

# Developing and Supporting P–20 Education Data Systems: Different States, Different Models

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Despite growing national interest in better aligning the P–12 and postsecondary education systems to ensure all students leave high school “college ready,” conversations on this issue will be limited until all states have better data provided by aligned longitudinal data systems. Educators and policymakers need to not only collect data, but also use the information to improve education policy and practice. To do this, they need to know whether schools are preparing students for long-term success in college, postsecondary training and the workplace.

With the ability to match student records between P–12 and postsecondary systems — element 9 of the 10 essential elements of a longitudinal data system (see box, page 8) — policymakers and educators can know how graduates are faring in postsecondary education, including:<sup>1</sup>

- ▶ The percentage of each district’s high school graduates who enrolled in college within 15 months after graduation;
- ▶ The percentage of the previous year’s graduates from each high school or school district who needed remediation in college and how this percentage varied by family income and ethnicity;
- ▶ The percentage of students who met the proficiency standard on the state high school test and still needed remediation in the same subject in college; and

## Highlights

In this brief, find out more about:

- ▶ The state of the nation — states’ abilities to share student records between P–12 and postsecondary systems;
- ▶ Technical and political considerations for aligning P–20 data systems;
- ▶ Four state models for aligning P–20 education data systems;
- ▶ The Data Quality Campaign’s efforts to focus attention on the alignment of P–20 data systems; and
- ▶ Further reports and resources on aligning P–20 data systems to ensure college readiness for all.

- ▶ How students’ ability to stay in and complete college is related to their high school courses, grades and test scores.

In addition, as more data are available, the power of predictive analysis will help educators tailor the academic courses, programs and teaching practices that are proving to be effective for helping all kids graduate from high school ready for college success. Most states today do not have data systems that enable this two-way communication between P–12 and postsecondary. They often have two separate data systems, and while possible, connecting these data systems takes open communication, common goals and planning among the various system stakeholders.

<sup>1</sup>Data Quality Campaign, *Creating a Longitudinal Data System: Using Data To Improve Student Achievement*, November 2007, [www.DataQualityCampaign.org/files/Publications-Creating\\_Longitudinal\\_Data\\_System.pdf](http://www.DataQualityCampaign.org/files/Publications-Creating_Longitudinal_Data_System.pdf).

Therefore, policymakers should consider a range of efforts that will help reduce barriers and increase support for the building and use of longitudinal data systems, and states must continue to build, maintain and align them. This brief highlights four states' models for creating a connected data system that follows a student over his or her education. Currently, there is no "silver bullet" model for states seeking to align P–20

data systems; however, these state case studies offer four distinct approaches that were developed based on the states' unique political and technical environments. The commonality across these states is that they convened diverse stakeholders from P–12 and postsecondary systems to define what they are trying to accomplish and how aligning P–20 data systems will help achieve these goals.

## State of the Nation

### 12 ► 22 Growth in states that report having element 9, 2005–07<sup>2</sup>

The 2007 Data Quality Campaign (DQC) Survey of State Longitudinal Data Systems revealed that 22 states (including the District of Columbia), up from 12 in 2005, report having element 9 of the 10 essential elements of a longitudinal data system (see box, page 8) — the capacity to match student records between the P–12 and higher education systems.<sup>3</sup> Moreover, 26 additional states have plans to align P–20 data systems but have not yet implemented their plans.<sup>4</sup> Although this progress is encouraging, states report that while the technical capacity to link their systems increasingly is attainable, gathering the political will and making connecting and sharing data a priority within a state remain the greatest challenges to aligning data systems.

In fact, a survey conducted in spring 2006 by the National Center for Higher Education Management Systems (NCHEMS) shows the clear disconnect between P–12 and postsecondary systems. NCHEMS examined state student unit record (SUR) systems that include an individual electronic record for each student enrolled in a postsecondary institution or school for each term or year. Although 22 state education agency data managers responded to the DQC survey that the state *has the ability* to connect these two data systems, postsecondary data managers reported on the

NCHEMS survey that 11 states *actually have linked* student postsecondary data with high school records. Moreover, as Figure 1 on page 4 illustrates, the 11 states identified by the NCHEMS survey are not a subset of the 22 states the DQC identified. Rather, four states report having this alignment from the postsecondary perspective but seemingly without involving the state education agency.

In 2007, Achieve, Inc., conducted a survey of state data systems that further elucidates state use of aligned P–20 data systems. By primarily surveying K–12 state policymakers and data directors, Achieve identified just five states that have aligned P–16 longitudinal data systems that match student records from P–12 with higher education. Whereas the DQC survey reports on the capacity to share P–12 and postsecondary student records, Achieve reports on the states that actually do match these records at least once a year and have an operational P–16 longitudinal data system. The difference in these findings possibly points to the lack of understanding, communication and coordination between the state education agency and postsecondary systems, and it speaks to the governance challenges around aligning data systems.

<sup>2</sup>Data Quality Campaign, results of 2007 NCEA Survey of State P–12 Data Collection Issues Related to Longitudinal Analysis, accessed December 11, 2007, [www.DataQualityCampaign.org/survey\\_results](http://www.DataQualityCampaign.org/survey_results).

<sup>3</sup>*Ibid.*

<sup>4</sup>*Ibid.*

## Survey Methodologies

**DATA QUALITY CAMPAIGN (DQC), 2007 NCEA Survey of State P–12 Data Collection Issues Related to Longitudinal Analysis, [www.DataQualityCampaign.org/survey\\_results](http://www.DataQualityCampaign.org/survey_results)**

**Question asked:** Is there a means of matching the student-level P–12 records of individual students with each student's records in your state's public higher education system?

