

STRONG FOUNDATIONS

The State of State Postsecondary Data Systems

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PREFACE

Strong Foundations: The State of State Postsecondary Data Systems, prepared by the association of State Higher Education Executive Officers (SHEEO), describes existing state postsecondary student-level data systems and provides examples of how they have been used.

State-level data systems serve two primary purposes: 1) they can monitor the progress of individual students as they move from one school to another in our educational system; and 2) they can help assess the effectiveness of policies and practices to promote student success, including transfer policies, admission policies, high school preparation, high school counseling, degree completion, and student financial assistance. These systems provide valuable feedback to both educators and policy makers seeking to improve educational outcomes.

The value of student unit record databases has recently been powerfully demonstrated by an important new book, *Crossing the Finish Line: Completing College at America's Public Universities*, by William G. Bowen, Matthew M. Chingos, and Michael S. McPherson. Their analysis yielded important insights about ways to increase college completion rates for academically talented, low income students, which would have been impossible without employing unit record databases in a number of states.

To provide all the benefits described above, it is necessary to collect and analyze data on individual students, while safeguarding the privacy of individual records. Effective privacy safeguards normally employ several dimensions. First, the databases are secure from non-authorized access, using essentially the same tools and procedures employed in confidential employment, bank, health care, and governmental databases. Second, the databases are used not to study *individuals*, but to analyze the aggregated experience of *groups* of students with similar characteristics. Such analyses frequently use a unique student identifier which has no other function, and other information that might identify individuals is stripped from the records. Third, and most importantly, these databases are not designed to be comprehensive. While they often include many data elements, they are much less comprehensive than the individual student records schools and colleges normally require and retain on individuals.

The more extensive personal data on students contained in the files of schools and colleges are employed by instructors and counselors who work directly with individual students. In order to serve individual students well, teachers and counselors often need access to sensitive personal information that has no relevance to policy development or institutional performance. While it seems clear that the Family Educational Rights to Privacy Act (FERPA) was written primarily to safeguard students from inappropriate disclosure of the sensitive personal records retained by schools and colleges, the safeguards described above hold state level postsecondary data systems to the same high standards of privacy protection.

These data systems can be extremely valuable in helping systems become more effective as policies are designed to help both students and states meet their goals. Longitudinal data are just as necessary for diagnoses on systems and policies as personal information is for diagnoses on individuals. This report is designed to inform states and those

working to develop or enhance these state systems and relevant educational policies. The results show that there is more than one way of building these systems, but we hope the findings encourage the sharing of effective practices and increase dialogue within and among states. These data systems are likely to play a vitally important role as state political and postsecondary leaders search for effective ways to increase educational attainment, and represent the strong foundations our country needs to move forward.

INTRODUCTION

Purpose of the Study

This report addresses the question: What are the characteristics and uses of state-level student unit record (SUR) systems at the postsecondary level across the country? It provides descriptions of 59 state-level postsecondary data systems with SUR data located in 44 of the 50 states and the District of Columbia (hereafter 45 states). The 59 agencies/entities that participated in this study account for at least 93 percent of the nation's full-time equivalents (FTEs) [SHEEO 2010].

The unit of analysis in the study is state coordinating and governing boards of higher education and other state agencies/entities with responsibility for collecting postsecondary data at the unit record level. The report seeks to identify the background, similarities, and differences in data structure and current uses of student-level data in responding to this report's guiding research question. Agencies/entities are the units of analysis due to the complexity of state oversight structures. Ten of the states included in this study have more than one state postsecondary data system, and, therefore, one should use caution when making state-level rather than agency/entity-level generalizations (see *Coverage of SURs in this study*).

Organizational Context

The study describes state postsecondary data systems, a task made complex by the organizational reality that there is often no single, uniform entity or organization within a state to respond to survey questions associated with state postsecondary data systems. Rather, each state has a unique organization that implements and oversees the collection of its postsecondary data. State postsecondary data systems, then, reflect state oversight differences and are an amorphous group. There is often more than one postsecondary data system per state. They may be within a coordinating or governing board of higher education or another state agency or entity. They may contain data from only one institution of higher education, several institutions, institutions within a defined system, or all institutions in the state. Further, they may contain student data in the aggregate (not explored in this study) or at the unit record level. Ultimately, state constitutions and laws dictate coordinating and governing board missions, duties, and responsibilities, affecting the shape of each state's postsecondary data system. Understanding these differences is critical to the discussions currently taking place in the design, function, and goals of state P-20 data systems.

Methodology

This study was conducted by the State Higher Education Executive Officers (SHEEO), a membership organization of statewide coordinating and governing boards of higher education. It took place in two phases: phase 1 consisted of an online survey (also available in paper format) about the characteristics and goals of state postsecondary data systems and phase 2 consisted of an analysis of data elements listed in the data dictionaries for these systems.

Establishing the universe of postsecondary student unit record systems is difficult because of the organizational realities described above. To develop the initial list of data

systems to be considered for inclusion in this study, SHEEO used Web searches, e-mail, and phone interviews to identify eligible postsecondary data systems in each of the 50 states. From this initial list, SHEEO selected SHEEO members, as well as non-SHEEO members with high percentages of undergraduate enrollments (SHEEO 2010). This two-stage approach resulted in 60 agencies/entities in 45 states being invited to participate in the study using a combination membership list and purposive sample of state data systems.

Fifty-nine of the 60 invited agencies/entities in 45 states participated in phase 1 (survey), corresponding to a 98 percent response rate. Forty-seven of these 59 agencies/entities participated in phase 2 (data elements), corresponding to an 80 percent response rate.

Appendix A contains a detailed description of study methodology, and associated documents are available in **Appendices B** through **D**.

As a supplement to phase 2, Synergy Enterprises, Inc. (SEI) and the Applied Engineering Management Corporation (AEM) conducted a comparative analysis of specific data element definitions from the 28 available data element dictionaries that respondents provided to SHEEO during the first phase of data collection. The 26 agencies or entities that provided the 28 data element dictionaries represent 44 percent of the study population. SEI-AEM compared the similarity of 39 data elements to their equivalents within the Integrated Postsecondary Education Data System (IPEDS) Data Dictionary (2007), or, when applicable, to definitions from other sources, including those used in the Lumina Foundation report *Following the Mobile Student: Can We Develop the Capacity for a Comprehensive Database to Access Student Progression* (Ewell, Schild, and Paulson 2003). The National Center for Higher Education Management Systems (NCHEMS) conducted the research for this Lumina report, which was its precursor to *Critical Connections: Linking States' Unit Record Systems to Track Student Progress* (Ewell and Boeke 2007). **Appendix E** contains a list of the data elements SEI-AEM used in its comparison as well as the rubric developed for analysis.

Cross-Cutting Issues Related to Student Transitions

While the main focus of this report is on the postsecondary information contained in these state data systems, attention is dedicated to students' movement and progression from school to work, which begins with the student's K–12 education, continues through college, and progresses as the student enters the state workforce. This study therefore examines the postsecondary sector's ability to engage and share information with its state education (K–12) and labor/workforce agencies to explore issues such as remediation and a state's workforce attainment gain when its students remain in the state to work.

Organization of the Report

This report is organized into six sections:

- ▶ General characteristics and general information;
- ▶ Analysis of data elements spanning from K–12 education through participation in the labor force;
- ▶ Ability of state postsecondary SUR systems to inform discussions about P-20 pipeline and student success issues;
- ▶ Key findings and observations;
- ▶ References; and
- ▶ Appendices.

The full report, responses from each participating agency/entity, and other summaries are available online: <http://www.sheeo.org/sspds>.

CURRENT STATUS OF STATE POSTSECONDARY DATA SYSTEMS

General Findings and General Characteristics

- ▶ Forty-five states (including the District of Columbia) have at least one student unit record (SUR) system (a total of 59 systems).
- ▶ All 45 states collect student demographic and postsecondary enrollment data.
- ▶ Nineteen states collect data from independent, nonprofit institutions.
- ▶ Thirty-nine states link, share, and/or exchange data with other state agencies/entities.
- ▶ Most states release aggregate data, and 27 states consider and approve requests for unit record data that are compliant with the Family Educational Rights and Privacy Act (FERPA).

This section includes general information about state postsecondary data systems in the following categories:

- ▶ Number and scope of SUR systems across the country and in this study;
- ▶ Types of postsecondary institutions submitting data to the state postsecondary agency/entity (public 2- and 4-year, independent (nonprofit), and for-profit institutions);
- ▶ Types of data included in SUR systems, including student-specific data;
- ▶ Ability of state postsecondary agencies/entities to expand postsecondary data sets by integrating with those of other agencies/entities within the state, including state education (K–12) and labor/workforce agencies; and
- ▶ Information on access to SUR data across the country.

Number and scope of SURs nationwide

Forty-five states (including the District of Columbia) have at least one state-level postsecondary SUR system.¹ Twenty-nine states have between two and five systems, representing the 2- and 4-year sectors and financial aid agencies/entities, among others – for a total of 92 SUR systems identified as of this study. Not surprisingly, the design and capacity of these systems vary considerably across the states.

Coverage of SURs in this study

SHEEO invited 60 of the 92 identified agencies/entities to participate in the study based on SHEEO membership, institutional coverage, and percentages of undergraduates enrolled.² These considerations led to the selection of more than one system

¹ As of this study, Delaware, Idaho, Michigan, Nebraska, and New Hampshire do not have state postsecondary SUR systems. The Iowa College Student Aid Commission and the Iowa Department of Education do have such systems containing postsecondary data, but study limitations did not permit including them.

² Although study limitations necessitated that SHEEO invite a subset of the 92 identified agencies to participate, the plan for future studies is to invite all identified SURs.

in **California, Florida, Minnesota, New York, North Carolina, Oregon, Pennsylvania, Vermont, Washington, and Wyoming**.³ The study ultimately collected information from 59 SUR systems across the 45 states (**Appendix G**).

Uses and purposes of SURs

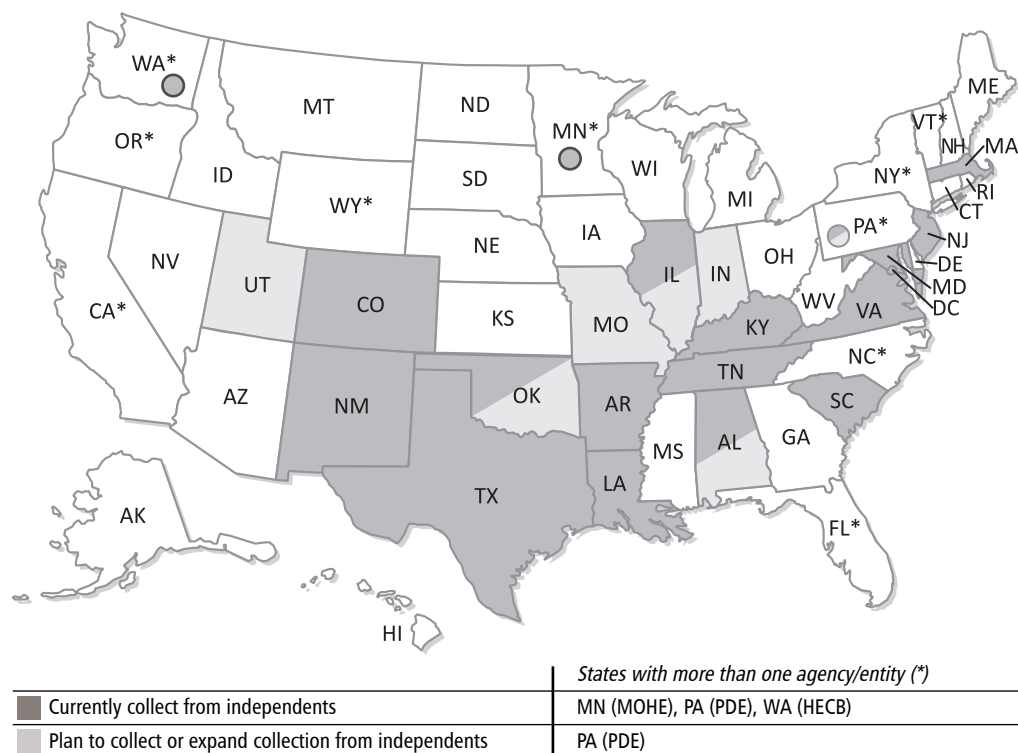
Among the **44 states** for which information was available about uses and purposes of SUR data, the most frequently cited purpose of the SUR system is for generating reports and statistics (58 SURs), followed by decision-/policymaking (57 SURs), and research (56 SURs).

Institutional coverage

While **39 out of 45 states** collect data from both public 2- and 4-year institutions (the remaining 6 states collect from either public 2- or 4-year institutions), the number collecting data from independent, nonprofit institutions is growing. Currently, 19 SURs in **19 states** contain data from such institutions, 3 additional states are planning to do so in the next 2 years (see **Figure 1**), and 4 of the 19 states plan to increase the number of independent institutions from which they collect data. Seven states collect data from for-profit institutions, 3 more states plan to do so within the next 2 years, and 1 state plans to expand its collection to additional for-profit institutions. Several states collect data from both types of these institutions because state residents are eligible for state financial aid regardless of the institution they attend.

