Data Quality Campaign

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Powering Potential

Using Data to Support Postsecondary Access, Completion, and Return on Investment

Whether students are moving from high school to postsecondary education or entering the workforce, these pivotal moments of transition can be complex. Without useful information to help navigate them, students may not know which choices will help them meet their goals. Data users at all levels—including state leaders such as policymakers and education officials; institutional decisionmakers such as K–12 and postsecondary institution leaders and workforce and training providers; counselors and direct service providers; and students and their families—need clear and timely information to make decisions. Too often they lack access to data that could illuminate options and guide decisionmaking. State data systems that provide tailored, user-friendly insights can bridge this gap, ensuring that students are equipped to navigate their journeys with confidence and leaders have the necessary information to support them.

Right now, state data systems, postsecondary institutions, and the state agencies that support institutions all collect information within a variety of different data systems, but unfortunately these systems do not currently serve people as well as they should:

- **Postsecondary institutions and programs**—such as two- and four-year colleges, training and apprenticeship programs, and short-term credential programs—collect information about students' journeys. Due to their proximity to students, these institutions are positioned to take on-time action to support their students. While some institutions seek to use this data for student support and program improvements, many institutions lack the capacity to analyze and proactively use the data they collect. As a result, institution-level analysis fails to provide statewide insights to benefit all students.
- **State agencies that oversee postsecondary institutions** collect some kinds of student or programmatic data within postsecondary student unit record systems (PSURSs). These source systems are invaluable to the state agencies and the larger state data ecosystem. However, too often agency-level data is disconnected from other sectors' data and not as robust as necessary to offer students support to succeed. Workforce data systems are usually equally—and in some cases more—siloed and disconnected

The Impact of Postsecondary Education

Accessing and completing postsecondary education (i.e., two- and four-year college degrees, professional training certifications) benefits not only individuals and their families but also the larger community and state in a variety of ways. A better-educated and higher-paid population results in increased spending and tax revenue, and highly educated US adults are reported to be more involved in their communities and civic life. People with postsecondary education are more likely to participate in the workforce in general and to say their job is a good fit for their talents and interests. Additionally, due to the increasing use of technology in the workplace, the workforce of the future will require more education and training to meet the demand.

from other agency data. As a result, individual source systems alone cannot provide longitudinal data nor connect student information with postgraduation outcomes as is possible with a statewide longitudinal data system (SLDS).

- **SLDSs** bring together individual-level data from across different sectors—early childhood, K–12, postsecondary, and the workforce—over time. These systems enable data users to access and use data to support students on their journeys to and through postsecondary education and to ensure that students get a return on their investment (ROI). SLDSs are still in the process of incorporating postsecondary data and do not yet meet the needs of all data users.

To build a robust SLDS, states need to establish clear data-sharing agreements and safeguards that protect agency autonomy while simultaneously aligning agencies on shared goals, such as improving data quality, connection, and access. Because longitudinal data makes it possible to glean insights that individual system data cannot, states must establish and govern robust SLDSs to get the data needed to address shared challenges and achieve aligned goals. When state leaders prioritize bringing data together within SLDSs, they can create tools to facilitate and support students in several ways as they navigate postsecondary and workforce pathways:

- **Supporting Access:** Access to postsecondary education begins with reducing barriers and providing clear, useful information to students and families. Using data to develop user-friendly tools to guide and simplify the processes through which students—especially those from historically underserved communities—apply for and enter postsecondary education empowers data users to make informed decisions about education pathways and financial aid. Prioritizing data collection and use is one way states can create systems that expand opportunities for all.
- **Supporting Completion and Attainment:** Ensuring that students not only enroll but also successfully complete their postsecondary programs requires integrated data systems that track progress, support transitions, and identify gaps in outcomes among student communities. These systems help states and institutions identify challenges, develop support systems, offer targeted interventions, and take steps to improve programmatic outcomes. Programs like dual enrollment, apprenticeships, and early college are proven strategies to reduce barriers to completion and help students build skills for success. Collecting and making data about outcomes available can help to inform decisionmaking at all levels.
- **Maximizing ROI:** Demonstrating the value of postsecondary education requires tracking long-term outcomes such as earnings, job placement, and workforce alignment. Data systems that integrate education and workforce information enable individuals, institutions, and policymakers to evaluate the ROI for different education and training pathways. By prioritizing data on affordability, program effectiveness, and long-term outcomes for individuals side by side with workforce needs, states can ensure that their education systems meet the needs of students, the state, and the labor market.

To meet these goals, states must go beyond tinkering at the margins and make transformative changes that ensure that the state data ecosystem—and most importantly the SLDS—can support postsecondary access, completion, and ROI.