**Primary respondents:** K–12 state data directors. All 50 states and the District of Columbia responded to the 2007 survey.

**Years conducted:** 2003, 2004, 2005, 2006 and 2007

**Survey background:** The Bill & Melinda Gates Foundation has commissioned the DQC and the National Center for Educational Achievement to assess the status of current educational data systems by updating responses to the survey conducted the past three years. This study is vital to educating policymakers about the importance of building and maintaining robust longitudinal data systems to meet the requirements of the No Child Left Behind (NCLB) Act.

**Data collection process:** The DQC distributes a survey to all 50 states and the District of Columbia to assess state progress toward the 10 essential elements of a longitudinal data system. States self-report on the capabilities of their data systems, and the DQC analyzes state answers to determine if the state meets the requirements for having an essential element. The DQC then provides states with an analysis of their progress toward having the 10 elements, at which point states confirm the survey results. The results are released in November.

**NATIONAL CENTER FOR HIGHER EDUCATION MANAGEMENT SYSTEMS (NCHEMS), 2006 comprehensive inventory of state-level student unit record (SUR) capacity, [www.nchems.org/c2sp/sur](http://www.nchems.org/c2sp/sur)**

**Question asked:** Do you link SUR data with high school records?

**Primary respondents:** Postsecondary leaders (state higher education executive officers, agency and university and community college system data administrators). NCHEMS successfully contacted all 50 states and obtained usable documentation for 47 SUR databases in 40 states in 2006.

**Years conducted:** 2002 and 2006

**Survey background:** In April 2003, Lumina Foundation for Education published a comprehensive inventory of state-level SUR capacity — an inventory

conducted in 2002 by NCHEMS. This 2006 report presents the results of a new 50-state inventory undertaken by NCHEMS with further Lumina support.

**Data collection process:** Staff first updated the contacts used for each state in the 2002 study and sent them a letter describing the project. They then asked each contact by telephone or e-mail to provide written documentation about their state's SUR database, including overall descriptions of the system, institutional reporting instructions and formats, data element definitions and dictionaries, applicable data structures and record layouts, and examples of the reports generated by the system. NCHEMS staff reviewed this material to develop initial answers to questions contained in a standard protocol. Gaps in topical coverage were addressed through follow-up phone or e-mail interviews — a process that frequently went through several rounds. After the data were collected, the results were summarized and sent to respondents for final verification.

**ACHIEVE, INC., *Closing the Expectations Gap: An Annual 50-State Progress Report on the Alignment of High School Policies with the Demands of College 2007*, [www.achieve.org/node/844](http://www.achieve.org/node/844)**

**Questions asked:** Does your state have a single P–16 longitudinal data system that tracks students from kindergarten through college graduation? Is your state able to match student records from a K–12 longitudinal data system with student records in the higher education data system(s)?

**Primary respondents:** K–12 state policymakers and data directors. All 50 states responded to 2007 survey.

**Years conducted:** 2006 and 2007<sup>5</sup>

**Survey background:** Achieve surveys all 50 states each year on the key subset of policies from the 2005 National Education Summit on High Schools action agenda that form the basis for the American Diploma Project Network.

**Data collection process:** The survey asks about the states' progress in aligning standards with postsecondary and career expectations; requiring a college- and career-ready curriculum for graduation; developing college- and career-ready assessments; and holding high schools and postsecondary institutions accountable for students' success in high school, college and beyond. Achieve followed up with states and conducted research to supplement state responses. In the end, Achieve modified some responses to make the data comparable.

<sup>5</sup> Achieve, Inc., will release updated survey results in February 2008. This report will be updated to include these new numbers.

**Figure 1. State of the Nation: Survey Results on Matching Student Records between P–12 and Postsecondary Systems**

State	Capacity to share records (DQC, 2007)	Link SUR data with high school records (NCHEMS, 2006)	Single P–16 longitudinal data system (Achieve, 2007)
Alabama	Yes	Yes	Plan
Alaska	Yes	No	No
Arizona	Plan	No	Plan
Arkansas	Yes	Plan	Yes
California	Plan	Plan	Plan
Colorado	Plan	No	Plan
Connecticut	No	Yes	Plan
Delaware	Yes	No	Plan
District of Columbia	Yes	No	Plan
Florida	Yes	Yes	Yes
Georgia	Yes	Yes	Plan
Hawaii	Yes	Plan	Plan
Idaho	Plan	No	Plan
Illinois	Plan	Plan	Plan
Indiana	Plan	Plan	Plan
Iowa	Plan	No	Plan
Kansas	Plan	Yes	Plan
Kentucky	Yes	No	Plan
Louisiana	Yes	Yes	Yes
Maine	Plan	No	Plan
Maryland	Plan	Plan	Plan
Massachusetts	Yes	Plan	Yes
Michigan	Plan	Plan	Plan
Minnesota	Plan	Plan	Plan
Mississippi	Yes	No	Plan
Missouri	Yes	Plan	Plan
Montana	Plan	No	Plan
Nebraska	Plan	No	Plan
Nevada	Yes	Plan	Plan
New Hampshire	Plan	No	Plan
New Jersey	Plan	No	Plan
New Mexico	Plan	Plan	Plan
New York	Plan	Yes	Plan
North Carolina	Yes	No	Plan
North Dakota	Plan	No	Plan
Ohio	Plan	No	Plan
Oklahoma	No	Plan	Plan
Oregon	Yes	Yes	Plan
Pennsylvania	Plan	No	Plan
Rhode Island	Plan	No	Plan
South Carolina	Plan	No	Plan
South Dakota	Plan	Plan	Plan
Tennessee	Yes	Plan	Plan
Texas	Yes	Yes	Yes
Utah	Yes	No	Plan
Vermont	Yes	No	No
Virginia	Plan	No	Plan
Washington	Yes	Plan	Plan
West Virginia	No	Yes	No
Wisconsin	Plan	No	Plan
Wyoming	Yes	Yes	Plan
<b>Total Yes</b>	<b>22</b>	<b>11</b>	<b>5</b>
<b>Total Plan</b>	<b>26</b>	<b>16</b>	<b>43</b>