In 2006, 17 states collected data from independent, nonprofit institutions (Ewell & Boeke 2007).

Figure 1:⁴ Nineteen SURs in 19 states collect data from independent institutions



³ **Appendix F** contains the abbreviations used for the multiple agencies/entities in these 10 states.

⁴ Map legends show the applicable agencies/entities for states with multiple SURs.

Types of postsecondary data collected

Fifty-eight SURs⁵ in the **45 states** collect student demographic and postsecondary enrollment data, and 54 SURs in **43 states** collect completions data (depending on their responsibilities); however, the data stored vary considerably in terms of postsecondary academic history, specific course-level information, financial aid, and faculty/staff (see **Table 1**).

Table 1: Types of data in state postsecondary SUR systems

Type of data	Number of states	Number of SURs
Demographic	45	58
Postsecondary enrollment	45	58
Completions	43	54
Postsecondary academic history	38	46
Course-level information	37	44
Financial aid	37	45
Academic program inventory	37	43
Noncredit instructional activity	33	37
Faculty/staff	24	29
Finance	21	24
Facilities/capital projects	20	21
Adult Basic Education	17	17
Institutional characteristics	15	17

There are two reasons that the study team selected 13 types of data and associated data elements. Many of these data types were included in the *Critical Connections* report (Ewell & Boeke 2007) that this study aims to update and expand. Data on academic program inventory, faculty/staff, facilities/capital projects, and institutional characteristics were included because of their relationships to students' progression through the education pipeline and what students learn.

Types of nonpostsecondary data collected

In the 45 states, 37 SURs in **32 states** collect and store K–12 academic history data, and 15 SURs in **15 states** collect and store labor, workforce, and/or Unemployment Insurance (UI) wage record data. However, some or all of the K-12 data may be collected from the student during the admissions process. In many states, formal linkages, data sharing, and data exchanges with other state agencies further increase their capacity to better understand their student population via access to additional data elements (see *Linkages*). The term link is used broadly to refer to these various relationships between agencies/entities.

The Social Security Number (SSN) is the primary identification number used for matching student data with those of other state agencies/entities, but when matching to the state

⁵ The types of data for the New York State Education Department Office of Higher Education were unavailable during data collection because this agency is currently building its SUR system. As such, the number of SURs in **Table 1** is 58, not 59.

education agency (K–12) data, the K–12 identification number is almost always used along with SSN.⁶ To legally enable these relationships, the vast majority use memoranda of agreement and, fewer states, legislation, with a handful of states relying on executive mandates, administrative rules or regulations, and attorney general opinions or statements. Concerns about FERPA, resources, and a lack of common identifiers/crosswalks are the most commonly cited barriers to the linking of data.

Linkages

Forty-six SURs in **39 of the 45 states** have a formal relationship within which data are linked, shared, and/or exchanged with another state agency or entity (see **Table 2**).⁷

Linkages with other state data systems are expanding as sharing becomes more feasible and valuable (see text box). In 8 states, linking arrangements exist with: several other state postsecondary agencies/entities⁸ (**California, Oregon, Wisconsin, and Washington**), an institution of higher education (**Illinois**), a city K–12 agency (**New York**), a state bank (**North Dakota**), a state tax commission (**Oklahoma**), and an entity within a governor’s office (**Washington**).

In **Florida**, the Florida Department of Education is the only agency with linking arrangements to foster care and juvenile detention agencies. **Alaska**⁹ is the only state with a linking arrangement to a health agency (via the University of Alaska Statewide System). **Florida** and **Virginia** are the only states with links to state correctional agencies.

Table 2: Extent of linking, sharing, and/or exchanging data with other state agencies

State Agencies Link, share, and/or exchange with:	Number of states	Number of SURs
One or more agencies/entities within state	39	46
State labor/workforce agency	26	27
State education agency (K–12)	23	27
State financial aid agency	14	16
Other agency/entity	8	10
Motor vehicle division/department	4	4
Human services agency	3	4
Pre-K/early childhood agency	3	3
Corrections	2	2
Foster care agency	1	1
Health agency	1	1
Juvenile detention	1	1

In 2006, **19 states** occasionally linked post-secondary SUR data with other SUR systems (Ewell & Boeke 2007). This SHEEO study broadened the potential lists of external links.

⁶ In addition, 38 SURs in **33 states** use the SSN as an internal primary key, but in 6 states, 8 SURs plan to discontinue use of the SSN as an internal primary key, even though those agencies/entities will continue collecting SSNs.

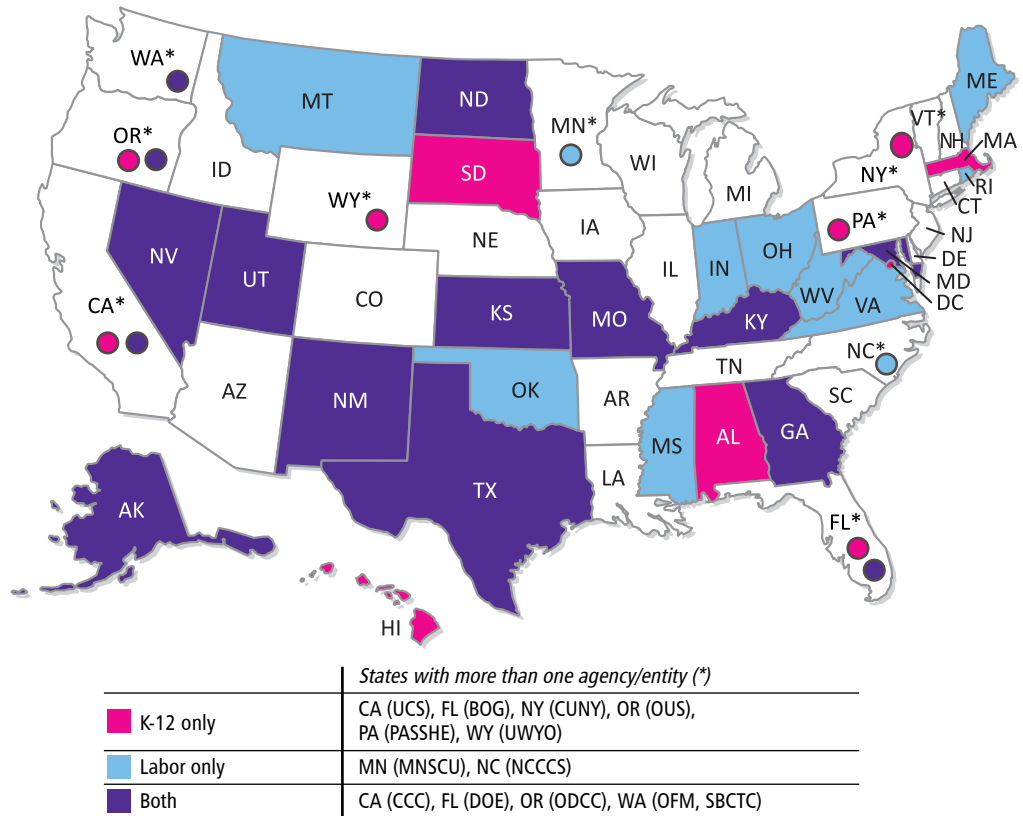
⁷ No states currently link, share, and/or exchange data with child protective services.

⁸ As the questionnaire did not ask explicitly about linkages with other state postsecondary systems, the number of states responding that they had such linkages may be higher than reported. However, see the text below **Table 5** on financial aid agencies.

⁹ In December 2009, the state education agency (K–12) in Alaska submitted an application for a U.S. Department of Education *State Longitudinal Data Systems* grant that will include the University of Alaska Statewide System and the Alaska Commission on Postsecondary Education (a state postsecondary entity currently without an SUR). The goal is to link these systems with labor data, and to use the unit record database of the Alaska Permanent Fund to match and validate labor data. The Alaska Permanent Fund Dividend was established in the late 1970s as a way to redistribute a percentage of Alaska’s oil and mineral profits to each eligible Alaskan, including college students within and outside the state who retain their Alaskan residency (State of Alaska 2010).

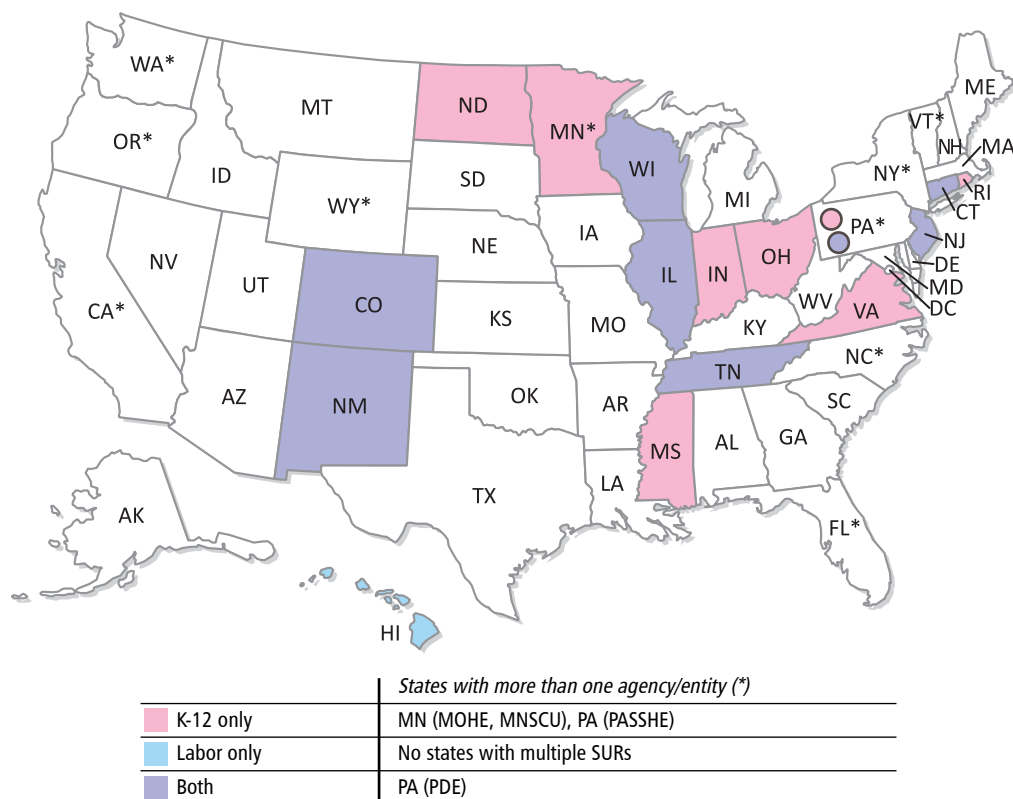
Among all types of linkages, those between postsecondary and K–12 agencies, on the one hand, and postsecondary and labor/workforce agencies, on the other, have been in the spotlight of federal legislative and grant efforts. Looking at these linkages more closely, this study found that 11 SURs in **11 states** have linking arrangements with the state education agency (K–12), 11 SURs in **11 states** with state labor/workforce agencies, and 16 SURs in **15 states** with both. **Figure 2** shows all 34 states with these linking arrangements.

Figure 2: Thirty-four states with existing linking arrangements to K–12, labor, or both



SUR systems in **16 states** are currently establishing or expanding their linking arrangements to K–12, labor, or both types of agencies (see **Figure 3**). Nine SURs in **8 states** are establishing or expanding links to K–12 data, 1 SUR in **1 state** is expanding its ability to link to labor data, and 8 SURs in **8 states** are establishing or expanding their ability to link with both types of agencies.

Figure 3: Sixteen states working to establish or expand linking arrangements to K–12, labor, or both



Accessibility and protection of SUR data

A separate study on the protection and accessibility of postsecondary SUR data¹⁰ revealed that states tend to closely protect access to their SUR data. By and large, states provide aggregated data to governors, legislators, state coordinating boards, K–12 district or state representatives, higher education institution representatives, other state agencies, the media, higher education faculty and researchers, and the general public. Of the 31 states that participated in this related study, 7 agencies/entities in **7 states** do not release unit record data; 32 in **27 states** consider and approve requests for unit record data from requestors (including representatives from institutions) on an individual basis; and among these 27 states, 8 agencies/entities in **8 states** provide only de-identified data. **Appendix H** contains the required documentation for outside researchers requesting unit record data. All data provided to external requestors are FERPA compliant.

¹⁰ SHEEO subcontracted with University of Michigan researchers Molly Ott and Stephen DesJardins to conduct this study. The full report is available on the SHEEO website, www.sheeo.org.

It is standard for states to generate a formal memorandum of understanding or data-sharing agreement with each requestor, regardless of whether a formal data request process exists. While not every state could provide its formal process, the approaches used in **Florida** (Florida Department of Education and the Board of Governors of the State University System of Florida), **Maryland**, and **Kansas** represent diverse ones. The Florida Department of Education's process is the most extensive (see **Appendix I**).

The five main challenges of providing access while protecting the privacy of SUR records are as follows:

- ▶ Managing relationships with external requestors of data;
- ▶ Devising interfacing and data-sharing practices;
- ▶ Ensuring FERPA compliance;
- ▶ Assuring adequate resources to meet demand and assure security; and
- ▶ Implementing or upgrading public reporting capabilities.