Common Types of Postsecondary and Workforce Data

Some of the most common types of education and workforce data collected by various state entities are:

- **Enrollment and Completion Data:** enrollment counts by institution and program, persistence and completion rates, credentials (e.g., certificates, associate degrees, bachelor's degrees), and dropout rates.
- **Program Performance Data:** graduation and retention rates for specific programs (e.g., career and technical education, Accelerated Study in Associate Programs), participant demographics, fields of study (e.g., Classification of Instructional Programs [CIP] codes), occupation (e.g., Standard Occupational Classification [SOC] codes), and employment outcomes for program completers.
- **Financial Aid Data:** disbursement and usage rates of grants, loans, and scholarships (e.g., Pell Grants, state scholarships); amounts borrowed by students; and repayment or default status.
- **Workforce Data:** employment status, quarterly wages, North American Industry Classification System (NAICS) industry codes, SOC occupational codes, employer size and location, and historical earnings.
- **ROI Data:** student debt; time to degree; median earnings of graduates by degree type, program, and institution; academic program evaluation; and public benefits like increased tax contributions.

EXISTING POSTSECONDARY AND WORKFORCE DATA LANDSCAPE

The education and workforce data ecosystem varies from state to state. Federal requirements govern oversight and data collection related to K–12 education, but postsecondary education and workforce data systems can differ more substantially. Each state has one or more PSURSs designated to collect postsecondary education data. These postsecondary systems often provide the source data that is incorporated into a state's SLDS, but data-sharing agreements between state agencies allow PSURSs to connect some cross-sector data as well. However, state leaders and advocates report that existing data connections do not result in useful access and transparency and often fail to collect the kinds of data necessary to support access, completion, and ROI efforts.

For example, while states report that 68 percent of PSURSs have connections to labor/workforce data, only 11 percent include SOC codes, which allow states to identify the industry and general occupation in which an individual works. A mere 31 percent of states report using linked K–12 and workforce data to develop and guide policy agendas and strategic plans. Cross-sector data is powerful, but right now states and institutions are missing opportunities to put that information to work to support students and inform policy because of arbitrary silos.

SLDSs can empower leaders to use and analyze data across sectors, making possible valuable insights into the impact of public programs, education outcomes from institutions, and individuals' career pathways and earnings. To make that data meaningfully accessible, leaders must use those insights to provide data tools to different audiences. However, many existing state data systems and tools do not currently meet the needs of data users at any level. The Data Quality Campaign's (DQC) research has shown that states and systems have struggled to effectively incorporate and proactively use postsecondary and workforce data even at the state agency level.

Existing Postsecondary and Workforce Data and How It Is Used

Each state's postsecondary and workforce data ecosystem looks different. While the US Department of Education (ED) collects all K–12 data through a centralized state process, postsecondary data is generally collected directly from postsecondary institutions. As a result, although institutions must report data to ED, federal rules do not require that states collect the same comprehensive and standardized data on postsecondary education. Additionally, states' postsecondary governance and data systems vary widely, and workforce data accessibility in particular is often inconsistent. However, all states do collect at least some level of postsecondary education data, and several are working to improve and connect that data to both K–12 and workforce data. States most commonly report using postsecondary data in the following ways:

- **Supporting Workforce Alignment:** States report using workforce data to identify high-demand career pathways and evaluate the alignment between education offerings and labor market needs. **Maryland** examines wage growth, industry alignment, and long-term career trajectories. The state is leveraging its data system to support Grow Your Own staff programs, which aim to expand teacher and school leader pipelines, increase diversity to better align with student demographics, and address educator shortages.
- **Assessing the ROI of Postsecondary Pathways:** Some states leverage data to measure the financial benefits of different postsecondary pathways. **Kentucky** uses its Kentucky Center for Statistics (KYSTATS) system and tools like the Postsecondary Feedback Report and High School Feedback Report to track long-term earnings and employment outcomes by degree type, provide detailed outcome information, and enable disaggregation by different subpopulations.
- **Enhancing Opportunity:** States analyze data to identify disparities in outcomes by race, income, and geography with tools like the Postsecondary Value Commission's Equitable Value Explorer. These efforts drive decisionmaking and enable states to target interventions and resources toward underserved communities, ensuring that more students have access to postsecondary education and workforce opportunities.
- **Informing State-Level Attainment Goals:** States report using data to support tracking and achieving legislatively mandated goals, including **Ohio's** Attainment Goal 2025 and **California's** Vision 2030.
- **Developing Student Success and Support Tools:** States have reported using data to improve student retention and completion rates, particularly by flagging at-risk students through early warning

systems. The **Indiana** Department of Education, for example, is developing an early warning dashboard that will provide actionable data to support the K–12 students who are most at risk of not graduating. The data strategy of the state's Commission for Higher Education also aims to use data tools to generate timely insight on key state performance indicators including student success metrics like persistence and on-time completion.