Sources: Data Quality Campaign, *2007 NCEA Survey of State P–12 Data Collection Issues Related to Longitudinal Analysis*; National Center for Higher Education Management Systems, 2006, comprehensive inventory of state-level SUR capacity; Achieve, Inc., *Closing the Expectations Gap 2007*

## States Making Progress, but Barriers Remain

Although 22 states report having the capacity to share student records between P–12 and postsecondary systems, 34 states, including some credited on the DQC survey with having element 9, report barriers remain to realizing the potential of P–20 data systems alignment. States that have successfully made this connection have done so through a governance system that promotes collaboration, and P–12 and postsecondary data systems are not linked without first defining what it is they should share and why. The reported barriers are almost evenly divided between technical issues (lack of common identifiers and incompatible systems) and political considerations (state law prohibitions, lack of coordination and lack of resources) as seen in Figure 2 on page 6. However, the technical problems can be addressed more easily if the development and use of linked data systems is a political priority in the state.

### Technical Considerations

#### *Lack of common identifiers*

There is no single means for sharing data between elementary, secondary and postsecondary levels of education. As is described in the case studies that follow, some states have a single common student identifier. Some states are developing data warehouses that allow data from all systems to be linked, analyzed and shared appropriately. However, investing in a single data P–20 data warehouse is not needed to share records, and states can share records now by making small adjustments. For example, states can require high schools to put the state’s unique K–12 student identifier on high school transcripts, which allows postsecondary institutions to match student records across systems. In fact, Minnesota and Kentucky employ such an approach, and by mailing letters to high schools

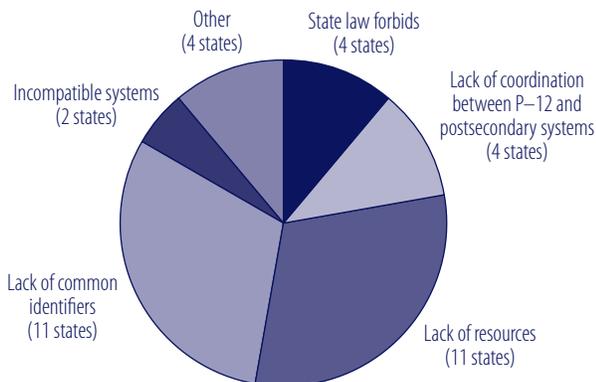
informing them of this new requirement, they have been able to successfully share records with minimal investment.

#### *Incompatible systems*

Although they are at different places with their data systems, states are surmounting incompatible systems by employing immediate solutions such as placing the unique K–12 student identifier on high school transcripts. In other states, postsecondary institutions provide annual feedback reports to individual high schools on the success of their graduates in their first year of college-credit coursework, which gives high schools valuable information for improving the rigor and effectiveness of high school curricula and instruction. (The NCHEMS survey found that only 10 states use their higher education SUR systems to regularly produce feedback reports to districts on such topics as need for remediation, credit enrollment and grade performance.)

Yet another approach, which is being implemented in Indiana and South Carolina, involves electronic transcripts (e-transcripts) — reports that provide agreed-upon data and identifiers in a format that can draw from and populate state longitudinal systems efficiently and effectively. Although e-transcripts are an improvement, particularly in keeping student records consistent within a state, they typically improve only the flow of data from P–12 to higher education. Like feedback reports, they still do not represent the ongoing matching of student records across systems. Although e-transcripts and feedback reports are useful in informing what types of data need to be collected and shared within and across the system(s), each, on their own, represents only the tip of the iceberg in what these systems ultimately can do.

**Figure 2. Common Barriers Reported by P-12 Data Directors To Matching Student Records between P-12 and Postsecondary Data Systems (n=34)<sup>6</sup>**



Source: Data Quality Campaign, 2007 NCEA Survey of State P-12 Data Collection Issues Related to Longitudinal Analysis

## Political Considerations

### State law prohibitions

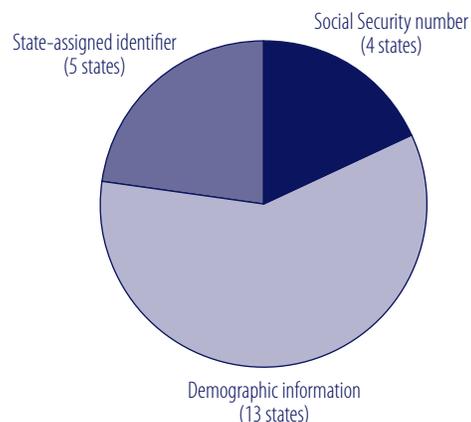
Although federal privacy laws place some restrictions on the exchange of individual records, they do not prohibit states from sharing student records. Several states have worked out ways to make this exchange possible (for specific examples, visit [www.DataQualityCampaign.org/p-20/policies.cfm](http://www.DataQualityCampaign.org/p-20/policies.cfm)). Minnesota and Virginia are recent examples of states pursuing changes to their state laws to allow these data exchanges. Figure 3 illustrates how the 22 states that reported to the DQC having the capacity to match student records across P-12 and postsecondary systems achieve P-20 alignment. The majority of states with this capacity employ demographic data (including variables such as name, date of birth, gender and/or city of birth) to share student records between P-12 and

postsecondary data systems. The remaining states are divided almost evenly between using a state-assigned identifier and a Social Security number.