Data Element Analysis

- ▶ Two states collect all 36 postsecondary data elements examined in this study.
- ▶ Of the 23 states that collect K–12 data elements, 20 have access to them via a relationship with the state education agency (K–12) and 3 provide postsecondary data to this agency but do not have access to these elements via this agency.
- ▶ Of the 26 states that have a relationship with the state labor/workforce agency, 23 have access to this agency’s data elements and 3 provide postsecondary data to this agency, but do not have access to these elements via this agency.
- ▶ There is wide similarity in data element definitions and code structures for 15 data elements.

As explained in **Appendix A**, responses from the first and second phases of data collection were used in this analysis. While SHEEO compiled the original list of elements from the 2003 and 2007 Lumina/NCHEMS studies and from its own analysis, SHEEO’s *State Data System Expert Advisory Panels* assisted in finalizing the data elements selected for this study.¹¹ These elements focus primarily on student progression through the education pipeline and student success.

This section begins with a detailed analysis of 64 data elements in state postsecondary SUR systems that are grouped in three categories:

- ▶ Postsecondary data: 36 elements, including placement scores and credits earned;
- ▶ Historical high school data: 13 elements, including high school and course grades; and
- ▶ Labor data: 15 elements, including wages earned and hours worked.

Overall, no state collects all 64 data elements;¹² however, **Florida** (Florida Department of Education) collects 51 elements; **Kentucky** and **Minnesota** (Minnesota State Colleges and Universities) collect 48 elements each; **Indiana** and **Washington** (State Board for Community and Technical Colleges) collect 45 elements each; **Georgia**, **Montana**, **New York** (City University of New York), and **Wyoming** (University of Wyoming) collect 44 elements each; and **Hawai’i** and **North Carolina** (North Carolina Community College System) collect 43 elements each. **Appendix J** contains a listing of the data elements by category and subcategory contained in each state SUR system.

This section concludes with a comparative analysis of data element definitions and code structures. As mentioned in the *Methodology*, SEI and AEM (SEI-AEM) conducted this research based on the information from the 28 data element dictionaries that respondents provided to SHEEO during the first phase of data collection. Of these 28 dictionaries, SEI-AEM used 26 in their analysis, which included **Arkansas’s** and **Kentucky’s** separate dictionaries for independent institutions. **Alabama**, **Illinois**,

¹¹ *Recommendations for State Postsecondary Data Systems: A Report from State Data Experts* is a publication available from SHEEO based on input from the Expert Advisory Panels: <http://www.sheeo.org/network/State%20Data%20System%20Advisory%20Panel%20Report%20-%2011-23-09.pdf>.

¹² Complete data element information was not available for every agency/entity and, as a result, the numbers of those who did not participate in the more detailed data element phase of this study are artificially low.

Maryland, Minnesota (Minnesota Office of Higher Education), **New Mexico, Pennsylvania** (Pennsylvania Department of Education Office of Postsecondary and Higher Education), **South Carolina**, and **Texas** collect data from independent institutions but do not have separate dictionaries. As mentioned earlier, **Appendix E** contains SEI-AEM’s methodology.

Postsecondary student data

There is great variability across and within the 45 states with regard to the postsecondary data stored in these state data systems. This section takes a closer look at the extent to which 36 data elements exist within six categories (see **Table 3**).

Overall, **Minnesota** (Minnesota State Colleges and Universities) and **Pennsylvania** (Pennsylvania Department of Education Office of Postsecondary and Higher Education) each collect all 36 postsecondary data elements in their respective SURs, followed by **Georgia, Hawai’i, Pennsylvania** (Pennsylvania State System of Higher Education), and **Wyoming** (University of Wyoming) with 35 elements each; **Montana, New York** (City University of New York), and **Vermont** (Vermont State Colleges) with 34 elements each; **California** (California Community Colleges and University of California System), **Florida** (Board of Governors of the State University System of Florida), **Kentucky**, and **Oregon** (Oregon University System) with 33 elements each; and **Colorado, Massachusetts**, and **Oklahoma** with 32 elements each.

Table 3: Thirty-six postsecondary data elements

Category	Data Elements
Demographic	Student name, date of birth, gender, race/ethnicity, SSN, K–12 ID, institution (IHE) ID, student ID, citizenship, state residency status
Postsecondary academic history	Admissions scores, placement scores, prior college(s) attended, transfer credit(s)
Enrollment status	Degree-seeking status, full-/part-time status, first term of academic history, program/major
Financial aid	Dependency status, family income, federal, state, institutional, other, merit-based, and need-based financial aid, Free Application for Federal Student Assistance (FAFSA) fields
Academic activity	Course title, course mode of instruction, course grade, term student credit hours (SCH) attempted, term SCH earned
Academic attainment	Degree awarded, degree date, cumulative SCH earned, cumulative GPA

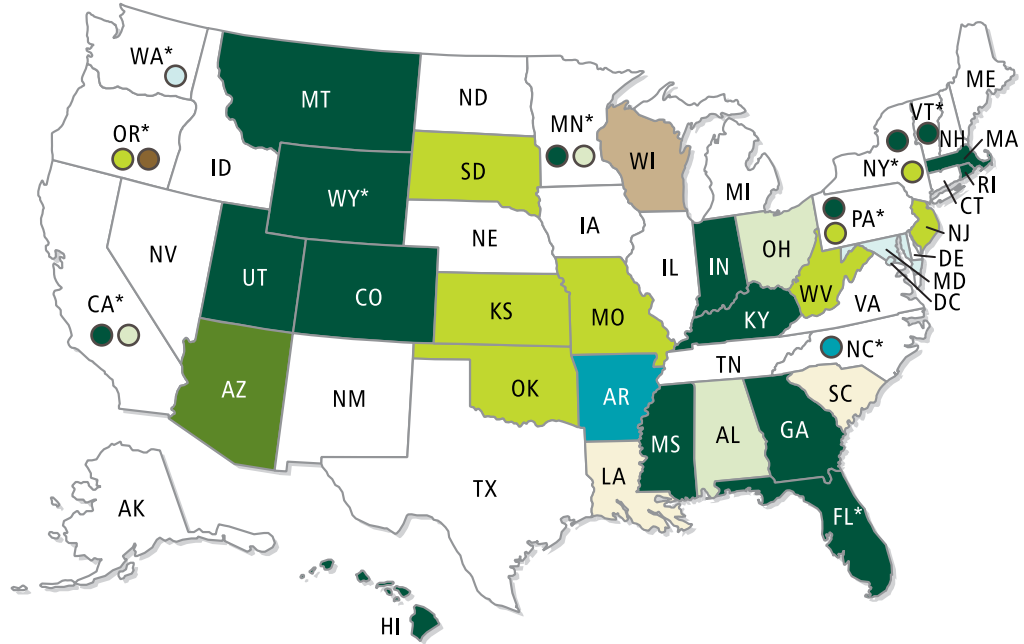
Fifteen SURs in **12 states** contain all 10 demographic data elements. **Table 4** lists the 36 states that collect demographic elements.

Table 4: Forty-six SURs in 36 states with demographic data elements

States and agencies/ entities	Student name	Date of birth	Gender	Race/ethnicity	SSN	K-12 ID	IHE ID	Student ID	Citizenship	State residency status	Total number of elements
AL, CA (UCS), FL (DOE), GA, LA, MN (MOHE, MNSCU), MT, NV, OR (OUS), PA (PDE, PASSHE), UT, WY (UWYO, WCCC)	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	10
CO, IN		♦	♦	♦	♦	♦	♦	♦	♦	♦	9
CA (CCC), HI, MA, NY (SUNY), NC (NCCCS), RI, SD, VT (VSC), WA (SBCTC)	♦	♦	♦	♦	♦		♦	♦	♦	♦	9
MO	♦	♦	♦	♦	♦	♦	♦		♦	♦	9
KS, KY	♦	♦	♦	♦	♦	♦	♦	♦		♦	9
MS, OH, WI		♦	♦	♦	♦		♦	♦	♦	♦	8
NJ		♦	♦	♦	♦	♦	♦		♦	♦	8
AZ, FL (BOG)	♦	♦	♦	♦	♦			♦	♦	♦	8
CA (CSU), NY (CUNY), OK, WV	♦	♦	♦	♦	♦		♦		♦	♦	8
OR (ODCC), WA (OFM)	♦	♦	♦	♦	♦		♦	♦		♦	8
MD, SC		♦	♦	♦	♦		♦		♦	♦	7
AR, WA (HECB)	♦	♦	♦	♦	♦		♦			♦	7
DC	♦	♦			♦				♦	♦	5

Twenty SURs in **17 states** contain all four elements associated with postsecondary academic history data in the form of admissions and placement scores, prior college(s) attended, and transfer credit(s). **Figure 4** shows the 35 states that collect these elements.

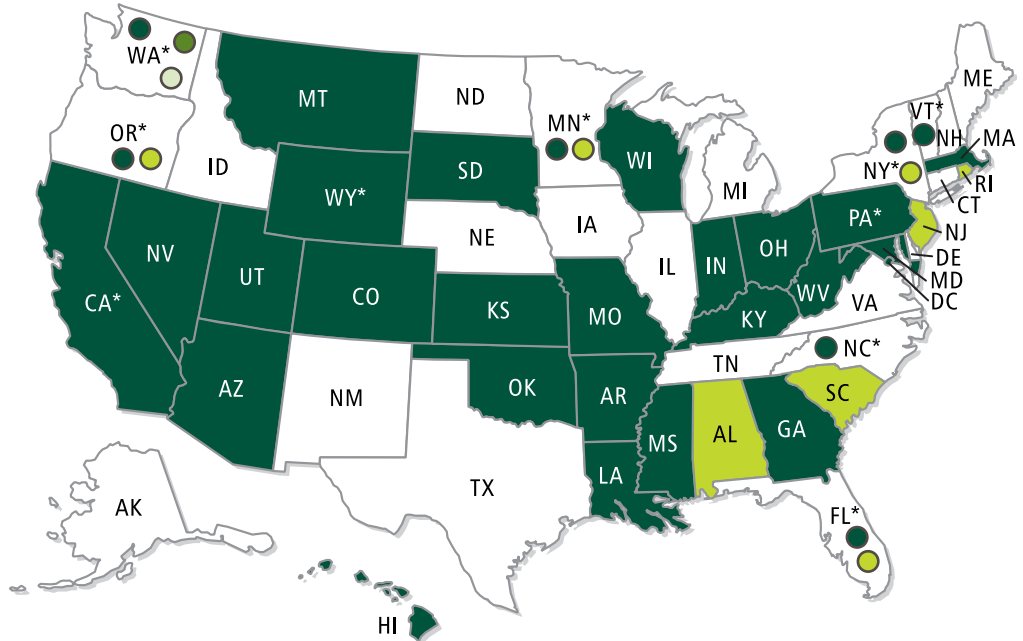
Figure 4: Forty-four SURs in 35 states contain postsecondary academic history elements



	<i>States with more than one agency/entity (*)</i>
Admissions scores, placement scores, prior colleges attended, transfer credits	CA (CSU, UCS), FL (BOG, DOE), MN (MNSCU), NY (CUNY), PA (PDE), VT (VSC), WY (UWYO, WCCC)
Placement scores, prior colleges attended, transfer credits	No states with multiple SURs
Admissions scores, prior colleges attended, transfer credits	NY (SUNY), OR (OUS), PA (PASSHE)
Prior colleges attended, transfer credits	CA (CCC), MN (MOHE)
Placement scores, prior colleges attended	OR (ODCC)
Admissions scores, prior colleges attended	No states with multiple SURs
Admissions scores	No states with multiple SURs
Placement scores	NC (NCCCS)
Prior colleges attended	WA (OFM, SBCTC)

Thirty-six SURs in **32 states** contain all four enrollment status data elements. **Figure 5** shows the 36 states that collect these elements.

Figure 5: Forty-six SURs in 36 states contain enrollment status elements



<i>States with more than one agency/entity (*)</i>	
 Degree-seeking status, FT/PT status, 1st term of academic history, program major	CA (CCC, CSU, UCS), FL (BOG), MN (MNSCU), NY (CUNY), NC (NCCCS), OR (OUS), PA (PDE, PASSHE), VT (VSC), WA (SBCTC), WY (UWYO, WCCC)
 FT/PT status, 1st term of academic history, program major	WA (OFM)
 Degree-seeking status, FT/PT status, program major	FL (DOE), MN (MOHE), NY (SUNY), OR (ODCC)
 Degree-seeking status, FT/PT status	WA (HECB)

Thirteen SURs in **11 states** contain all nine financial aid data elements, including some or all elements from the FAFSA form such as data on family income, expected family contribution, and Pell Grant information. **Table 5** lists the 31 states that collect these elements.