- **Addressing Postpandemic Enrollment Challenges:** States use enrollment data to understand and address enrollment declines, focusing on reengaging disconnected students and underserved populations. For example, the **Connecticut** State Department of Education provides dashboards (e.g., the College Enrollment, Persistence, and Graduation Dashboard) that offer insights into college enrollment, persistence, and graduation rates, disaggregated by district and other factors. These resources, developed through the Preschool through 20 Workforce Information Network (P20 WIN) Collaboration, help track enrollment trends and guide targeted outreach. Additionally, Connecticut's report on disconnected youth analyzes trends to better understand and reengage these populations using data facilitated by P20 WIN.

Each of these goals is important, and the K–12, postsecondary, and workforce data systems that collect the necessary data are essential. However, bringing together high-quality K–12, postsecondary, and workforce data in an SLDS can allow states to support postsecondary access, completion, and ROI in a way no single source of data ever could.

Innovative Ways States Are Using Education and Workforce Data

Some states are taking steps to use the data available to them to support postsecondary access, completion, and ROI. For example:

Indiana: Indiana's Department of Workforce Development developed the Pivot tool, a workforce recommendation engine powered by the state's SLDS that helps job seekers identify career paths that align with their unique skills and experiences. By integrating data from education, workforce, and unemployment insurance records, Pivot generates personalized career and training recommendations tailored to an individual's work history, wages, and educational background.

Kentucky: Kentucky leverages KYSTATS to align workforce and postsecondary data, including through the Kentucky Future Skills Report, a tool that enables local leaders to conduct supply–demand analyses by incorporating typical outcomes data, such as wages and employment rates, alongside occupational projections and high-need industry trends. By integrating this data, Kentucky helps policymakers and institutional leaders align education and workforce programs with evolving labor market demands, ensuring that workforce development efforts are responsive to regional economic trends and industry needs.

Maryland: The Maryland Longitudinal Data System Center integrates data from the Maryland Apprenticeship and Training Program to assess the outcomes of apprenticeship completers. By examining employment and wage outcomes, this integration helps the state measure the effectiveness of apprenticeship programs in advancing participants' careers. The insights generated inform workforce development strategies and program improvements, ensuring that apprenticeships meet labor market demands while offering high-value career pathways.

Minnesota: Minnesota's Statewide Longitudinal Education Data System (SLEDS) combines data from the Minnesota Office of Higher Education and the Department of Employment and Economic Development to produce the Graduate Employment Outcomes tool. This resource offers detailed insights into employment rates, wages, and industry sectors for graduates, enabling program evaluation and career planning. The tool also meets Workforce Innovation and Opportunity Act reporting requirements, supporting compliance while enhancing the state's ability to align education and workforce initiatives.

Data Challenges

Many states have taken steps to develop strong longitudinal data connections across sectors. States have civic and financial motivators to support students' access to and completion of postsecondary education, and efforts such as those detailed in the previous section use data to support students to and through postsecondary education. However, the following challenges have slowed state progress in developing stronger data ecosystems, and states will need to address them to create strong systems that support postsecondary access, completion, and ROI:

SILOED DATA

- The federal funding to support states to develop data systems has historically been siloed, with Workforce Data Quality Initiative (WDQI) grants supporting the development of workforce data systems and SLDS grants historically focusing on K–12 education data. No dedicated federal funds are available to support the collection of postsecondary data at the state level. As a result, the data in each of these systems is often siloed and unconnected.
- Although the federal government collects a great deal of data from postsecondary institutions, particularly relating to student debt, that data generally does not have a pathway through a state agency or data system in the same way that K–12 data does. As a result, states must create data reporting requirements and develop data systems and capacity—and in some cases state agencies—to collect and analyze postsecondary data.[1]
- Most states have not yet developed data systems with the capacity to collect the necessary data, nor have they developed the analytical capacity to make use of that data. Federal data that is available to states is often aggregate—rather than individual-level, personally identifiable—information, which means that states can't incorporate it into their SLDS to produce longitudinal findings and analysis.

DATA MATCHING

- Education and workforce data systems identify students over time using different methods, making matching and connecting individuals' data as they progress in their pathways across sectors difficult.[2] States like **Minnesota** are exploring the use of driver's license data to improve matching accuracy while prioritizing addressing privacy concerns.
- Because of the difficulty with matching data across sectors, some states have resorted to paying private vendors to match data and return aggregate results, which limits the data's efficacy and prevents it from being used for longitudinal analysis.

BARRIERS TO ACCESS

- Forty-two states report having (or are still constructing) SLDSs that connect K–12, postsecondary, and workforce data. However, while many states report on-paper data connections, technical limitations, inconsistent data-sharing agreements, and data privacy concerns often prevent them from fully accessing or leveraging this data. These barriers limit the ability to use data to support students' transitions into higher education and the workforce.

