and the workplace. To meet that goal, state and local educators and policymakers are recognizing the value of better information as an essential tool for improving both the processes and the outcomes of the nation's education system. This is particularly true of *longitudinal student data* — high-quality data about how individual students perform over time. Vital policy conversations now under way — conversations about increasing the rigor and relevance of high school, improving teacher quality, promoting higher graduation rates, and reducing achievement gaps among student populations — increasingly acknowledge that such efforts will not be successful unless they are informed by reliable longitudinal, student-level data. As a result, a growing number of voices are calling for the collection, availability and use of high-quality longitudinal student data to improve student achievement and outcomes.

**Statewide Longitudinal Data Systems:** To provide longitudinal student data, states need a system that collects individual student data from prekindergarten through 12th grade and into postsecondary education. The DQC has identified 10 essential elements of statewide longitudinal data systems as a roadmap to assist in their development (see sidebar). In addition to these essential elements, states should ensure that student records can be easily transferred; student privacy is protected; data definitions and requirements are clear; and data systems are organized in ways that facilitate public use, efficient information transfer and user-friendly reporting.

Progress is being made: 45 states now report having a unique student identifier in place, up from 36 states in 2005. This momentum is due in large part to the financial investments and political "airtime" given to data issues by state policymakers, data managers, foundations and national policy organizations. The U.S. Department of Education's Institute of Education Sciences (IES) Statewide Longitudinal Data Systems Grant Program has been a core part of the investment in state capacity and political will to build data systems. The $52.3 million in grants made to 14 states in 2005 has provided startup capital to build these systems or venture capital to leverage existing state and local investments to expand current data systems; make them more accessible; and/or align data systems across states, agencies and districts. The grants have allowed selected states to build systems much earlier than they would have otherwise. The demand is well documented: 48 states applied for the original $52.3 million, and interest is high among states as a second round of applications are readied.

## Ten Essential Elements of Statewide Data Systems

1. A unique statewide student identifier that connects student data across key databases and across years
2. Student-level enrollment, demographic and program participation information
3. The ability to match individual students' test records from year to year to measure academic growth
4. Information on untested students and the reasons they were not tested
5. A teacher identifier system with the ability to match teachers to students
6. Student-level transcript information, including information on courses completed and grades earned
7. Student-level college readiness test scores
8. Student-level graduation and dropout data
9. The ability to match student records between the P–12 and higher education systems
10. A state data audit system assessing data quality, validity and reliability

**Using Data To Improve Teaching and Learning:** Although *collecting* better data is essential, knowing how to *analyze and apply this information* is just as important for meeting the end goal of improving student achievement. Longitudinal student data provide information about a student's academic history that can supplement formative and

other assessment data for a variety of policy and practice uses, such as monitoring progress, external and internal benchmarking, program evaluation, predictive analysis, and diagnosis and prescription of educational interventions.

To maximize the benefit of longitudinal student data in the classroom, it is critical to create a culture of data use and equip school leaders with the tools to understand and analyze data. Educators must have support to ensure the ongoing use of student data to tailor instruction and minimize initial guesswork regarding students' strengths and weaknesses. This culture change demands an investment for the training of educators, for providing access to user-friendly data and for ensuring safeguards to protect privacy.

**Reducing Barriers:** A variety of existing policies pose barriers for state and local efforts to develop, provide access to and use longitudinal student data to improve student outcomes.

- **Streamlining data collection.** As the demand for education data has increased, so has the burden on state officials to meet redundant and uncoordinated data requests from state offices, federal agencies, researchers and the private sector. One example of an effort to reduce the burden is a public/private initiative to support a state education data center that would coordinate the collection and dissemination of state education data for both government and nongovernment organizations. State and local policymakers can initiate efforts to eliminate inconsistencies across government and education agencies that currently exacerbate this burden.
- **Coordinating data definitions.** As data are increasingly used to inform policy and practice, the need for those data to be reliable and comparable across jurisdictions also has increased. Unfortunately, a lack of common definitions damages the accuracy and comparability of many indicators and data elements, which in turn undermines data-driven decisionmaking. As often as possible, educators and public officials should use common data definitions.
- **Refining student privacy protections.** During the 30 years since student privacy policies were created, the technology and culture around data collection and use have changed and so has the state role in collecting and using data, resulting in some uncertainty around how privacy policies relate to state agencies and state longitudinal data systems. This ambiguity has led to organizations and individuals being denied appropriate access to educational data under the sometimes mistaken assertion that providing the information would violate student privacy. Although state and local policymakers sanction and support longitudinal data systems, privacy policies need to be updated to clarify appropriate uses of statewide data systems.

**Supporting State Efforts To Build and Use Longitudinal Data Systems:** Policymakers should consider a range of efforts that will help reduce barriers and increase support for the building and use of longitudinal data systems to improve education policy and practice.

- Increase support for the implementation of aligned, interoperable, statewide longitudinal data systems in every state.
- Support capacity building at the state and local levels that enables data use as an essential tool for improving student achievement.
- Encourage the use of common data definitions by educators and public officials.
- Support a means to fulfill common data requests that can help reduce the burden on state and local officials.
- Update student privacy policies to clarify appropriate uses of statewide data systems, such as for sharing data between districts, between states and within states, and among state agencies and for research and tools focused on school improvement and higher student achievement.

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The Data Quality Campaign (DQC) is a national collaborative initiative working to encourage and support policymakers' efforts to fully develop and use longitudinal data to improve education. During the past year, the DQC has generated power behind the issues of data collection, availability and use. A growing network of committed partners at the national, state and institutional levels is shining a brighter and wider spotlight on pragmatic ways to build and use longitudinal data systems to improve educational outcomes. The DQC recognizes that policymakers at every level face important, timely challenges in building and using data systems; it will take significant investment, support and capacity building at the local, state and national levels to achieve that goal. The policy actions noted here reflect the common concerns, shared vision and lessons learned from the growing DQC network.