Table 5: Thirty-eight SURs in 31 states contain financial aid elements

States and agencies/entities	Dependency status	Family income	Federal financial aid	State financial aid	Institutional financial aid	Other financial aid	Merit-based financial aid	Need-based financial aid	FAFSA fields	Total number of elements
CA (CCC, UCS), CO, HI, KY, MD, MN (MNSCU), NY (CUNY), OH, PA (PDE, PASSHE), WA (HECB), WI	♦	♦	♦	♦	♦	♦	♦	♦	♦	9
GA, WY (UWYO)		♦	♦	♦	♦	♦	♦	♦	♦	8
CA (CSU), NC (NCCCS), VT (VSC)	♦		♦	♦	♦	♦	♦	♦	♦	8
FL (BOG, DOE), IN, OK, WA (SBCTC)	♦	♦	♦	♦	♦	♦	♦	♦		8
MA		♦	♦	♦	♦	♦	♦	♦		7
MS, MT, OR (ODCC)	♦		♦	♦	♦	♦	♦	♦		7
WV	♦		♦	♦	♦		♦	♦	♦	7
OR (OUS)	♦	♦	♦	♦	♦	♦			♦	7
LA	♦		♦	♦	♦	♦			♦	6
DC	♦	♦	♦	♦	♦				♦	6
AR			♦	♦	♦	♦			♦	5
MO	♦	♦		♦					♦	4
SC				♦			♦	♦		3
AZ			♦			♦				2
RI			♦							1
WY (WCCC)				♦						1
NV						♦				1

In 2006, 25 of 47 SURs contained detailed financial aid data (Ewell & Boeke 2007). This SHEEO study broadened the list of financial aid detail.

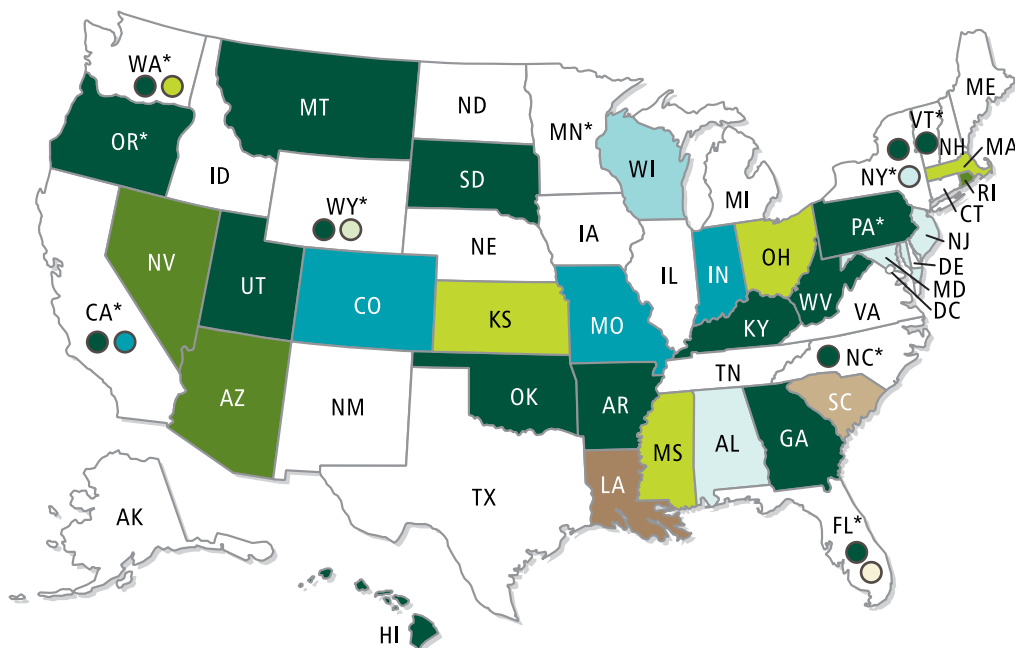
The 16 designated state financial aid agencies in **Arkansas, Colorado, District of Columbia, Florida** (Florida Department of Education), **Hawai'i, Maryland, Massachusetts, Mississippi, Missouri, Montana, Ohio, Oklahoma, South Carolina, Washington** (Higher Education Coordinating Board), **West Virginia**, and **Wyoming** (Wyoming Community College Commission) are included in **Table 5**, but it is evident that this designation is not a prerequisite to having a high level of detail on financial aid. Twenty-four SURs in **24 states** serve as the designated financial aid agency. There are 16 agencies/entities in **14 states** with linking arrangements with the designated financial aid agency; 6 of these agencies/entities in **Florida, Kansas, Minnesota, Mississippi, Oklahoma**, and **Washington** were included in this study. **Alaska, Georgia, Kentucky, New Jersey, Oregon, Pennsylvania, Vermont**, and **Wisconsin** are the **8 states** with separate financial aid agencies that were not included due to study limitations.¹³

¹³ States with separate financial aid agencies where the responding agency/entity did not specify a linking arrangement are not included in this tally.

It is important to note that the existence of FAFSA data in state postsecondary data systems is driven by agency mission and responsibility in administering student aid programs; 24 SURs in **21 states** collect some or all of the data from the FAFSA form.¹⁴ Twenty-four SURs in **20 states** collect family income data. In some cases, a FAFSA field is the origin for this data element, and it is either captured directly at the state postsecondary agency/entity or indirectly at the institutional level before being reported to the state.

Twenty-one SURs in **19 states** contain information on all five student academic activity elements. **Figure 6** shows the 35 states that collect these elements.

Figure 6: Forty-three SURs in 35 states contain academic activity elements

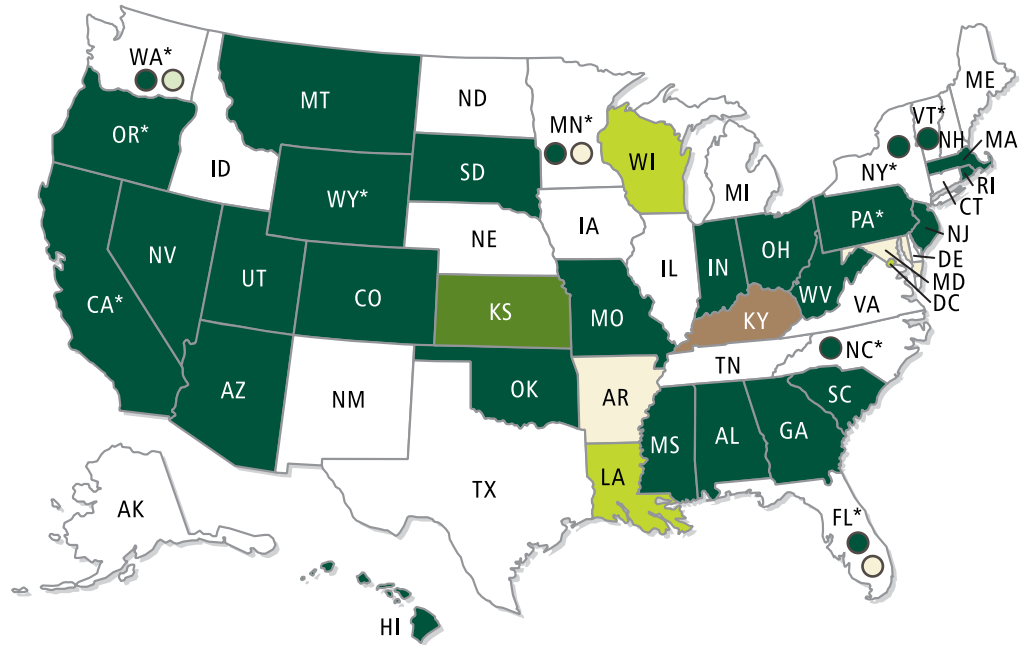


	States with more than one agency/entity (*)
<ul style="list-style-type: none"> Course title, mode of instruction, course grade, term SCH attempted, term SCH earned 	CA (CCC), FL (BOG), MN (MNSCU), NY (CUNY), NC (NCCCS), OR (ODCC, OUS), PA (PDE, PASSHE), VT (VSC), WA (SBCTC), WY (UWYO)
<ul style="list-style-type: none"> Course title, course grade, term SCH attempted, term SCH earned 	No states with multiple SURs
<ul style="list-style-type: none"> Course title, mode of instruction, term SCH attempted, term SCH earned 	WA (OFM)
<ul style="list-style-type: none"> Mode of instruction, term SCH attempted, term SCH earned 	WY (WCCC)
<ul style="list-style-type: none"> Course title, course grade, term SCH earned 	No states with multiple SURs
<ul style="list-style-type: none"> Course title, mode of instruction, term SCH attempted 	No states with multiple SURs
<ul style="list-style-type: none"> Course title, mode of instruction, course grade 	FL (DOE)
<ul style="list-style-type: none"> Term SCH attempted, term SCH earned 	CA (CSU, UCS)
<ul style="list-style-type: none"> Mode of instruction, term SCH attempted 	No states with multiple SURs
<ul style="list-style-type: none"> Term SCH attempted 	NY (SUNY)

¹⁴In Kentucky, the Council on Postsecondary Education has access to all the FAFSA fields.

Finally, 35 SURs in 29 states contain all four data elements associated with academic attainment. **Figure 7** shows the 36 states that collect these elements.

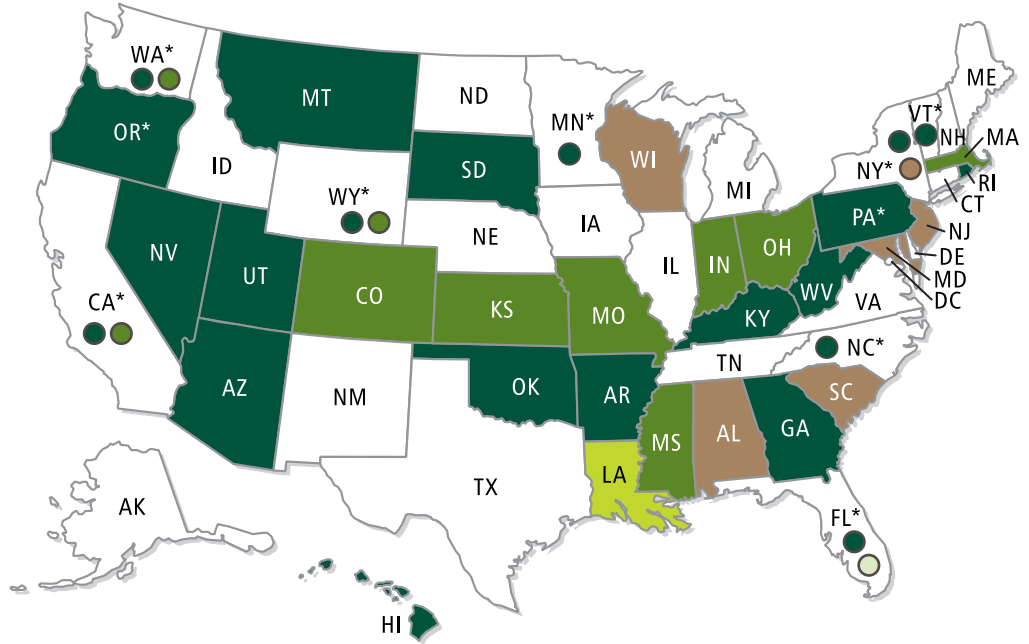
Figure 7: Forty-five SURs in 36 states contain academic attainment elements



	States with more than one agency/entity (*)
 Degree awarded, degree date, cumulative SCH earned, cumulative GPA	CA (CCC, CSU, UCS), FL (BOG), MN (MNSCU), NY (CUNY, SUNY), NC (NCCCS), OR (ODCC, OUS), PA (PDE, PASSHE), VT (VSC), WA (SBCTC), WY (UWYO, WCCC)
 Degree awarded, cumulative SCH earned, cumulative GPA	No states with multiple SURs
 Degree awarded, degree date, cumulative GPA	No states with multiple SURs
 Degree awarded, degree date, cumulative SCH earned	WA (OFM)
 Degree awarded, cumulative SCH earned	No states with multiple SURs
 Degree awarded, degree date	FL (DOE), MN (MOHE)

While **Table 1** shows that there are 44 SURs in 37 states that contain course-level data, this section highlights the data elements associated with course completion. Twenty-four SURs in **22 states** collect course grades, credits attempted, and credits earned, and 11 SURs in **10 states** collect credits attempted and earned (see **Figure 8**). These states are better positioned to track student progress because these data elements can serve as both early warning and student success indicators.