LIMITED USE OF WORKFORCE DATA

- Although 32 states incorporate workforce data into their SLDSs, or are planning to do so, only 20 states include unemployment insurance wage data, and only 24 states collect current earnings data. Current earnings data provides critical information about individuals' wages or salaries, including metrics such as hourly pay, annual salaries, and bonuses, which are often disaggregated by industry or occupation. Without these critical data points, states struggle to measure the long-term ROI of postsecondary education and align programs with workforce needs.

GOVERNANCE GAPS

- Many states face challenges in data governance, including a lack of standardized data documentation; insufficient data skills and culture; and critically, insufficient buy-in from staff or leadership to sustain strong data practices. Without leadership support, governance efforts often stall due to competing priorities and resource constraints. Building buy-in requires demonstrating the value of shared governance to leaders across agencies, ensuring that they understand how sitting at the same "data table" improves decisionmaking, streamlines reporting, and enhances data accessibility.

1 While some states have existing dedicated postsecondary oversight agencies, others have developed individual postsecondary education oversight systems. To collect statewide information, states may need to designate an agency tasked with collecting or compiling all available state data on postsecondary education.

2 The use of unique student identification numbers is common in K–12 data, while postsecondary and workforce data is commonly identified using Social Security numbers (SSNs). Concerns about and limitations of using SSNs further complicate matching efforts.

- States with codified governance structures—such as the independent governing boards in **Maryland** and **Kentucky**—have demonstrated success in ensuring sustainable and accessible data ecosystems. In contrast, states without formal governance often cite difficulties in maintaining system momentum, securing funding, and addressing turf challenges among agencies.

INTERSTATE DATA

- Students and workers—particularly those who live in multistate metro areas—frequently cross state boundaries to go to school and/or work. While efforts are underway to build interstate data connections, most states have access to the data only from within their borders. This situation makes assessing those students' and individuals' outcomes challenging and limits leaders' ability to create policies that set goals for a competitive workforce.

ON-TIME DATA AND ACTION

- SLDSs are designed to collect and facilitate analysis of comprehensive statewide data, not to enable on-time direct support to students. Conversely, institutions are in a unique position to take on-time action to support students, but they often lack the capacity to perform robust data analysis. Additionally, their findings are limited to the individual institution.

DATA QUALITY

- Inconsistent data collection and outdated records across state and federal systems make generating accurate and timely insights difficult. Without high-quality data, states struggle to assess student progress, measure outcomes, and align programs with workforce needs.

PRIVACY

- Centering privacy in data work is essential, but too often, confusion about what data sharing is permissible creates an unnecessary roadblock to meaningful data access. State leaders and agencies across the country lack a shared understanding of how to interpret and implement state and federal privacy laws (e.g., the Family Educational Rights and Privacy Act) in service of data sharing and access.

Leaders Need Better Data

Data users at all levels need meaningful access to longitudinal data to make informed decisions about the future. While current challenges have delayed progress in many states, state efforts to make use of the available data do exist, and there are state and institutional policies that require the collection of expanded and improved education and workforce data. Once that data is collected, leaders can use it to inform decisionmaking and support students in a variety of ways. Some examples of those policies include:

- **Attainment Goals:** Statewide goals provide a clear vision for increasing the number of residents with postsecondary credentials and degrees, anchoring data collection and use in achieving measurable outcomes. States also need outcomes data to create and implement policies like **outcomes- and performance-based funding**—which use completion rates and workforce outcomes to incentivize institutional improvements. To measure current education outcomes as well as progress toward their goals, state leaders need access to not only high school graduation rates but also postsecondary enrollment, persistence, and completion data.
- **On-Time Interventions, Simplified Processes, and Student Success Systems:** On-time student support programs use data to identify students at risk of dropping out, enabling targeted interventions that improve retention and completion rates. Similarly, efforts to make applying for and getting into postsecondary education programs easier (e.g., automatic, guaranteed, and direct admission programs and policies) use data to simplify and facilitate postsecondary enrollment processes. These types of programs require comprehensive, on-time, student-level data to function effectively, and state data systems can help facilitate and analyze that data in partnership with institutions.
- **Financial Aid:** Comprehensive state financial aid policies use data to ensure equitable access to funding, particularly for students from low-income families or underserved groups, supporting their success in postsecondary education. To protect students as well as the state's investment, it is important for states to collect data on student outcomes, debt burdens and their impact on student persistence and completion, and students' ROI after graduation.
- **Public Reporting and Accountability:** Some states and institutions make data publicly available so data users can assess the effectiveness of education programs and identify areas for improvement by analyzing

data on student outcomes, such as graduation rates, job placement, and student loan debt. Transparency fosters accountability by ensuring that institutions are providing a high-quality education that supports students' success in postsecondary education and into the workforce.

