

Longitudinal Data Systems in Michigan:

SLDS Analysis, Stakeholder Input and Recommendations

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Items of Note

SLDS

The term state longitudinal data system (SLDS) is commonly used to refer to all statewide systems that track student achievement over time, encompassing data from early childhood, education, and workforce categories. Some states have separate systems to handle each of these three categories, while others either refer to the three systems as one or combine all three categories into one system. State of Michigan representatives have informed the authors that within the state departments, SLDS refers to the Michigan Education Data System.

For the purpose of this report, the authors have used SLDS in the generally accepted national framing, in an all-encompassing manner, including when referring to Michigan systems. Occasionally, a specific Michigan system is referenced: Michigan State Longitudinal Data System (MSLDS) covers education data, while Workforce Longitudinal Data System (WLDS) refers to workforce data.

Names of State of Michigan Departments

Departments at the state level change occasionally. Throughout this report, you may see references to the previous names of certain departments. These name changes were in flux at the time of the report writing, and many state employees had not yet received business cards or other clear instructions on department reorganization and naming conventions. To help clarify:

- Labor Market Information and Strategic Initiatives (LMISI) is sometimes referred to as “Labor Market Information”
- Department of Labor and Economic Opportunity (LEO), which includes Workforce Development (WD) and Unemployment Insurance Agency (UIA) may be referred to as “Talent Investment Agency,” “TIA,” and “Workforce Development.”



President's Letter

Moving from Good to Great

Achieving long-term, sustainable, economic vitality for regions and states has become increasingly dependent upon the mix of education and skills attained by their residents. We can see this in the consolidation of metro areas with highly concentrated pools of educated and skilled talent found across the United States. Regions and localities are striving to remain competitive in a 21st century talent landscape, where often hard-to-quantify skills lead employer demand in the marketplace. Noteworthy are the declines of communities and regions with labor pools of comparatively less-educated and lower-skilled talent. Their challenges are often compounded by difficulty attracting and retaining talent, in conjunction with an inability to provide sustained and scalable upskilling for available jobs.

A number of recent nationally focused reports from the likes of McKinsey, Brookings, the U.S. Chamber of Commerce Foundation and others make clear that existing disparities in the labor market are expected to become even more pronounced as artificial intelligence and automation transform the workplace. The nature and function of work is changing before our eyes in favor of a more sophisticated mix of technical and soft skills.

At the same time, Michigan faces two significant challenges: first, an aging population and declining birthrate. Second, lower levels of education and training compared to neighboring states and the nation. These points are largely unaddressed in our civic marketplace in any reasonably substantial, identifiable or measurable way, aside from considerable rhetoric. Michigan's ability to retain, grow, and attract employers who are in need of an educated and skilled workforce to compete in a global economy has been and remains in decline.

In this competitive environment and uncertain future, Michigan's education and workforce development strategies need to be optimized with high-quality data and insights to ensure we grow as talent leaders in the new decade. Talent 2025's recent report, 20/20 Vision, reinforces this point, showing that alignment of public policies and investments in favor of evidence-based strategies is critical to the future growth of our state.

The recommendations stemming from this new research on longitudinal data systems are not complicated or flashy but are changes absolutely critical to improving the quality of education and workforce systems for all of Michigan – individuals, employers, and communities – to compete in a global knowledge economy. Functionality follows culture. Michigan's political, education, and training cultures desperately need a refresh for the 21st century. These recommendations invoke economic gardening, transparency and data-informed decision making. It is hard to make a case that Michigan does any of these things well today, but Talent 2025 believes Michigan has the expertise, tools and the will to do better, and we must do better for the sake of current and future generations.

Talent 2025 looks forward to your feedback and, ultimately, collaboration to solve these challenges.

With respect,



Kevin Stotts, President, Talent 2025

Executive Summary

Michigan's economic future will be determined by the skills and education of its workforce. Competing in the 21st century talent landscape demands education and workforce systems that are designed for a global, knowledge-based economy.