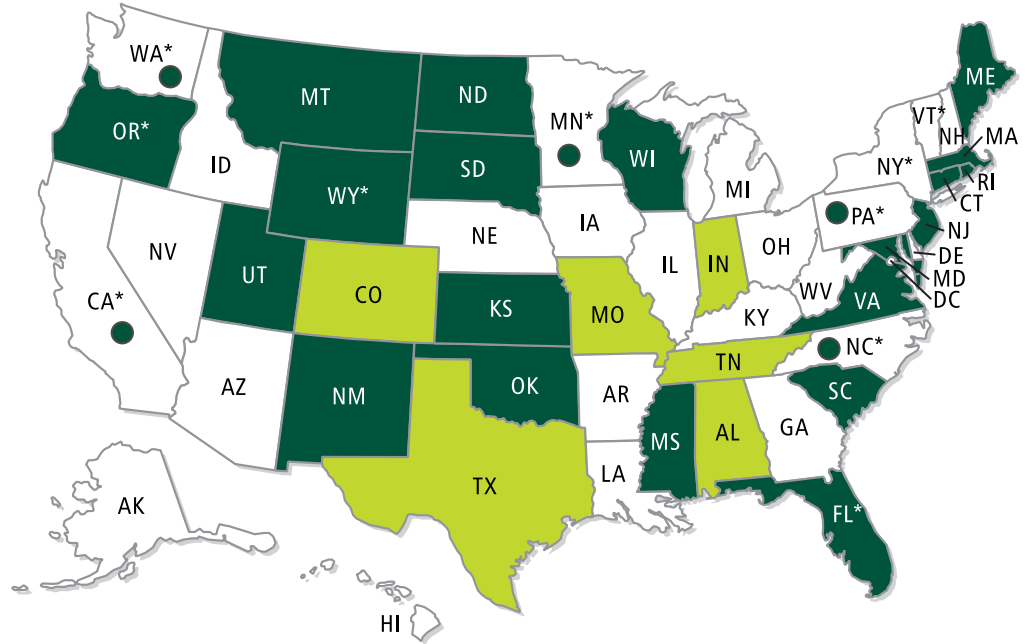
Figure 8: Forty-three SURs in 35 states with the ability to track student progress at the course level



	States with more than one agency/entity (*)
Course grade, term SCH attempted, term SCH earned	CA (CCC), FL (BOG), MN (MNSCU), NY (CUNY), NC (NCCCS), OR (ODCC, OUS), PA (PDE, PASSHE), VT (VSC), WA (SBCTC), WY (UWYO)
Term SCH attempted, term SCH earned	CA (CSU, UCS), WA (OFM), WY (WCCC)
Course grade, term SCH earned	No states with multiple SURs
Course grade	FL (DOE)
Term SCH attempted	NY (SUNY)

Additionally, 29 SURs in **25 states** that collect course-level data can identify which students are enrolling in specific remedial and/or developmental courses (see **Figure 9**). However, 6 states that do not collect course-level data do have a “flag” that indicates whether a student has taken remedial and/or developmental courses. These states are **Alabama, Colorado, Indiana, Missouri, Tennessee, and Texas**.

Figure 9: Twenty-nine SURs in 25 states with course-level data on remedial courses



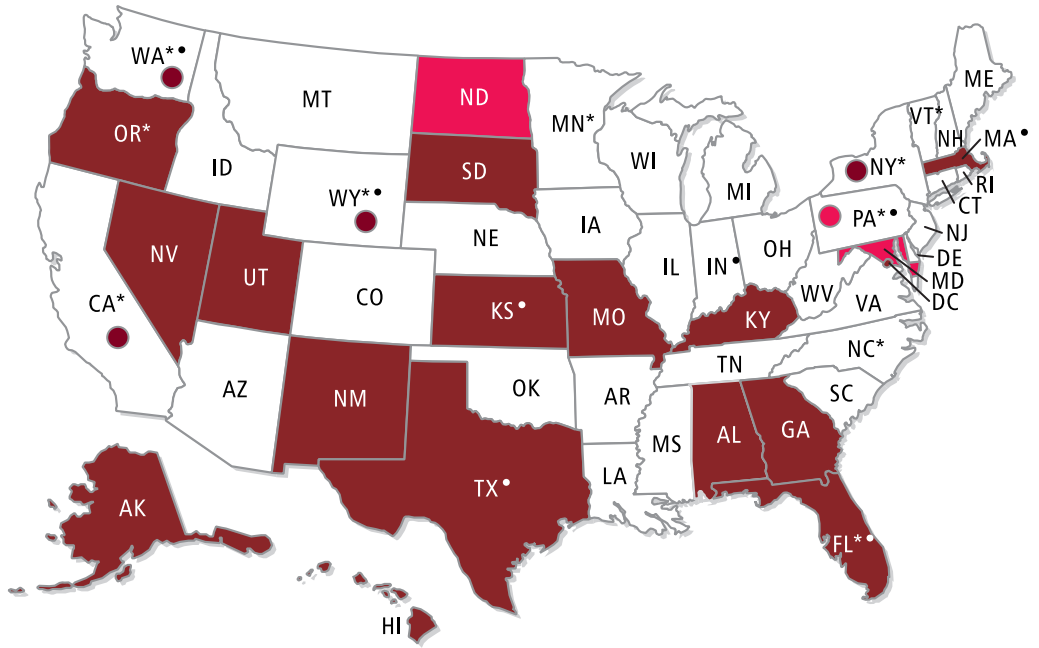
<i>States with more than one agency/entity (*)</i>	
■ Course level info on remedial/developmental courses	CA (CCC), FL (BOG, DOE), MN (MNSCU), NC (NCCCS), OR (ODCC, OUS), PA (PASSHE), WA (OFM, SBCTC), WY (UWYO, WCCC)
■ Flag remedial/developmental courses but do not collect course level info	No states with multiple SURs

Historical high school data

In 2006, 11 states linked college data with high school records (Ewell & Boeke 2007).

Many of the 32 states that collect K–12 academic history obtain this information from the student during the admissions process. There are, however, 24 SURs in 20 states that are better positioned to understand their entering student population because they have direct access to additional K–12 data elements through links to their state education agency (K–12) (see **Figure 10**). **Maryland, Pennsylvania** (Pennsylvania State System of Higher Education), and **North Dakota** do not have access to additional K–12 elements from the K-12 agency but do provide postsecondary data to this agency.

Figure 10: Twenty-four SURs in 20 states with access to additional K–12 data elements from K–12 agency



		States with more than one agency/entity (*)
■	Access to K-12 agency data elements	CA (CCC, UCS), FL (BOG, DOE), NY (CUNY), OR (ODCC, OUS), WA (OFM, SBCTC), WY (UWYO)
■	Link to K-12, but no access to K-12 agency elements	PA (PASSHE)
●	State with P-20 data warehouse	

However, among the 20 states with direct K–12 data linkages, access to the data elements is not equal. Respondents indicated varying degrees of access to the 13 data elements listed in **Table 6**.

Table 6: Thirteen K-12 data elements

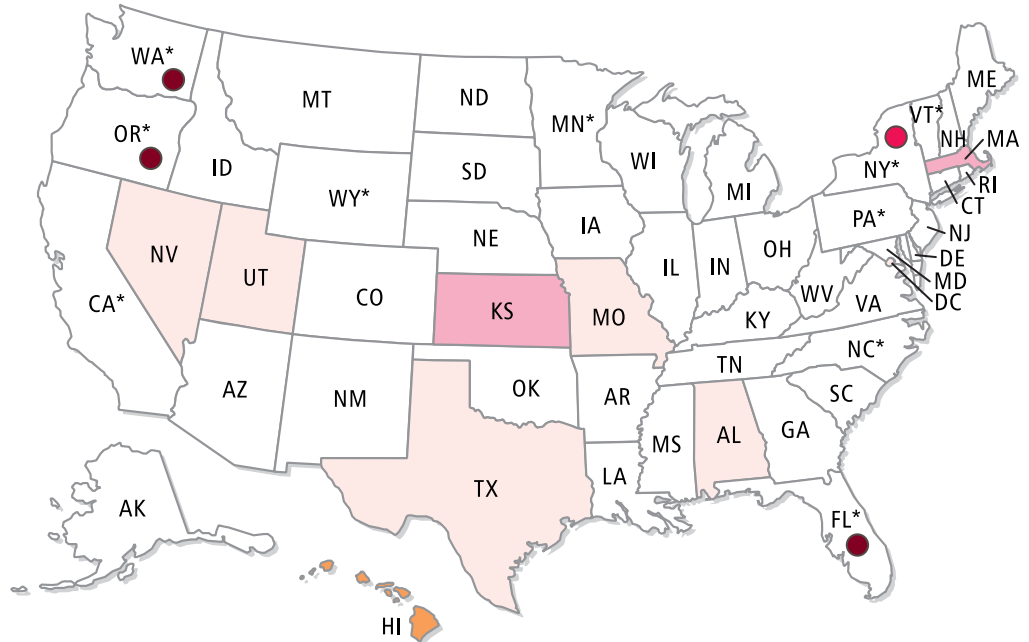
Category	Data elements
Demographic*	Free and reduced-price lunch eligibility, disability status, language spoken at home
High school background information	High school attended, district/school code, student resident county-district code
High school academic activity	Date student enrolled, course type (regular, honors, AP, etc.), course title, course grade
High school completion information	High school GPA, high school graduation date, K–12 assessment scores

*The K–12 identification number is not included within the demographic elements because there are state postsecondary agencies/entities without links to the K-12 agency that collect this number. This element was treated in the previous section on postsecondary data.

Overall, **Washington** (Office of Financial Management) is the only state that collects all 13 K–12 data elements. **Florida** (Florida Department of Education) collects 12 elements, **New York** (City University of New York) collects 10 elements, **Kansas**, **Massachusetts**, and **Wyoming** (University of Wyoming) each collect 9 elements, and **Hawai'i** and **Oregon** (Oregon University System) each collect 8 elements.

All three demographic data elements are collected in **Florida** (Florida Department of Education), **Oregon** (Oregon University System), and **Washington** (Office of Financial Management). **Figure 11** shows all 13 states that have access to these elements via a linking arrangement with the state education agency (K–12).

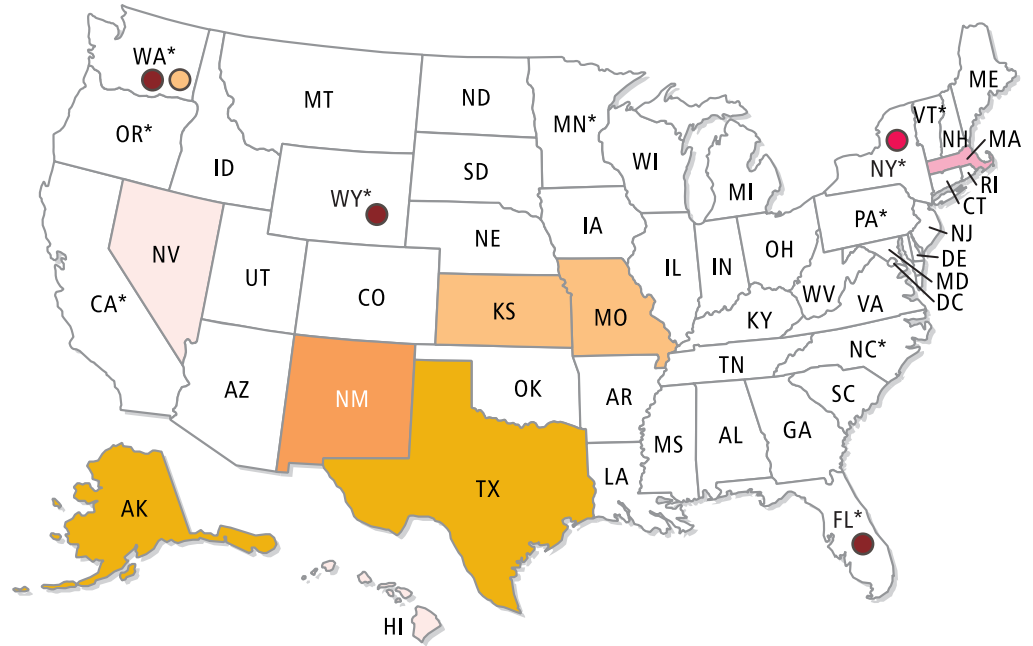
Figure 11: Thirteen SURs in 13 states have access to K-12 demographic data elements



	States with more than one agency/entity (*)
Free/reduced-price lunch eligibility, language spoken at home, disability status	FL (DOE), OR (OUS), WA (OFM)
Free/reduced-price lunch eligibility, language spoken at home	NY (CUNY)
Free/reduced-price lunch eligibility, disability status	No states with multiple SURs
Free/reduced-price lunch eligibility	No states with multiple SURs
Language spoken at home	No states with multiple SURs

Florida (Florida Department of Education), **Washington** (Office of Financial Management), and **Wyoming** (University of Wyoming) are the 3 states that collect all four high school academic activity data elements. **Figure 13** shows the 12 states with access to these elements.