- **Data Tools:** Well-designed data tools and interfaces (e.g., dashboards, career and program explorers) make complex data useful and empower policymakers, institutions, and the public to drive improvements in student outcomes and workforce alignment. Building tools that meet the needs of the audience they are intended to serve often requires comprehensive data that states do not currently have, so new data collections and connections are necessary.

NEXT STEPS TO SUPPORT POSTSECONDARY ACCESS, COMPLETION, AND ROI

Ensuring that students have access to postsecondary education, receive the support necessary to complete their programs, and experience a return on their education investment must be a high priority for states. States invest significant resources in K–12 education, and the fullest return on that investment comes when students take their next, best step following high school onto a pathway that meets their goals. **To support students navigating complex education and workforce transitions and to ensure that they are successful in postsecondary education and the workforce, states should take the following recommended actions.**

Actions States Can Take to Develop and Improve SLDSs

Bringing together high-quality K–12, postsecondary, and workforce data can allow states to support postsecondary access, completion, and ROI in a way no single source of data can alone. Existing systems too often fall short due to siloed, inaccessible, or outdated data. States must go beyond tinkering at the margins and make the following transformative changes that ensure that the state data ecosystem can support and facilitate postsecondary access, completion, and ROI.

1. CODIFY AND IMPLEMENT CROSS-AGENCY GOVERNANCE

Shared decisionmaking and inclusive representation are essential to building effective, sustainable data systems. States should codify cross-agency governance structures in state law to ensure collaboration, transparency, and longevity across changes in leadership. These structures must include representatives from all contributing agencies—such as K–12, higher education, workforce, and human services—as well as people outside of these institutions who need and use the data.

Without strong governance, even the most robust SLDS will struggle to meet its full potential. Bringing all contributing agencies—spanning the early childhood, K–12, postsecondary, and workforce sectors—to the table ensures transparency and accountability for decisions related to data collection, sharing, and access. With governance in place and codified in statute, states can address critical challenges such as privacy, security, and interoperability, while aligning resources and policies to support individuals, policymakers, and communities.

Engage the Community in Data Decisions

Data governance works best when members of the public are involved and the public has the opportunity to meaningfully participate and weigh in on decisions. States should actively engage community members—such as students, families, educators, and employers—in decisions about data use and system improvements. Gathering regular feedback ensures that data systems and tools reflect the needs of the communities they are designed to serve.

STATE EXAMPLE

California's Cradle-to-Career Data System demonstrates how including community members in every stage of the design process can build trust and create systems that reflect the needs of diverse communities. Public engagement was prioritized through advisory groups and open meetings, allowing educators, families, and community organizations to actively shape the system's goals and design.

2. COLLECT AND CONNECT EDUCATION AND WORKFORCE DATA TO ACCOMPLISH STATE GOALS

States have been working to build data systems for many years, but data users at all levels consistently report that existing data systems do not yet meet their needs. Once states have a codified governance structure, state leaders must take steps to identify their education and workforce priorities and then integrate necessary data from across K–12, postsecondary, and the workforce into the SLDS to meet those goals. Collecting and connecting high-quality individual-level student data across sectors enables states to view outcomes. For detailed and innovative insights, states must include robust individual-level data disaggregated by factors such as race, ethnicity, income level, gender, disability status, and geographic location, as well as invest in robust data matching processes to connect data across sectors.

Be Transparent About Data Use and Impact

States should be transparent about how disaggregated data will inform policy changes, drive targeted interventions, and address systemic inequities. By being transparent about how they are using data and regularly assessing the impact of data-driven efforts, states can ensure that data systems are driving measurable improvements and positive outcomes for all students and the state itself.

3. SUSTAIN DATA SYSTEMS AND INFRASTRUCTURE

SLDSs are only as strong as the systems feeding into them. State leaders must invest in strengthening the source systems—early childhood, K–12, postsecondary, and workforce—alongside investments in SLDSs to ensure that data is accurate, accessible, and actionable. Sustained, dedicated funding and capacity-building support are essential to ensure that SLDSs serve their intended purpose: enabling data to work for people. While federal funding is important, states must invest their own resources into making this data ecosystem a reality.

- **Invest State Dollars in Data:** To build existing data systems, states have often taken advantage of federal SLDS and WDQI grants, as well as philanthropic dollars. However, to successfully accomplish state goals as well as ensure the longevity and success of the SLDS, investing ongoing state funding is critical. Ongoing state investments ensure that the data system is effective over time and signal publicly that access to information is a state priority. Investments should include funding to cover essential elements such as staffing, training, and technology infrastructure and needed updates over time. In 2023, states like Louisiana and Missouri and Washington, DC, codified funding for their SLDSs in state legislation.
- **Invest in Contributing State Agencies and Source Systems:** State investments should be sufficient to ensure that all contributing agencies have the resources needed to participate fully, maintain high-quality data systems, and realize the benefits of shared data. Meeting this goal will require investments in the source data systems operated by these agencies and should benefit the agencies by reducing administrative burden and enhancing analytical capacity. Because data literacy and analytical capacity are such critical aspects of an SLDS's success, states should also consider providing technical assistance and tools to support agencies' use of the data.