### Lack of coordination

As states increasingly focus on the need to align policies and practices across elementary, secondary and postsecondary education, there is corresponding growth in the development of collaborative bodies that span the sectors. Having these governance structures that define a common vision and the data needed to achieve these goals is a common characteristic of states that are having success aligning P-20 data systems. In 2006, the Education Commission of the States (ECS) found that 30 states were engaged in some kind of P-20 activity. These initiatives varied widely from major governance changes, such as those in Florida, to establishing P-20 councils. ECS reported in 2006 that five states (Florida, Indiana, North Carolina, Ohio and Texas) passed legislation to establish a P-20 council or initiative and that three more (Missouri, Nevada and Illinois) legislatively mandated the creation of such councils since the report's release.<sup>7</sup> However, most P-20 councils are formed voluntarily or through executive order.

**Figure 3. Means by Which States Match Student Records between P-12 and Postsecondary Systems (n=22)**



Source: Data Quality Campaign, 2007 NCEA Survey of State P-12 Data Collection Issues Related to Longitudinal Analysis

<sup>6</sup>Thirty-four states reported barriers to matching, including New Hampshire and Wisconsin. In these two states, state law forbids matching records. Additionally, New Hampshire and Wisconsin also report lack of resources and "other" barriers, respectively.

<sup>7</sup>Dounay, Jennifer. Telephone conversation with Jennifer Dounay. ECS. January 7, 2008.

Delaware created its P–20 Council through executive order and then enacted legislation to codify it into law.<sup>8</sup>

In 2007, 36 states reported on the DQC survey that they have a statewide group or council that discusses policies related to P–20 data systems. Six states reported these discussions occurred between two separate groups (P–12 and postsecondary), and 29 states reported that a P–20 council addresses alignment within the state (one state was unsure).<sup>9</sup> Although the expansion of P–20 councils is encouraging, these entities must be granted authority over the issues they discuss. Otherwise, they can be limited in their attempts to better align P–12 and postsecondary institutions.

### *Lack of resources*

As stakeholders realize the purpose and potential of these systems, it is easier to free up resources of time and money. In fact, various state models, such as Louisiana, show that aligning P–20 data systems does not have to be expensive, and it does not require waiting to build a data warehouse to start having P–20 conversations with supporting data. Therefore, state policymakers — legislators, governors, state board members, higher education officials, attorneys general and chief state school officers — must work together to ensure that there is the political will to build these state longitudinal data systems, along with the resources, legal clarity around privacy issues, and increased capacity throughout the system to use these data for policymaking and decisionmaking.

## Action Steps for Policymakers

- ▶ Develop and use a mechanism for sharing data between the P–12 and postsecondary systems;

<sup>8</sup>Education Commission of the States, *P–16 Collaboration in the States*, June 2006, [www.ecs.org/clearinghouse/69/26/6926.pdf](http://www.ecs.org/clearinghouse/69/26/6926.pdf).

<sup>9</sup>Data Quality Campaign, *results of 2007 NCEA Survey of State P–12 Data Collection Issues Related to Longitudinal Analysis*, [www.DataQualityCampaign.org/survey\\_results](http://www.DataQualityCampaign.org/survey_results).

## K–16, P–16 and P–20: Building an Integrated System of Education

Efforts to align and coordinate all levels of education are frequently named K–16, P–16 or P–20. Although they all refer to an integrated system of education, there are notable differences among these efforts:<sup>10</sup>

- ▶ A K–16 system integrates a student’s education from kindergarten through a four-year college degree.
- ▶ A P–16 system integrates a student’s education from preschool through a four-year college degree.
- ▶ A P–20 system expands the P–16 system to include graduate school education.

The DQC survey does not distinguish between state capacity to share records that include information on preschool and graduate school education in addition to K–16 data; however, important distinctions do exist. A growing body of research suggests the importance of early childhood education to improving student achievement, so early childhood education should be aligned with K–20 education. Beyond early childhood education, conversations now include linking education to other systems, such as foster care, health and human services, juvenile justice, and workforce, to better align programs and services to meet an individual child’s needs and, in turn, improve child well-being and academic achievement.<sup>11</sup>

States are making tremendous progress on building aligned data systems that share data between K–12 and postsecondary systems; however, further alignment that includes early childhood and graduate school, as well as other social services, is critical to creating an integrated education system. Therefore, the DQC will continue to use P–20 to refer to efforts to integrate education systems, even though it may not capture the current realities of state data systems. Additionally, in the upcoming year, the DQC partners will focus the work around P–20 data systems alignment on connecting to early learning and other critical links.

<sup>10</sup>Education Commission of the States, *P–16 Collaboration in the States*, June 2006, [www.ecs.org/clearinghouse/69/26/6926.pdf](http://www.ecs.org/clearinghouse/69/26/6926.pdf).

<sup>11</sup>Data Quality Campaign, *Linking Education and Social Services Data To Improve Child Welfare*, 2007, [www.DataQualityCampaign.org/files/Meetings-DQC\\_Quarterly\\_Issue\\_Brief\\_091807.pdf](http://www.DataQualityCampaign.org/files/Meetings-DQC_Quarterly_Issue_Brief_091807.pdf).

- ▶ Make investing in aligned data systems, especially P–20 councils, a priority on the agendas of state leaders;
- ▶ Create a single postsecondary repository of student-level data for all public postsecondary institutions.
- ▶ Ensure stakeholder involvement in development of the alignment processes, and build joint ownership of the data and subsequent analyses;
- ▶ Address sustainability of funding for P–20 data systems and research (e.g., staff, technical assistance and future improvements/expansions);
- ▶ Explicitly define policy questions on which information is needed, and develop mechanisms to share data; and
- ▶ Explore linking apprenticeship, job training and workforce information to school performance to evaluate whether schools are preparing students for long-term success in the workplace.