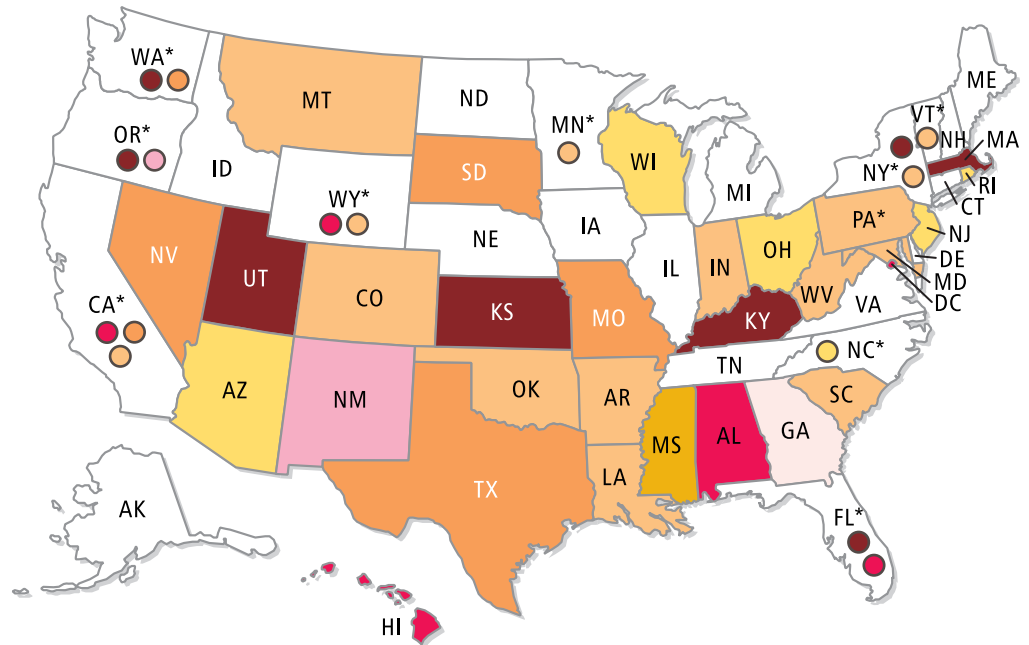
Figure 13: Thirteen SURs in 12 states have access to high school academic activity elements



	States with more than one agency/entity (*)
■ Date student enrolled, course type, course title, course grade	FL (DOE), WA (OFM), WY (UWYO)
■ Date student enrolled, course title, course grade	NY (CUNY)
■ Date student enrolled, course type	No states with multiple SURs
■ Course title, course grade	No states with multiple SURs
■ Course type, course title	No states with multiple SURs
■ Date student enrolled	WA (SBCTC)
■ Course type	No states with multiple SURs

Last, 8 SURs in **8 states** collect all three of the high school completion elements: **Florida** (Florida Department of Education), **Kansas, Kentucky, Massachusetts, New York** (City University of New York), **Oregon** (Oregon University System), **Utah**, and **Washington** (Office of Financial Management). **Figure 14** shows the 19 states that have access to these elements as well as the 19 states without access that collect high school GPA and high school graduation date.

Figure 14: Twenty-three SURs in 19 states have access to high school completion elements



	States with more than one agency/entity (*)
High school GPA, date student graduated, assessment scores	FL (DOE), NY (CUNY), OR (OUS), WA (OFM)
High school GPA, date student graduated	CA (UCS), FL (BOG), WY (UWYO)
Date student graduated, assessment scores	OR (ODCC)
High school GPA	No states with multiple SURs
Date student graduated	CA (CCC), WA (SBCTC)
High school GPA, date student graduated without access to K-12 agency data	CA (CSU), MN (MNSCU), NY (SUNY), PA (PDE, PASSHE), VT (VSC), WY (WCCC)
High school GPA without access to K-12 agency data	No states with multiple SURs
Date student graduated without access to K-12 agency data	NC (NCCCS)

Table 7 lists the 19 SURs in **17 states** that have access to seven less common K–12 agency data elements: free/reduced-price lunch eligibility, language spoken at home, date student enrolled (in high school), course type, course title, course grade, and assessment scores.

Table 7: Nineteen SURs in 17 states with access to less common K–12 data elements

States and agencies/entities	Free/reduced-price lunch eligibility	Language spoken at home	Date student enrolled	Course type	Course title	Course grade	Assessment scores	Total
FL (DOE), WA (OFM)	◆	◆	◆	◆	◆	◆	◆	7
NY (CUNY)	◆	◆	◆		◆	◆	◆	6
MA	◆		◆	◆			◆	4
WY (UWYO)			◆	◆	◆	◆		4
HI		◆			◆	◆		3
KS	◆		◆				◆	3
NV	◆				◆	◆		3
NM				◆	◆		◆	3
OR (OUS)	◆	◆					◆	3
MO	◆		◆					2
TX	◆			◆				2
UT	◆						◆	2
AL, DC	◆							1
WA (SBCTC)			◆					1
AK				◆				1
KY, OR (ODCC)							◆	1

While 8 of the 20 states with direct K–12 agency data access have a P-20 data warehouse¹⁵ (**Florida, Indiana, Kansas, Massachusetts, Pennsylvania, Texas, Washington, and Wyoming**), this represents less than half of those with access to K–12 agency data elements. Similarly, 6 of the 17 states with access to the less common K–12 agency data elements have such warehouses. Not surprisingly, the states with higher proportions of these less common elements have data warehouses (**New York** [City University of New York] is the exception).

There are 10 SURs in **9 states** with no existing linking arrangements to the state education agency (K–12) that collects the K–12 agency identification number: **Colorado, Connecticut, Indiana, Louisiana, Minnesota** (Minnesota Office of

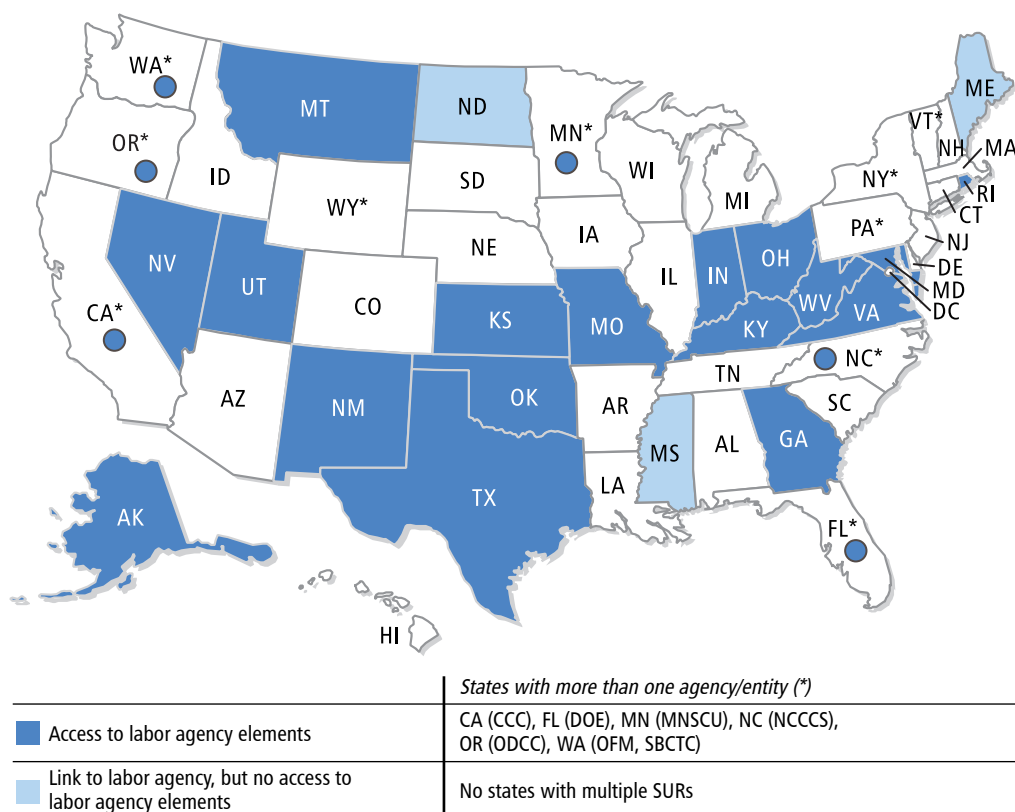
¹⁵ The state education agency (K–12) is a contributor in each state, and manages and hosts the warehouse in five of the states (**Florida, Kansas, Pennsylvania, Texas, and Wyoming**). **Indiana** and **Pennsylvania** are in the process of adding K–12 agency data elements.

Higher Education and Minnesota State Colleges and Universities), **Montana, New Jersey, Pennsylvania** (Pennsylvania Department of Education Office of Postsecondary and Higher Education), and **Wyoming** (Wyoming Community College Commission). These states are one step closer to linking with their public education counterparts, and **Colorado, Connecticut, Indiana, Minnesota, New Jersey, and Pennsylvania** (Pennsylvania Department of Education Office of Postsecondary and Higher Education and Pennsylvania State System of Higher Education) are all developing direct links to the K–12 agency data system in their states. **Sixteen states**, including those without state postsecondary SUR systems, have yet to begin developing any linking arrangements with the state education agency (K–12), but this is likely to change given the latest round of U.S. Department of Education *State Longitudinal Data Systems* grants and the *Race to the Top* Fund.

Student labor data

Many states are measuring student success in broader terms by supplementing their postsecondary academic attainment data with labor data. Twenty-four SURs in **23 states** have access to labor data elements through linking arrangements with the state labor/workforce agency (see **Figure 15**). **Maine, Mississippi, and North Dakota** provide postsecondary data to their state labor agency, but do not have access to labor/workforce data elements.

Figure 15: Twenty-four SURs in 23 states with access to labor elements from labor agency



As with high school historical data, access to labor agency data elements is not equal. Respondents indicated varying access to the 15 labor/workforce data elements listed in **Table 8**.

Table 8: Fifteen labor/workforce data elements

Data elements
Employer ID number
Employer size (number of employees, monthly)
Employer county
Wages earned
Wage type code
Hours worked
Employment quarter code
Employment year
Date student/employee applied for Unemployment Insurance (UI)
Date student first received UI check
Other agencies providing services to student receiving UI
U.S. Census North American Industry Classification System (NAICS) code
U.S. Census NAICS title
U.S. Department of Labor Standard Occupational Classification (SOC) code
U.S. Department of Labor SOC title

No state has all 15 labor agency elements, but **Indiana** has 11 out of 15 of them. In addition, **New Mexico**, **North Carolina** (North Carolina Community College System), and **Washington** (State Board for Community and Technical Colleges) each have 10 elements; **Florida** (Florida Department of Education), **Kentucky**, and **Minnesota** (Minnesota State Colleges and Universities) each have 9 elements; **Nevada** and **Virginia** each have 8 elements; and **Montana**, **Ohio**, **Utah**, and **Washington** (Office of Financial Management) each have 7 elements. As mentioned earlier, both **Indiana** and **Washington** have state P-20 data warehouses, and in **Indiana**, the Indiana Commission for Higher Education manages the warehouse, while the Indiana Business Research Center at the Indiana University-Bloomington Kelley School of Business hosts the warehouse.

Indiana and **North Carolina** (North Carolina Community College System) are the only two states with detailed Unemployment Insurance (UI) data. Both states are aware of the date that a student applied for UI, when she/he received the first check, and whether any other state agencies are providing services to the student while she/he is receiving these checks.

There are 23 SURs in **20 states** with no existing linking arrangements to the labor/workforce agency that collects an unencrypted or encrypted Social Security Number: **Alabama, Arizona, Arkansas, Colorado, Connecticut, District of Columbia, Hawai'i, Illinois, Louisiana, Massachusetts, New Jersey, New Mexico, New York** (City University of New York and The State University of New York), **Pennsylvania** (Pennsylvania Department of Education Office of Postsecondary and Higher Education), **South Carolina, South Dakota, Tennessee, Vermont** (University of Vermont and Vermont State Colleges), **Wisconsin**, and **Wyoming** (University of Wyoming and Wyoming Community College Commission). These states are one step closer to developing links with their labor counterparts, and **Colorado, Connecticut, Hawai'i, Illinois, New Jersey, New Mexico, Pennsylvania, Tennessee, and Wisconsin** are developing or expanding these links. **Seventeen states**, including those without state postsecondary SUR systems, have yet to begin developing any linking arrangements with the state labor/workforce agency, but this is likely to change with the latest round of *SLDS* grants.

Comparison of data element definitions

This section focuses on definitions and code structures for the data elements examined in this study.

Table 10 shows the similarity rankings for 30 data elements¹⁶ present in 26 data element dictionaries in **23 states**. Elements ranked **High** have identical definitions and code structures; those ranked **Medium** have identical definitions and similar, yet compatible code structures. Those ranked **Low** indicate elements whose definitions differ from the source definition, which was either the Integrated Postsecondary Education Data System (IPEDS) Data Dictionary or the Lumina Foundation for Education (Ewell, Schild, & Paulson 2003). See **Appendix E**.

There is wide similarity among the data elements presented in **Table 10**. Excluding the data elements not found in existing dictionaries, these results show that at least half of the data elements collected are ranked **High** or **Medium**. Without trivializing the effort necessary to technically revise the code structures of the elements ranked Medium, the results point to the homogeneity of 15 data element definitions: gender, SSN, date of birth, race/ethnicity, student name, citizenship, state residency status, program/major, degree-seeking status, dependency status, term student credit hours (SCH) attempted, term SCH earned, cumulative Grade Point Average, cumulative SCH earned, and degree date. However, the demographic data elements are by far the most homogeneous, and the financial aid elements are least homogeneous.

¹⁶ Similarity rankings were unavailable for admissions scores, placement scores, prior college(s) attended, transfer credit(s), family income, course title, course mode of instruction, and course grade. This analysis was not applicable to "FAFSA fields," because this term constitutes more than one data element that was not specified in the SHEEO study.