4. PROVIDE SERVICE TO CONTRIBUTING AGENCIES

To build and sustain strong participation in data systems, states must demonstrate the value of data sharing to contributing agencies. Data providers are more likely to engage when they see clear benefits for the work they are responsible for undertaking.

- **Support Simplified and Improved Reporting:** States should create through an SLDS streamlined processes for data reporting to and from contributing state agencies and postsecondary institutions. The processes will reduce administrative burden and cost while enhancing data accuracy and timeliness.
- **Provide Meaningful Analysis:** Many state agencies lack the staffing and data analysis capacity to make the best use of the available data. Through the SLDS, states should provide state agencies and partners with access to data-driven analyses that support program evaluations, resource allocation, and strategic decisionmaking.

5. PROVIDE DATA TOOLS WITH THE APPROPRIATE INFORMATION FOR INTENDED AUDIENCES

Effective data tools empower students and families, education leaders, policymakers, and the public to make informed decisions about education and career pathways. States should develop tools that deliver the right data to the right audiences, ensuring that the information is timely and useful. Identifying the intended audience and clarifying the intention of the tool are critical to determine the information required to effectively make use of it—whether the necessary information is individual-level student data to support advising or high-level aggregated trends for policymakers and institutional leaders. By aligning data tools with users' specific needs, states can maximize the value of their data systems and ensure the people have the information they need to drive meaningful outcomes.

Expand Postsecondary Access

Once states have put the foundational elements in place, leaders can use data to employ the following strategies that expand postsecondary access:

- Simplify processes like financial aid and admissions processes to reduce barriers.
- Build mobile-friendly, user-centered tools with clear insights into pathways, aid options, and labor market demands.
- Tailor access tools for underserved populations, including features like multilingual support and printable formats.
- Establish governance structures to sustain collaboration across agencies.
- Secure data-sharing agreements that prioritize privacy while enhancing accessibility.

STATE EXAMPLE

Idaho's Direct Admissions initiative simplifies the college admissions process by preadmitting Idaho high school seniors to state public colleges and universities based on academic performance. By proactively identifying qualified students, the program ensures that they receive admissions offers without needing to submit individual applications. This initiative removes procedural barriers to enrollment, increases college attainment, and makes the admissions process easier by allowing students to focus on selecting an institution.

Actions States Can Take to Proactively Use Data in Cooperation with Postsecondary Institutions

Both state data systems and postsecondary institutions are uniquely suited to providing support to students but in very different ways. States have the opportunity to collect and analyze data from agencies and institutions across the state, while institutions are able to collect data on their students and take on-time action to support them. When they work together, both states and postsecondary institutions can create the following policies and provide more targeted supports to students who need them.

1. ENSURE THAT DATA IS USED TO INFORM POLICY AND PRACTICE

When policy and practice are grounded in data, state and institutional leaders can employ both to more effectively create pathways that support individual and state economic success. By analyzing trends in completion rates, employment outcomes, and student debt, education leaders and policymakers can evaluate the impacts of policies and programs, as well as identify where supports are needed most. By leveraging connected data across education and workforce sectors, state and institution leaders can evaluate the effectiveness of investments, identify gaps in support, and prioritize resources where they are needed most. To make this vision a reality, state and institution leaders can use data to:

- **Create Guided Pathways:** By analyzing trends in postsecondary completion, employment outcomes, and labor market needs, policymakers can design programs that guide students toward pathways that offer a high likelihood of completion and result in high-paying careers in in-demand fields. This work includes using data to design programs that support students' access to postsecondary education, help students complete their programs, and ensure that students are receiving an ROI from their postsecondary education.
- **Align Education Offerings to the State's Workforce Needs:** Leaders should use SLDSs to identify gaps and needs within a state's labor market and support the alignment of education programs with in-demand occupations, ensuring that graduates possess the skills and knowledge needed to succeed in the workforce and contribute to the state's economic growth.
- **Support Underserved Students:** By using data effectively, states can also identify and address equity gaps, ensuring that all populations, especially historically underserved groups, have access to the supports they need to succeed. This work includes tailoring interventions based on disaggregated data to meet the unique needs of different communities and ensuring that resources are allocated where they will have the greatest impact.