## 10 Essential Elements of a Comprehensive Longitudinal Data System<sup>12</sup>

Although each state's P–12 education system is unique, 10 essential elements are critical to a longitudinal data system:

1. A unique statewide student identifier that connects student data across key databases 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

<sup>12</sup>Data Quality Campaign, *Creating a Longitudinal Data System: Using Data To Improve Student Achievement*, November 2007, [www.DataQualityCampaign.org/files/Publications-Creating\\_Longitudinal\\_Data\\_System.pdf](http://www.DataQualityCampaign.org/files/Publications-Creating_Longitudinal_Data_System.pdf).

## Aligning P–20 Data Systems: Four States, Four Models

### Delaware: Uncovering P–20 Interdependence and the Need for Better Data and Coordination

A series of policies established over many years, recent policy discussions regarding the achievement gap, and the need to improve access to quality curricula and higher education have led to Delaware's decision to develop data links between K–12 and public and private higher education institutions in the

state. An Achievement Gap Action Group focused on ensuring that the needs of all K–12 students were addressed appropriately had been meeting prior to the establishment of a P–20 Council. However, it was clear that improving curriculum, teacher quality and supports in K–12 alone would not ensure better access to higher education without additional study and action.

### ***Governance: Efforts to close the achievement gap led to establishment of P–20 Council***

The P–20 Council was established by executive order of the governor in 2003 and legislatively enacted in 2005. Led by the president of the State Board of Education and the secretary of education, the council has brought together the leadership of all public and private higher education entities, the Legislature, the governor’s office, the business community, and preschool policy advisers. Early policy decisions enabled the council to reach consensus on a number of issues to increase coordination and collaboration across the education system.

One of the council’s first actions established a subcommittee to compare high school graduation requirements to the admissions requirements of colleges and universities in the state. Recommendations of the subcommittee resulted in State Board of Education action in 2006 that revised graduation requirements to ensure that public school graduates would be well prepared for postsecondary success in Delaware and elsewhere. Simultaneously, discussions were ongoing about how to link K–12 student data to higher education. The focus was to determine not only whether students were well prepared to enter higher education, but also whether or not they would be successful once arriving at the college level.

### ***Data Systems Alignment: Driven by policy questions***

Districts and high schools want to know how successful their programs of study are in preparing graduates for higher education; higher education wants to know what preparation results in lower attrition. Equally important is tracking whether or not poor and minority students attain success in higher education.

To provide this information, individual student identification numbers have been assigned to all public education students by the Delaware Department of Education (DDOE) since the mid-1980s. Beginning in

1999, DDOE provided districts with a statewide pupil accounting system that facilitates the electronic recordkeeping and data collection process. Although the system remains voluntary, all K–12 districts and all but one public charter school have chosen to implement the system. This system provides a student-level record of courses taken as well as results of college readiness exams, such as the SAT and advanced placement tests, and the state assessment.

A subcommittee on P–20 longitudinal data worked through policy issues from both the K–12 and the higher education levels. These issues included ensuring that student identification numbers were entered on high school transcripts, linking the K–12 identifier to the college-level identifier and ensuring that students’ rights to privacy were not violated.

Another issue the group grappled with was agreeing on what data elements are common across institutes of higher education and what questions could and should be answered through this system. A data cube — a way to make reporting and analytical activities more accessible to a wider variety of people — was developed and is evolving so that it contains the necessary information for seamless communication between high schools and colleges. The data cube resides within the data warehouse at DDOE. Policies about who may access and how to access the data held in the warehouse also are evolving. The group examined the Family Educational Rights and Privacy Act (FERPA) and used it to inform decisionmaking throughout the development process.

### ***Challenges and Future Plans: Ensuring aligned data are relevant and inform conversations about improving student achievement***

The data cube likely will become part of the Correlates of Achievement Data System that is available on a password-protected basis to all schools and districts. Based on the school-level correlates identified by Paul

Barton in his study *Parsing the Achievement Gap*,<sup>13</sup> this system allows instructional leaders to examine which students are enrolled in which courses, how those students perform on state and other assessments, and by whom they are taught. This system has been designed and deployed not as an accountability tool, but as a resource for study and decisionmaking. Being able to link higher education performance to specific courses, and thus to specific curricula, will provide a more robust set of data that will strengthen the ability of the system to provide stronger curricula, focused professional development and student supports.

No law or regulation requires high schools or institutions of higher education to share these data; rather, the desire to ensure that students are being well served is driving this work. A new P–20 subcommittee has been formed recently to develop an even stronger coordinated effort among K–12 and higher education. The Delaware College Access Network is a collaboration of all Delaware institutions of higher education, DDOE and the Rodel Foundation of Delaware.

### **Kentucky: Leveraging Current and Improving Future Systems To Provide Feedback to High Schools and Improve Postsecondary Success**

Recently, Kentucky’s K–12 data system stopped using Social Security numbers as its primary student identifier in favor of using a state-assigned unique identifier to improve the integrity of the data. Implementation of the new identifier is still in the very early stages. Due to its recent development, this identifier does not yet appear on student transcripts, and students do not know what it is, so they cannot provide it during postsecondary admissions processes. Although the lack of common identifiers currently inhibits sharing student-level data across systems, Kentucky nonetheless leverages its current data systems to provide high schools the feedback they need to improve postsecondary success.