Table 10: Similarity ranking of data element definitions and code structures

Category	Data element	High (%)	Medium (%)	Low (%)	Not able to locate (%)
Demographic	Gender	82	18	0	0
	SSN	79	21	0	0
	Date of birth	75	25	0	0
	K–12 ID	68	11	21	0
	Race/ethnicity	50	46	4	0
	Student name	39	36	4	21
	Citizenship	36	21	4	39
	State residency status	25	57	7	11
	Institution ID	4	4	50	43
Enrollment status	Program/major	68	25	7	0
	Full-time/part-time status	36	7	14	43
	First term of academic history	21	46	21	11
	Degree-seeking status	18	50	7	25
Financial aid	Total price of attendance*	29	4	7	61
	Dependency status	21	21	0	57
	Credit hours*	18	7	29	46
	Campus residency status*	14	14	4	68
	Financial aid-federal	7	32	25	36
	Financial aid-need	7	7	29	57
	Financial aid-institutional	4	36	25	36
	Financial aid-state	0	39	25	36
	Financial aid-other	0	32	32	36
	Financial aid-merit	0	39	25	36
	Tuition and fees*	0	7	21	71
Academic activity	Term SCH attempted	43	14	4	39
	Term SCH earned	32	18	4	46
Academic attainment	Cumulative GPA	50	18	0	32
	Cumulative SCH earned	46	32	4	18
	Degree awarded	36	46	11	7
	Degree date	36	21	4	39

Note: Data elements not examined in the SHEEO study are denoted by an asterisk (*).

State Postsecondary Data Systems Vis-à-Vis Two Broad Policy Debates

This section reports on the ability of state postsecondary SUR systems to inform two broad public policy debates:

- ▶ P-20 pipeline issues, such as student progression from high school to college, college to college, and college to workforce; and
- ▶ Factors influencing student success, such as financial aid, remediation, and course performance.

There is wide variability within and across states when examining the ability of state postsecondary data systems to inform these two policy areas. This section includes specific examples of reports that states generate on these topics making use of the data in their postsecondary SUR systems (for a full listing of all reports, see **Appendix K**).

Overall, **Minnesota** (Minnesota State Colleges and Universities) is the only state that generates all 12 report types listed in **Table 11**. **Pennsylvania** (Pennsylvania Department of Education Office of Postsecondary and Higher Education) generates 11 reports; **Alabama**, **Alaska**, and **North Dakota** each generate 10 reports; **California** (California Community Colleges), **Kentucky**, **Ohio**, **Washington** (Washington State Board for Community and Technical Colleges), and **Wisconsin** each generate 9 reports; and **California** (University of California System), **Missouri**, and **Rhode Island** each generate 8 reports.

Table 11: P-20 pipeline and student success reports generated using SUR data

Type of report	Number of states	Number of SURs
Retention	40	51
Transfer	39	51
Remediation	38	44
Financial aid	33	40
High school feedback	31	34
Tuition/fees/college costs	24	28
Mobility/migration	17	19
Economic impact/jobs	16	16
Articulation	12	15
Course cost analysis	15	15
Course taking patterns	14	15
Student learning	12	13

P-20 pipeline issues

This section examines a sample of states that produce reports on high school feedback, transfer, and workforce “attainment gain.”¹⁷ **Table 12** contains the results of a content analysis used to identify data elements collected to generate these reports.

The content analyses described within this and the subsequent section were performed on available reports that were either provided by respondents or retrieved online. The data element lists are limited to the elements examined in this study. These lists exclude demographic elements and institution identifiers. Due to their limited availability, content analyses were not performed on articulation, economic impact/jobs, mobility/migration, or retention reports.

Links to sample reports are available at the end of each subsection.

¹⁷ Reports generated to determine how many of a state’s graduates remain in state to work.

Table 12: SUR elements used in P-20 pipeline reports

Report	Data elements
High school feedback	High school identifier (e.g., high school attended, district-school code)
	High school student resident county-district code
	High school course type (e.g., honors, Advanced Placement, dual credit)
	High school GPA
	Date student graduated from high school and/or 1st term of academic history
	Admissions and/or placement scores
	Degree-seeking status
	Attendance status (full-/part-time)
	Program/major
	Financial aid (various elements)
	Course title
	Course grade
	Term student credit hours (SCH) attempted
	Term SCH earned
	Cumulative GPA
Degree awarded	
Transfer	State residency status
	Prior college(s) attended
	Transfer credit(s)
	Attendance status (full-/part-time)
	Program/major
	Cumulative SCH earned
	Cumulative GPA
	Degree awarded
Attainment gain	Citizenship
	State residency status
	Degree-seeking status
	Program/major
	State financial aid
	Degree awarded
	Number of employees
	Employer county
	Wages earned
	Hours worked
	U.S. Census NAICS code or U.S. Department of Labor SOC code
	U.S. Census NAICS title or U.S. Department of Labor SOC title

High school feedback

Detailed data element information available for 25 of the 31 states that generate high school feedback reports reveals that every state collects six of the data elements listed in **Table 12**: high school identifier; date student graduated from high school and/or 1st term of academic history; degree-seeking status; attendance status (full-/part-time); program/major; and degree awarded.

The **Kentucky** report for the high school Class of 2004 was produced by the Council on Postsecondary Education (CPE) with data from the Council, the Kentucky Department

of Education, the Kentucky Higher Education Assistance Authority (KHEAA), ACT, Inc., and The College Board. It uses detailed high school student course and performance data and postsecondary admissions scores, placement scores, financial aid, course, and attainment data. The information is organized by high school, district, and state.¹⁸ The CPE currently has ad-hoc linking arrangements with the state education agency (K–12) and state financial aid agency (KHEAA).

The **Minnesota** report for the high school Class of 2005 was produced by the Minnesota State Colleges and Universities (MNSCU) and University of Minnesota (UMinn) and delivered to the Minnesota Department of Education and district superintendents. Superintendents receive applicable high school reports, which provide detailed postsecondary admissions scores, placement scores, course, and attainment data. The information is organized by higher education system (MNSCU and UMinn), higher education sector, and high school. Minnesota (Minnesota State Colleges and Universities) is currently establishing linking arrangements with the state education agency (K–12).

The **South Dakota** high school feedback report was produced by the South Dakota Board of Regents (BOR) and ACT, Inc. and delivered to principals, superintendents, and school board presidents. The report initially documented the first-year performance of high school graduates, but was expanded to include information on college completion for the Classes of 1999 and 2000 after the BOR implemented a statewide information system in 1999. The information is organized by institution and uses detailed postsecondary admissions scores, placement scores, and attainment data. The report is unique in that it incorporates the ACT College Readiness Benchmarks as an organizing principle. The BOR currently has linking arrangements with the state education agency (K–12), but does not have access to high school course information.

Links to sample high school feedback reports

Kentucky: <http://cpe.ky.gov/info/hsfr/default.htm>

Minnesota: <http://www.mnscu.edu/media/publications/pdf/gettingprepared08.pdf>

South Dakota: <http://www.sdbor.edu/publications/documents/Report.pdf>

Transfer

Detailed data element information available for 33 of the 38 states that generate transfer reports reveals that every state collects four of the data elements listed in **Table 12**: state residency status; attendance status (full-/part-time); program/major; and degree awarded. Surprisingly, not all states that generate these reports collect prior college(s) attended or transfer credit(s).

In **Florida**, the Florida Department of Education (DOE) generates an accountability report that includes, among other things, the number of community college graduates with an associate's degree who transfer to a 4-year institution within the State University System of Florida (Florida Board of Governors, or BOG) and maintain at least a 2.5 GPA. The accountability report includes transfer figures as one of five success measures (high

¹⁸ High school feedback reports for each high school will be available on the CPE website in 2010. The CPE also publishes a guide on how to use the reports: http://cpe.ky.gov/NR/rdonlyres/16C6F557-6B96-4CD6-9497-25531CAE5AB2/0/HSFeedback_interpretation_Presentationversion_01.pdf. And, in addition to a free webinar for high school counselors on using and accessing these reports, **California** (University of California System) has one for community college counselors: <https://cc.readytalk.com/cc/playback/Playback.do?id=bo9y48>.

school to college enrollment and job placement of vocational program completers are among the other measures). The DOE relies on the BOG's SUR system to provide cumulative GPA.

In **Kentucky**, the Council on Postsecondary Education's *Double the Numbers* plan includes a transfer strategy geared toward increasing the number of citizens applying to the state's 2-year colleges by 2020. The transfer pipeline report used cumulative SCH and degrees awarded to demonstrate the likelihood that transfer students taking more or less than 60 credits attain a bachelor's degree. It also used transfer credit(s) to highlight the high percentage of credits accepted at the transfer institution, disaggregated by the type of postsecondary credential the student obtained. The report featured institutional strategies to increase transfer, such as guaranteed admissions programs and institutional transfer advisors. Kentucky also publishes an annual Transfer Feedback Report with information on how well students attending individual community colleges perform after transferring to a 4-year institution.

In **Oregon**, the Oregon University System and Oregon Department of Community Colleges and Workforce Development matched their respective data sets to produce a report on the transfer activity of admitted transfer students that captures not only traditional transfer patterns (2- to 4-year), but also students attending more than one institution. In addition to program/major, the data used to generate this report are similar to those used in Kentucky. However, one unique aspect is that the report compares the rates at which Oregon's admitted community college students transfer to 4-year institutions with the rates in California and Washington.¹⁹

Links to sample transfer reports

Florida: <http://www.fldoe.org/cc/OSAS/FastFacts/pdf/2009-03.pdf>

Kentucky (1): <http://cpe.ky.gov/NR/rdonlyres/E4B94D2C-6181-4F1B-A3C0C953D71C0613/0/TransferPolicyBriefFINAL93008.pdf>; **(2)** <http://cpe.ky.gov/info/transfer/default.htm>

Oregon: <http://www.ous.edu/dept/ir/reports/OregonTransfer02.pdf>

Workforce attainment gain

Although this study did not capture the number of states and agencies/entities that produce workforce attainment gain reports, there are at least **5 states** that can do so.²⁰ Detailed data element information available for 18 of the 23 states with direct access to labor data elements reveals that every state collects four of the data elements listed in **Table 12**: state residency status; program/major; degree awarded; and wages earned. And while **Alabama** does not have any links to the state labor/workforce agencies, it has cultivated its relationship with the state chamber of commerce to produce its Potential Workforce reports²¹ by county and institution.

In **Florida**, the Board of Governors of the State University System of Florida (BOG) has produced an attainment gain report that focuses on teachers. The data source is the Florida Department of Education (DOE). The report features the percentage of BOG

¹⁹ Data sources are the California Postsecondary Education Commission and the Washington State Board for Community and Technical Colleges, respectively.

²⁰ The South Carolina Commission on Higher Education does not currently have access to labor data elements, but the Florida Board of Governors has access to these elements via the SUR housed at the Florida Department of Education.

²¹ Available online at: <http://www.ache.alabama.gov/workforce/>.

teacher graduates disaggregated by education and other degrees. In addition, the report highlights the percentage of existing teachers who undergo professional development at BOG institutions by focusing on nondegree and continuing education enrollees. The BOG both provides data and has access to the DOE data warehouse and is represented in warehouse governance; this translates into a type of ownership of the data, whereby the BOG has access to labor/workforce data.

In **Kentucky**, the Council on Postsecondary Education's report focuses on in-state, out-of-state, and international graduates who are still living in Kentucky 5 years later. The report relied on CPE's ad-hoc links to the state Transportation Cabinet, and data from driver's license and state picture identification cards were used to determine whether the student continued to live in-state.

In **South Carolina**, the South Carolina Commission on Higher Education replicated the Kentucky study, but also included state financial aid data to determine whether this aid contributed to the state's attainment gain. In addition, its report contained information on graduates living in the state 5 years after obtaining their postsecondary credential.

In **Montana**, the Montana University System (MUS) report provides the percentage of graduates employed in the state by postsecondary credential obtained as well as the average salary by credential. In addition, the report lists the top 10 jobs in the state that not only have average salaries above \$50,000, but also have at least 20 openings per year. Also included are the top 10 MUS degrees ranked by annual average starting salary.

In **Washington**, the State Board for Community and Technical Colleges (SBCTC) produced a unique kind of attainment gain report focused on the state's Worker Retraining Program created for residents who had lost their jobs due to the recession or industry restructuring. Benefiting from the SBCTC's link to the state labor/workforce agency, the report used wages earned and hours worked to determine whether retrained workers' salaries were higher or lower than they had been before the training, and uses U.S. Census NAICS codes/titles to find out whether retrained workers changed employment fields.

Links to sample workforce attainment gain reports

Florida: http://www.flbog.org/resources/_doc/factbooks/quickfacts/2007_03_07_TeachersandSUS.pdf

Kentucky: http://cpe.ky.gov/NR/rdonlyres/AB5B141D-9439-4C0F-B91686210C1F36CD/0/SpecialReport071_final.pdf

Montana: http://mus.edu/data/briefs/Workforce_Development.pdf

South Carolina: http://www.che.sc.gov/Finance/CHEMIS/CHE_SpecialReport_110207.pdf

Washington: http://www.sbctc.ctc.edu/docs/data/research_reports/resh09-4_annual_wrkr_retrng_acctability_report.pdf

Factors influencing student success

This section examines the states that produce reports on financial aid and remediation.

Table 13 contains the results of a content analysis used to identify data elements collected to generate these reports. Due to their limited availability, content analyses were not performed on reports related to tuition, course cost analysis, course-taking patterns, or student learning.