2. USE DATA TO EVALUATE INSTITUTIONAL AND PROGRAMMATIC OUTCOMES

In addition to supporting current students, state and institutional leaders can use cross-sector and institutional data to evaluate and improve the institution and/or program to provide better outcomes and ROI for future students. Data from a robust SLDS makes evaluating and improving programs in new and innovative ways possible. State leaders should prioritize using data in the following ways:

- **Analyze Data on Student Outcomes to Understand Effectiveness:** By analyzing data on student outcomes, such as graduation rates, job placement, and student loan debt, states and institutions can assess the effectiveness of education programs and identify areas for improvement. This data-driven approach fosters accountability by ensuring that institutions are meeting their goals and providing a high-quality education that prepares students for success in the workforce and beyond.
- **Invest in What Works:** State and institutional leaders can use institutional and programmatic data to identify opportunities for improvement, areas where resources are most effectively allocated, and gaps in student outcomes. They can also use this data to optimize state and institutional investments—such as through performance- or outcomes-based funding—to target investments toward more effective programs, improve student success within postsecondary programs, and ultimately increase students' ROI.

Increase Postsecondary Completion

Access is critical, but students require data-informed policies, programs, and on-time supports to successfully complete their postsecondary programs. With access to high-quality data, states and institutions can undertake the following efforts to increase completion and attainment:

- Use data to offer tailored support services to students at risk of not completing their program.
- Expand pathway programs like dual enrollment and apprenticeships to reduce time and costs and improve outcomes.
- Design systems to recognize nonlinear pathways, ensuring that data supports diverse educational journeys.
- Provide data on lifelong learning and reengagement to support returning students.

STATE EXAMPLE

Minnesota's SLEDS integrates data across education and workforce sectors to support student completion and attainment and streamline data reporting. The system includes data on concurrent enrollment opportunities, such as dual credit programs. These programs allow students to earn college credit while in high school, reducing both the time and cost of completing a degree while enhancing student success. SLEDS also facilitates alignment between workforce and education data, enabling institutions and policymakers to address critical questions about postsecondary outcomes and workforce readiness. By providing tools like the Graduate Employment Outcomes tool and sharing insights with postsecondary institutions, SLEDS supports tailored interventions and program reviews.

3. PROVIDE STUDENTS WITH SUPPORT TO SUCCEED

Institutions collect useful information about their students, from enrollment information to major to course grades. When connected and analyzed, leaders can use this data to support students in real time. However, many institutions lack the capacity to do this kind of analysis, and even when they do, the findings are limited to that institution rather than statewide. If states and institutions work in collaboration, institutions can collect on-time student data, and SLDSs can provide statewide data that informs decisionmaking.

- **Make Admissions Processes Easier for Students:** States can use data to streamline postsecondary admissions and financial aid processes, ensuring that they make applying and enrolling easier for students, and help align educational offerings with workforce demand to improve student ROI and support the state's workforce needs. Institutions and states can collaborate to collect and analyze data to support individuals, institutions, and state agencies as well as identify trends and needed policies.
- **Support Students at Risk of Not Completing:** States and institutions should leverage data to identify students at risk of not completing their postsecondary pathways and craft policies and programs to provide support to them. While targeted, on-time supports are often best implemented at the institutional level to enable interventions, state data systems—including SLDSs—can play a critical role by providing the foundational data needed to identify trends and inform strategies and interventions.
- **Provide Data from SLDSs to Institutions:** By ensuring that institutions and programs can make use of SLDS data insights (e.g., feedback reports, analysis of policy outcomes), institutions are empowered to take action to support students, and state leaders are able to develop better education and workforce policies.

Make Data Available to Researchers

Providing researchers and direct service providers with access to comprehensive longitudinal data—while prioritizing privacy—can result in innovative analyses that can uncover critical insights. Data-driven research can ultimately lead to more-informed policy decisions and improved support systems for students across the country.

Improve ROI After Postsecondary Education

As the value of postsecondary education is increasingly debated, showing concrete data on its positive outcomes is critical. Access to high-quality data will enable state leaders to support and share information about postsecondary ROI in the following ways:

- Track long-term earnings and job placement to evaluate program ROI.
- Develop tools that compare earnings and outcomes for informed decisionmaking.
- Analyze debt, repayment, and affordability to inform policies and improve programs.
- Highlight ROI for short-term credentials and reskilling opportunities.
- Strengthen data systems to reduce reliance on external vendors and improve matching accuracy.

STATE EXAMPLE

Connecticut's P20 WIN system leverages longitudinal data to analyze employment outcomes for all institutions in the Connecticut State Colleges and Universities (CSCU) system. This analysis includes interactive dashboards, such as the CSCU Employment Outcomes Dashboard, which provides 13 different views to examine postsecondary outcomes by institution, academic area, credential type, demographic group, and comparisons to a living wage standard. Additionally, research conducted through P20 WIN has linked data from the Connecticut Department of Education, CSCU, the University of Connecticut, and the state Department of Labor to evaluate measures of college and career readiness and high school factors as predictors of early college success.