### ***Data Systems Alignment: School and district data now, student data in the future***

Kentucky agencies are able to exchange school and district data by matching demographics across P–12 and postsecondary data systems. The Kentucky Department of Education — representing K–12 — and Kentucky Higher Education Assistance Authority (KHEAA) — representing student financial aid — provide school and district data to the Kentucky Council on Postsecondary Education (CPE), which manages and matches these data across P–12 and postsecondary data systems.

Student unit-level data are collected from public and independent private postsecondary institutions. Public institutions are compelled to share data, while private colleges and universities participate voluntarily. The postsecondary institutions collect some high school information from transcripts, including students’ high school grade point average and whether they completed the state’s recommended precollege curriculum, and report it to CPE. Through the KHEAA databases, Kentucky also gathers some information about students who attend private high schools as part of the collection of data required to participate in Kentucky’s merit scholarship system. Although it does not have student-level data, CPE is able to align P–12 and postsecondary data to create a comprehensive and user-friendly high school feedback report.

### ***Benefits: Identifying school factors that influence postsecondary experience***

Using data provided by the Kentucky Department of Education and KHEAA, the CPE high school feedback report includes information about college preparation, where students go to college, what majors they select, how well they perform academically (measured via grades), and how well they are retained and persist.

<sup>13</sup>Barton, P., 2003. *Parsing the Achievement Gap: Baselines for Tracking Progress*. Princeton, NJ: Educational Testing Service. [www.ets.org/Media/Research/pdf/PICPARSING.pdf](http://www.ets.org/Media/Research/pdf/PICPARSING.pdf).

Kentucky implemented this feedback report in 2007 for the high school class of 2004, with generous funds provided by the National Governors Association and the Lumina Foundation. It follows students for two years into college, so the data are always dated to allow for college-performance information. Copies of the report are sent to school districts, principals, school board members, the media and other affected groups.<sup>14</sup> The creation of the reports takes a considerable amount of staff time and effort, but this is only the first stage of the process. CPE staff personally go to meetings across the state to review the findings with school boards, community groups and school districts.

The reports are used to stimulate discussion and help provide transparency so that parents, school boards, the media and even students can understand how well their schools' students perform in college. In the end, those are the people who can decide if they are satisfied with the results or if they would like to ask the schools how they will improve.

Kentucky also has linked records between the systems to evaluate specific initiatives, such as the state's GearUp programs, that do require student-level information. These efforts have been limited without a solid longitudinal systematic process; however, Kentucky plans to conduct these analyses on a more consistent basis once a P–20 data warehouse is created.

### ***Challenges and Future Plans: Implementing unique student identifiers and building a P–20 data warehouse***

Kentucky's K–12 and postsecondary state authorities along with the teacher licensure agency and financial aid body (KHEAA) have been meeting for the past two years to discuss the creation of a P–20 data warehouse that likely would be housed in an independent location, such as the state's education cabinet. Moreover, Kentucky's P–16 Council, which

develops resolutions and recommendations, passed a resolution at its September and December 2007 meetings to support the development of a P–20 data warehouse. Kentucky estimates the cost will be between \$3 million and \$7 million, depending on the features implemented.

Improving the implementation of the state-assigned unique identifier is an urgent priority; however, further funding is needed from either the state or other sources to bring the data together into an integrated system. Kentucky also seeks an updated interpretation of FERPA from the federal government to eliminate any major concerns agencies may have about sharing data. When the P–20 warehouse system is functional, Kentucky would like to provide appropriate and secure access to the state's educational researchers to provide even greater use of the information to policymakers. Even with this access, the intention is to remove any identifying information from the data before researchers could use them. Student-level security is a top priority in all conversations about this initiative.

## **Louisiana: Multiple Agencies and Data Systems Sharing a Single Commitment to Using Data To Improve Student Achievement**

Because it leveraged the political will to share and use data for student improvement, Louisiana has one of the oldest data systems capable of sharing student records between P–12 and postsecondary systems. It has been sharing data since 1994–95 but has done so without building a comprehensive P–20 data warehouse like other states.<sup>15</sup> Rather, Louisiana has used its existing resources to build robust P–12 and postsecondary data systems and has created ad hoc data systems that share

<sup>14</sup>They also are available at [http://cpe.ky.gov/news/reports/hsfr\\_embargoed.htm](http://cpe.ky.gov/news/reports/hsfr_embargoed.htm).

<sup>15</sup>Data Quality Campaign, results of 2007 NCEA Survey of State P–12 Data Collection Issues Related to Longitudinal Analysis, accessed December 11, 2007, [www.DataQualityCampaign.org/survey\\_results](http://www.DataQualityCampaign.org/survey_results).

information as demanded by various policy initiatives aimed at improving student outcomes.

***Governance: Political will surmounts technical challenges***

Louisiana did not have the resources to invest in a single P–20 data system. Although it has robust P–12 and higher education data systems, policymakers needed the more comprehensive information provided by aligning and adding data to existing systems. Using student Social Security numbers and protecting privacy, Louisiana is able to share data and connect new systems by employing this link.

Just as Louisiana does not have a single P–20 data system, it also does not have a single agency that has authority over maintaining and sharing data. Instead, agencies work together to share data. Louisiana created this culture of collaboration by acknowledging the interdependence of P–12 and postsecondary systems for ensuring student success. The primary entities that serve as policy drivers are the Board of Regents, Board of Elementary and Secondary Education, the Legislature, and the governor’s office. Moreover, the Louisiana Office of Student Financial Assistance is an important customer that uses the data as it administers Tuition Opportunity Program for Students (TOPS), the state merit scholarship program, which is an influential and important program in Louisiana. The Louisiana Department of Education collaborates with the policymaking boards to execute data analyses and sharing. However, through stringent interagency agreements, all agencies collaborate in using P–20 data to provide feedback to P–12 and postsecondary institutions to improve student outcomes throughout the education pipeline.