Financial Aid

Detailed data element information available for 26 of the 33 states that generate financial aid reports reveals that every state collects four of the data elements listed in **Table 13**: state residency status; attendance status (full-/part-time); program/major; and degree awarded. All but 3 states collect federal financial aid, and all but 2 states collect state financial aid.²²

In **Florida**, the Board of Governors of the State University System of Florida (BOG) entered into an agreement with the Florida Department of Revenue (that was authorized and facilitated by the U.S. Internal Revenue

Service) to obtain information from the 2005 federal income tax returns, which includes adjusted gross income, a field also included in the FAFSA form. The report focused on identifying students who would have qualified for a Pell Grant but had never applied for federal aid. The BOG also produced a report showing student reliance on several types of aid, including federal, state, and other sources, that incorporates wage data from the Florida Department of Education’s *Florida Education and Training Placement Information Program* (FETPIP).

Table 13: SUR elements used in reports associated with factors that influence student success

Report	Data elements
Financial aid	State residency status
	Prior college(s) attended
	Attendance status (full-/part-time)
	1st term of academic history
	Program/major
	Dependency status
	Family income
	Federal aid
	State aid
	Institutional aid
	Other aid
	Merit-based aid
	Need-based aid
	FAFSA fields
	Course title
Course grade	
Term student credit hours (SCH) attempted	
Cumulative SCH earned	
Degree awarded	
Remediation	Admissions scores
	Placement scores
	Degree-seeking status
	Attendance status (full-/part-time)
	1st term of academic history
	Course title
	Course grade
	Term SCH attempted
	Term SCH earned
	Cumulative GPA

²² Because the purpose of providing this information is to provide national trends, the state names have been omitted.

In **Missouri**, the Missouri Department of Higher Education produces statistics that show the numbers and percentages of students who file (or don't) for FAFSA on time and qualify (or don't) for state financial aid. FAFSA fields, such as the expected family contribution and adjusted gross income, are used to generate these statistics.

In **Washington**, the State Board for Community and Technical Colleges created a report that measured the impact of a state, need-based financial aid program on student retention and completion. The report used family income to determine unmet need, and program/major to identify which students were enrolled in high-demand fields.

In **West Virginia**, the West Virginia Higher Education Policy Commission conducted a study to measure the impact of two state financial aid programs (one need-based and one merit-based) on the dropout and graduation rates of first-time college students over a 6-year period. The study was also designed to measure whether the time period in which students received the aid had any effect on their retention and graduation.

Links to sample financial aid reports

Florida (1): http://www.flbog.org/resources/_doc/factbooks/quickfacts/2009_01_14%20opportunity%20for%20more%20federal%20aid.pdf; **(2):** http://www.flbog.org/resources/_doc/factbooks/quickfacts/2007_02FinAidInfoBr.pdf

Missouri: http://www.sheeo.org/misc/MO-MDHE_Financial_Aid_Statistics_Using_SUR_Data.xls

Washington: http://www.sbctc.ctc.edu/college/education/resh_rpt_08_4opportunity_grants.pdf

Remediation

Although the majority of high school feedback reports contain remediation data, this section focuses on the reports that exclusively address the topic. Detailed data element information available for 30 of the 38 states that generate remediation reports reveals that every state collects three of the data elements listed in **Table 13**: degree seeking status; attendance status (full-/part-time); and term SCH attempted. All but 3 states collect cumulative GPA, all but 4 states collect first term of academic history, and all but 5 states collect term SCH earned. Surprisingly, not all states that generate these reports collect admissions and placement scores.

In **Alabama**, the Alabama Commission on Higher Education produces math and English remedial maps that represent the percentage of undergraduates taking these courses by county. ACHE's SUR does not contain course-level information, but it flags students enrolled in these courses.

In **Florida**, the Florida Department of Education generates a remediation report that uses degree-seeking status and placement exam information, including scores. The report is based on the year the student was "first-time-in-college" (FTIC) taking a college placement test. The placement test covers three areas of competency: math, reading, and writing. The report is organized by institution and year of student high school graduation, and it includes the number of students not requiring remediation, the number of students who failed each of the placement competencies, the percentage who enrolled in remedial courses, and the percentage who successfully exited remedial work.

In **Kentucky**, the Council on Postsecondary Education produced its 2006 report to determine the extent to which institutions had implemented the statewide placement policy created 2 years earlier. The report compared the success of students who placed out of remedial/developmental courses with two groups of students who did not place out of these courses: those who needed remediation and took it, and those who did not take the recommended courses. The report presented an analysis of the rates at which students took developmental courses and were retained in the second year, and their GPAs at the end of the first year. Several data elements were used to compile this report: placement scores, admissions scores, attendance status, course title, course grade, and term SCH earned.

In **North Carolina**, the North Carolina Community College System produces a performance measures report that contains remediation measures by institution on student pass rates in remedial/developmental courses, as well as subsequent pass rates in college-level courses for students who complete a developmental course sequence. Pass rates are provided for students obtaining a grade of C or better in both types of courses.

Links to sample remediation reports

Alabama (1): <http://www.ache.alabama.gov/PK20/a%20Layered%20map%20of%20%20FA%202008%20and%20FA%202007%20Math.pdf> **(2):** <http://www.ache.alabama.gov/PK20/a%20Layered%20map%20of%20%20FA%202008%20and%20FA%202007%20English.pdf>

Florida: <http://www.fldoe.org/articulation/perfCPT/default.asp?varAction=psi>

Kentucky: <http://cpe.ky.gov/NR/rdonlyres/7222A231-ACF5-403F-A8ED-1F9A809E11B/2004DevEdReport11306.pdf>

North Carolina: <http://www.nccommunitycolleges.edu/Publications/docsPublications/csf2009.pdf>

While the examples in this section are worthy of consideration, these reports by no means capture the wide variety available. Many reports were unavailable for analysis, but the research team is optimistic that this study will encourage the sharing of the report types presented at the beginning of this section and will help stimulate state discussion on the value of collecting certain data elements.

KEY FINDINGS AND OBSERVATIONS

Key Findings

The **key findings** in this study of 59 state postsecondary SUR systems in 45 states are as follows:

General characteristics

- ▶ Between 56 and 58 SURs in 44 states were created for **three purposes**: generating reports and statistics, decision-/policymaking, and conducting research;
- ▶ A growing proportion of state postsecondary SUR systems are collecting data from **independent, nonprofit** institutions (19 states, compared with 17 states in 2006);
- ▶ **Demographic**, postsecondary **enrollment**, and **completions** data are the most common types of data in SUR systems (between 43 and 45 states);
- ▶ Due to agency/entity mission and responsibilities, the types of data stored vary considerably in terms of their **postsecondary academic history**, such as placement scores and prior college(s) attended (38 states); **course-level information**, such as term student credit hours (SCH) attempted and course grades (37 states); **financial aid**, such as family income, federal aid, and state aid (37 states); **K–12 academic history**, such as course type and course grades (32 states); and **labor/workforce/Unemployment Insurance (UI)**, such as hours worked (15 states);
- ▶ The **Social Security Number** is the primary identification number used as the postsecondary internal primary key and in the matching process with other agencies/entities;
- ▶ Most states **currently link, share, and/or exchange data** with one or more state agencies/entities (39 states, compared with 19 states in 2006);
- ▶ Eleven of the 45 states currently have **formal data-linking arrangements** with the state education agency (K–12), 11 have arrangements with the state labor/workforce agency, and 15 have arrangements with both;
- ▶ In 16 of the 45 states, 8 are working to **establish or expand data-linking arrangements** with the K–12 agency, 1 with the state labor agency, and 8 with both agencies;
- ▶ With regard to formally documented data request processes for external requestors that **protect SUR data while providing access**, the processes in **Florida, Maryland, and Kansas** represent diverse approaches; and
- ▶ Managing relationships with external requestors of data and devising interfacing and data-sharing practices are among the **challenges** reported by states in **providing SUR data**.

Data element analysis

- ▶ No state postsecondary SUR system contains all 64 data elements examined in this study, but the top three are in **Florida** (51 elements), **Kentucky** (48), **Minnesota** (48), **Indiana** (45), and **Washington** (45);
- ▶ Once data elements are broken down by category and subcategory, there is great variation among the states;
- ▶ SUR systems in **Minnesota** (36 elements), **Pennsylvania** (36), **Georgia** (35), **Hawai'i** (35), **Wyoming** (35), **Montana** (34), **New York** (34) and **Vermont** (34) contain the highest proportion of the 36 postsecondary data elements;
- ▶ SUR systems in **Washington** (13 elements), **Florida** (12), and **New York** (10) contain the highest proportion of the 13 K–12 data elements;
- ▶ SUR systems in **Indiana** (11 elements), **New Mexico** (10), **North Carolina** (10), **Washington** (10), **Florida** (9), **Kentucky** (9), and **Minnesota** (9) contain the highest proportion of the 15 labor data elements; and
- ▶ Fifteen of the 30 data elements examined in this study are rather homogeneous in their **definition sources** and **code structures/formats**. Most are demographic elements.

Ability to contribute to P-20 pipeline and policy discussions about student success

- ▶ Depending on the mission and responsibilities of each state, several states offer different approaches to designing reports related to **P-20 pipeline issues** and **factors influencing student success**;
- ▶ A high proportion of states generate **retention, transfer, and remediation reports** with the SUR data collected;
- ▶ Many states use a variety of data elements for high school feedback, transfer, and workforce attainment gain reports:
 - ▶ high school feedback reports: **Kentucky, Minnesota, and South Dakota**
 - ▶ transfer reports: **Florida, Kentucky, and Oregon**
 - ▶ attainment gain reports: **Florida, Kentucky, Montana, South Carolina, and Washington**
- ▶ Many states use a variety of data elements for financial aid and remediation reports:
 - ▶ financial aid: **Florida, Missouri, Washington, and West Virginia**
 - ▶ remediation: **Alabama, Florida, Kentucky, North Carolina**
- ▶ Due to report availability, not much is known about the data elements commonly used to generate articulation, economic impact/jobs, mobility/migration, retention, tuition, course cost analysis, course-taking patterns, or student learning reports.

Enabling Data Elements

Several “**enabling**” data elements emerged from this study. These elements enable leaders to make more effective policy decisions that result from a deeper understanding of specific issues. They also serve to demonstrate the value of data to decision makers.

High school course-related elements

Course type, course title, course grade, and high school GPA provide more information about the population of students entering college than admissions and/or placement exam scores alone. Both high school course type and course title are collected in 7 states, and 6 states (not the same states) collect course grade, but these elements may or may not be used to generate high school feedback or other reports. **Kentucky**, which does not have access to detailed high school course data elements from the state education agency, obtained this information from ACT, Inc.

Postsecondary course-related elements

Course type, course title, course grade, and term SCH attempted and earned not only serve as potential early warning/student success indicators, but also, in many cases, serve to enrich high school feedback reports, particularly on remediation needs and patterns.

Financial aid elements

Three sets of data elements – **family income, state financial aid, and Free Application for Federal Student Assistance (FAFSA)** fields – are useful for creating reports on financial aid and high school feedback.

Family income is used in **Florida** to identify students who are eligible for federal financial aid (but did not apply for it) and state financial aid. There are 20 states that collect the family income data element, and some use adjusted gross income (AGI) from the FAFSA as the source. These state agencies/entities don’t necessarily have access to FAFSA fields, but in some states, institutions supply this information to the state agency/entity by using the AGI from the FAFSA form to populate this data element.

Missouri uses **expected family contribution** (an element not specifically examined in this study) to determine student eligibility for a state need-based aid program.

In **Kentucky**, the high school feedback report uses the **state financial aid data element** to compute the average amount awarded to the high school graduating class that is entering college and to help interpret postsecondary retention rates. SURs in 21 of the 31 states that produce this report contain this data element, but it may or may not be used to generate these reports.

Transfer elements

SURs that contain **transfer credit(s)**, such as **Kentucky**, can gauge the effectiveness of statewide articulation agreements. SURs in 27 of the 39 states that produce transfer reports contain this data element, but it may or may not be used to generate these reports.

Labor/workforce elements

Hours worked, wages earned, and U.S. Census or U.S. Department of Labor employment codes/titles all serve to highlight higher education's return on investment. All 23 of the states that have access to labor/workforce/UI data elements obtain wages earned through this arrangement, 8 of these states collect hours worked, 13 states collect either the U.S. Census or U.S. Department of Labor codes/titles, and 5 states collect both types of codes/titles. **Washington** has developed a procedure for calculating hourly wage from hours worked and wages earned. States without linking arrangements to state labor/workforce agencies (e.g., **South Carolina**) have been able to match student records with driver's license records as a proxy to determine whether students have remained in-state.

Summary

Identifying, collecting, storing, and using data at the state level is a complex enterprise that varies considerably across states. State higher education agencies/entities must accommodate the data needs of many stakeholders, including the legislature, the federal government, and private foundations. Serving multiple "masters" leads to variations in data element definitions and sources, and the existence of data elements will almost always be tied to reporting requirements. Despite these challenges, the 59 systems currently in place in 45 states can serve as a resource for states and the nation. This report presents a first glance of what states will be able to accomplish as these resources continue to mature.

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