The challenges to deploying data to support students' access, completion, and postsecondary ROI are varied and real. However, states have clear, impactful steps they can take to improve their data ecosystems and infrastructure. By taking these steps, states can ensure that data users at all levels have the support and access to the information necessary to increase and improve postsecondary access, completion, and ROI.

LEARN MORE

For more about how state policy can support access to SLDS data, see DQC's vision to transform state data systems.

ABOUT THE DATA QUALITY CAMPAIGN

The Data Quality Campaign is a nonprofit policy and advocacy organization leading the effort to ensure that data works for everyone navigating their education and workforce journeys. For more information, go to dataqualitycampaign.org.

APPENDIX

Methodology

DQC staff reviewed research and survey data from the 2024 Education Commission of the States's 50-State Comparison, the 2023 State Higher Education Executive Officers Association's Strong Foundations survey, and the 2021 National Center for Education Statistics's SLDS Survey to assess the current landscape of postsecondary, workforce, and SLDS data ecosystems. The team also examined state policies and programs to support postsecondary access, completion, and ROI that necessitated the use and/or collection of improved data, and the team researched best practices in the field. Staff then consulted with state leaders and advocacy partners to better understand the accessibility and use of data in service of postsecondary and workforce goals. Through this mixed-methods approach, the research synthesized quantitative data from national surveys with qualitative findings from research and stakeholder engagements to create a comprehensive landscape of the data ecosystem related to postsecondary access, completion, and ROI.

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STATE AGENCIES

- California Cradle-to-Career Data System
- Colorado Department of Higher Education
- Connecticut Office of Policy and Management
- Indiana Commission for Higher Education
- Indiana Governor's Workforce Cabinet
- Kentucky Center for Statistics
- Maryland Longitudinal Data System Center
- Missouri Department of Elementary and Secondary Education
- Missouri Department of Higher Education and Workforce Development
- North Carolina Department of Information Technology
- Ohio Department of Education and Workforce
- Office of the Governor of Alabama
- State of Colorado
- State of Minnesota
- Texas Higher Education Coordinating Board

ADVOCACY ORGANIZATIONS AND PARTNERS

- A+ College Ready (Alabama)
- Arnold Ventures
- Coleridge Initiative
- Connecticut State Colleges and Universities
- Data Foundation
- The Education Trust
- Excelencia in Education
- Institute for Higher Education Policy
- Jobs for the Future
- National College Attainment Network
- National Skills Coalition
- New America
- New America Open Technology Institute
- Ohio Excels
- Quality Information Partners
- Results for America
- State Higher Education Executive Officers Association
- UnidosUS
- University of Minnesota

Current Status of States' Efforts to Develop Postsecondary and Workforce Connections within SLDSs

STATE	SLDS PROGRESSION				
	Fully Operational SLDS	Actively Developing/ Expanding SLDS	Integrating Workforce Data	Incorporating Unemployment Insurance Data	Incorporating Real-Time/ Recent Earnings Data
Alabama		✓	✓		
Alaska					
Arizona	✓				
Arkansas	✓		✓		
California		✓	✓		
Colorado		✓	✓		
Connecticut	✓		✓	✓	✓
Delaware		✓			
District of Columbia		✓			
Florida	✓		✓		✓
Georgia	✓		✓		
Hawaii	✓		✓	✓	✓
Idaho	✓		✓	✓	✓
Illinois	✓		✓		
Indiana	✓		✓	✓	
Iowa	✓			✓	✓
Kansas					
Kentucky	✓		✓	✓	✓
Louisiana					
Maine		✓			
Maryland	✓		✓	✓	✓
Massachusetts	✓		✓	✓	✓
Michigan	✓		✓	✓	✓
Minnesota	✓		✓		✓
Mississippi	✓		✓	✓	✓
Missouri				✓	✓
Montana		✓	✓		
Nebraska	✓		✓		✓
Nevada	✓		✓	✓	✓
New Hampshire					
New Jersey	✓				✓
New Mexico		✓	✓		
New York					
North Carolina	✓				✓
North Dakota	✓		✓	✓	✓
Ohio	✓		✓		
Oklahoma					
Oregon	✓		✓		✓
Pennsylvania		✓			
Rhode Island	✓		✓	✓	✓
South Carolina					
South Dakota					
Tennessee	✓		✓	✓	✓
Texas	✓		✓	✓	✓
Utah	✓		✓	✓	✓
Vermont	✓				
Virginia	✓		✓	✓	✓
Washington	✓		✓	✓	
West Virginia	✓		✓	✓	✓
Wisconsin	✓				
Wyoming	✓		✓		

Sources: National Center for Education Statistics 2021, Education Commission of the States 2024

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