***Benefits: Streamlined information, reduced burden and improved data quality***

As a result of sharing data between P–12 and postsecondary systems, Louisiana has implemented various policy initiatives that not only improve

information on student outcomes, but also empower the staff to better analyze the data and improve the quality of data by having P–12 and postsecondary systems view and validate each other’s data.

***First-Time College Freshmen State Report***

The Louisiana First-Time College Freshmen State Report provides detailed findings on high school graduates who were enrolled full time in one of 33 Louisiana higher education institutions in the fall semester following high school graduation. Since the mid-1990s, Louisiana has provided high schools feedback reports on how their graduates perform in college. These reports include information such as the number of high school graduates enrolled in higher education, the percentage that take developmental classes, which classes they take and more. Both public and nonpublic high schools receive these feedback reports, and their graduates are tracked in both public and nonpublic colleges and universities. High schools can use this information to evaluate the success of their graduates and how they can improve secondary instruction to improve postsecondary success.

***Student transcript system***

The Louisiana Department of Education, in conjunction with the Louisiana Office of Student Financial Assistance and the Louisiana Board of Regents, created the Student Transcript System (STS), which enables school districts, along with charter schools, laboratory schools and nonpublic schools, to transmit high school student transcript data electronically. The Department of Education maintains and analyzes the data. The Board of Regents then reports the data publicly and makes the information available to colleges and universities as requested by students. STS currently is in its sixth year of collection. Student transcripts include course-level transcript data that are evaluated to monitor the progress toward completion of Louisiana’s core curriculum and to consistently calculate student grade point averages. Moreover, the student transcript allows for a consistent evaluation of

high school transcripts for TOPS — Louisiana’s merit scholarship program — and admission to public universities. Beyond improving data quality and consistency, STS also alleviates burdens on school counselors and state employees at colleges and universities. School counselors no longer have to spend a substantial amount of time using complex formulas to calculate the TOPS core grade point averages, administrators do not have to validate paper transcripts and college counselors do not have to evaluate transcript data for admission decisions.

#### **Value-added assessment of teacher preparation**

Since 2000–01, teacher preparation programs in Louisiana have focused their attention on the development of high-quality programs. The Board of Regents supported studies during 2003–07 that tested the use of a new Value-Added Teacher Preparation Program Assessment Model that has the capacity to examine the growth in children’s achievement and link growth in student learning to teacher preparation programs. Moreover, Louisiana recently has made public the value-added scores of teacher preparation programs for public colleges, nonpublic colleges and private providers. High school graduates eventually will be able to use this information when selecting a teacher preparation program, and colleges can use these data to improve the preparation of their graduates.

#### ***Challenges and Future Plans: Keeping pace with data demands***

Louisiana spends considerable time managing and balancing the expectations of consumers of data as a direct result of the agencies’ interest in and commitment to maintaining flexible, scalable, quality data systems for decisionmakers. These systems benefit constituents and better educate the citizenry. With no future plans to scale back on data alignment, Louisiana will need to leverage its resources and continue to maintain the political will to share data between P–12 and postsecondary systems.

## **Minnesota: Working Collaboratively To Identify and Support What Students Need To Succeed in Postsecondary Education**

Minnesota has enjoyed a long history of excellence at all levels of education. According to the 2006 American Community Survey, of the state’s residents ages 18 or older, 10 percent have not completed high school; 29 percent have completed only high school; 24 percent have some college (but no degree);<sup>16</sup> and 37 percent have an associate, a bachelor’s or a graduate degree. However, changing demographics and increased international competition have provided the state with both challenges and opportunities.

Some of the challenges facing the state include an aging population, a declining number of high school graduates, a projected increase in the immigrant population, and a significant achievement gap between students of color and white students.<sup>17</sup> Once the students arrive at college, the gap between students of color and white students persists. After six years at a four-year institution, the proportion of full-time, first-time, first-year students in each racial/ethnic group that had neither graduated nor transferred was 51 percent for black students, 57 percent for American Indian students, 43 percent for Asian students and 42 percent for Hispanic students. At two-year institutions, after three years, the proportion of full-time, first-time, first-year students in each racial/ethnic group that had neither graduated nor transferred was 60 percent for black students, 66 percent for American Indian students, 57 percent for Asian students and 57 percent for Hispanic students.<sup>18</sup>

<sup>16</sup>The American Community Survey does not gather data about certificates and diplomas, which certainly could be part of this group.

<sup>17</sup>Minnesota State Demographer.

<sup>18</sup>Based on fall 2000 (four-year) and fall 2003 (two-year) cohorts.

The education system in its entirety clearly must work to close the achievement gap. To ensure that each student has a chance to be successful regardless of his or her background, Minnesota has begun to analyze and identify programs and interventions that will improve students' postsecondary achievement. One important step is to begin looking at how to share selected aggregate data with P–12 and higher education leaders to drive research that can identify what does and does not work and determine if resources are sufficient and targeted effectively.

### ***Governance: Minnesota P–16 Education Partnership***

The Minnesota P–16 Education Partnership is tasked with improving the student transition from P–12 to postsecondary education. The partnership is an advisory group with stakeholders participating on a voluntary basis. It was created by Minnesota P–12 and higher education stakeholders who recognized the value of collaborating across the P–16 continuum and involving a broad range of participants. Formed in 2003, the membership includes the Minnesota State Colleges and University System, University of Minnesota, Minnesota Department of Education, Minnesota Private College Council, Minnesota Career College Association, Minnesota PTA, Education Minnesota (the teachers union), and others.<sup>19</sup> The group has met regularly since its inception, with work focused on several key areas each year. One workgroup, the P–16 Student Identification System Working Group, was developed to help determine what aggregate P–12 and higher education data should be collected and potentially shared.

### ***Data Systems Alignment: P–16 Student Identification System Working Group***

Calls to share student records between P–12 and postsecondary data systems became a national priority with the U.S. secretary of education's Commission on the Future of Higher Education, which recommended the

creation of a “privacy-protected student-level data system — similar to what currently exists for K–12 students.”<sup>20</sup> Security and privacy concerns have stalled development of such a system on a national scale. Minnesota chose to pursue this initiative at the state level, recognizing the need to bring together stakeholders — school boards, school districts, and public and private colleges — to work through these issues.

The P–16 Student Identification System Working Group decided which data elements were necessary to collect. Many of the elements already were being collected (e.g., race and ethnicity), while others (e.g., participation in college readiness programs and completion of college-level courses) were not. To partially address privacy and security concerns, the group suggested that the existing K–12 student identifier be used. The Minnesota Automated Reporting Student System (MARSS) is an individual student record system that serves as the Department of Education's primary reporting system for student data. Each K–12 student enrolled in public school is assigned a MARSS number that he or she carries throughout K–12.

### ***Challenges and Future Plans: Identifying what data elements to collect and how***

The P–16 Student Identification System Working Group has convened regularly for the past two years and will continue to do so until the P–16 data system is established. The working group continues to decide which data will be collected and how. In addition, the group is focusing on issues around student privacy. Being able to use data to determine what leads to student success is critically important to Minnesota parents, teachers and policymakers, who have an interest in each student's success.

<sup>19</sup> Education Commission of the States, *P–16 Collaboration in the States*, June 2006.

<sup>20</sup> U.S. Department of Education, *Secretary Spellings Announces Plans for More Affordable, Accessible, Accountable and Consumer-Friendly U.S. Higher Education System*, September 26, 2006, [www.ed.gov/news/pressreleases/2006/09/09262006.html](http://www.ed.gov/news/pressreleases/2006/09/09262006.html).

## Focusing on the Alignment of P–20 Data Systems: A Look Ahead at Year Three of the DQC

The DQC will focus in its third year on the need to develop links between P–12 and postsecondary data systems to ensure that these alignment conversations are informed by high-quality, relevant and timely data. The DQC will assist states as they build aligned data systems that can help them:

- ▶ **Match academic records of individual students between P–12 and postsecondary systems, and use these data to ensure continuous feedback and improvement.** Although 22 states reported to the DQC that they have the ability to link P–12 and postsecondary data systems, the 2006 NCHEMS survey found that only 11 states actually link postsecondary SUR data to high school records, and only 10 states regularly report postsecondary data to high schools. Without this two-way data sharing, secondary school systems will not know if their students are leaving high school prepared for the demands of postsecondary education, training and work.
- ▶ **Measure the education pipeline.** As education systems increasingly become aligned through standards, assessments and other measures, providing information about successful transitions and “leaks” in the pipeline is equally vital. Longitudinal data on student course completion, grades, test scores and remediation rates can serve as college readiness indicators.
- ▶ **Transfer records across systems and states.** In an increasingly mobile world, not only do education data systems need to be able to exchange information with other systems — such as postsecondary — within the state, but they also need to be able to exchange information with systems in other states.

## Conclusion

Opening the lines of communication between P–12 and higher education is critical to ensuring that students succeed at both the secondary and postsecondary levels. Connecting student performance in college to what happens in high school will give high schools the information they need to align curriculum and instruction to ensure that graduates are better prepared

for college and work. Most states have the technical know-how to ensure that data can be shared between the systems. Moving forward, building the political will to invest in the technology and people to ensure that these systems are linked and used to improve student achievement outcomes remains an urgent and ongoing priority.

## Resources

Following is a selection of the resources available on the P-20 Alignment section of the DQC's Web site. This online clearinghouse is updated continually and provides information on P-20 data systems alignment and how states are responding to the growing demand for better information on the education pipeline. For more information, please visit [www.DataQualityCampaign.org/p-20](http://www.DataQualityCampaign.org/p-20) and check back often for updates.

L'Orange, H. P. and Ewell, P., *P-20 Data Systems: An Alignment Status Report*, 2007, DQC, [www.DataQualityCampaign.org/files/Meetings-DQC\\_Quarterly\\_Issue\\_Brief\\_061306.pdf](http://www.DataQualityCampaign.org/files/Meetings-DQC_Quarterly_Issue_Brief_061306.pdf).

State Higher Education Executive Officers, *More Student Success: A Systemic Solution*, 2007, [www.sheeo.org/k16/StudSucc2.pdf](http://www.sheeo.org/k16/StudSucc2.pdf).

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National Center for Higher Education Management Systems, *Critical Connections: Linking States' Unit Record Systems to Track Student Progress*, January 2007, [www.nchems.org/pubs/detail.php?id=70](http://www.nchems.org/pubs/detail.php?id=70).



The Data Quality Campaign is a national, collaborative effort to encourage and support state policymakers to improve the collection, availability and use of high-quality education data and to implement state longitudinal data systems to improve student achievement. The campaign aims to provide tools and resources that will assist state development of quality longitudinal data systems, while providing a national forum for reducing duplication of effort and promoting greater coordination and consensus among the organizations focusing on improving data quality, access and use.

The Data Quality Campaign has 14 managing partners and numerous endorsing partners. For the list of partners and more information, please visit [www.DataQualityCampaign.org](http://www.DataQualityCampaign.org).

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