To be effective, these systems must be built on a foundation of high-quality data that measures the effectiveness of our education and workforce programs in delivering results for Michigan's citizens, employers, and communities.

That transformation already is under way, and national studies predict it to accelerate, driven by the growing roles of automation and artificial intelligence. To compete in this environment, employers increasingly demand worker qualities – a combination of soft skills and technical expertise – that can be difficult to quantify with existing data systems.

Meanwhile, Michigan's lagging levels of education and training, a declining birthrate and tight labor market have only added to employer need for more sophisticated and detailed education and workforce data. To provide that information and to guide improvements, Michigan needs a best-in-class state longitudinal data system to quantify educational and training outcomes for youth and adults.

Examining the System

Michigan, along with other states, began developing state longitudinal data systems (SLDS) in the early 2000s to track student progress through the public education system. The purpose was to assist local educators with programming and to allow policymakers to assess and make decisions regarding the education system.

As these systems developed across the country, best practices emerged. Many states began linking education data with additional state systems, including workforce and unemployment wage data. These linkages offered a more holistic approach to measuring and supporting program challenges and success. In Michigan, this resulted in a system that was trifurcated, with one agency responsible for education data, one responsible for workforce data, and another responsible for wage data. The system also is federated, where each department or administrative entity compiles, manages, and determines how and when its data will be shared.

Our research of the Michigan SLDS found what appears to be one major drawback: A lack of access to longitudinal connections across K-12, post-secondary and workforce data in a way that allows for research, innovation and evaluation of institutions and individual programs.

Why Improvements Are Needed

Michigan has struggled to retain, grow and attract employers that rely on an educated and skilled workforce. The demographic challenges we face, along with our comparatively lower levels of education, need to be addressed in a rational and measurable way. High-quality data is essential to this discussion.

As of December 2019, over \$20 million in federal funding has been invested in Michigan's SLDS. Along with employer demand for more sophisticated data, expectations for more capabilities have been rising for years among school administrators, community colleges, university researchers, the workforce system, and nonprofit workforce intermediaries. These expectations range from on-demand systems level data, to granular program level data, which could result in answers to a wide range of questions about education and workforce investments.

Talent 2025 commissioned this report thanks to funding from the Doug and Maria DeVos Foundation to shed light on Michigan’s SLDS, so stakeholders can have a well-sourced document with insights about the use of the current SLDS and to guide improvements toward a best-in-class system.

In addition to a national literature review, stakeholders were convened to better understand expectations, frustrations, and recommendations from diverse perspectives. The past and current state of Michigan’s SLDS was documented and compared to best-in-class systems around the country.

Building a Best-in-Class System for Michigan

Based on our review of literature, stakeholder input and examination of high-functioning systems across the country, the characteristics of a best-in-class SLDS include:

- Widespread Policymaker Support
- Meaningful Agency Collaboration
- High Quality Governance Structure
- Robust Privacy and Security Protocols
- Standardization of Data
- Adequate Technical Infrastructure
- Dedicated Human Capital
- Sustainable Internal Leadership








Recommendations

To achieve these characteristics in Michigan’s SLDS, this report makes seven recommendations. Below is a summary of those recommendations, which are explored in detail starting on page 50 of this report.

- 1** Grow a culture of data literacy and transparency.
- 2** Design and publish clear rules for engagement for access to SLDS data. Make the “front door” obvious across websites and dashboards for all data owners.
- 3** Add vital reporting metrics to employer unemployment wage reporting including: ONET occupation code, job title, hours worked, and primary job site.
- 4** Add missing data from existing state systems.
- 5** Implement a system of assigning unique identifier codes (UIC) at birth, or at first engagement with state services. Integrate a common system of UIC assignment across all state agencies, agents of the state, and subcontractors.
- 6** Appropriate a “data innovation and quality fund.”
- 7** Revisit succession plans among key state agencies to identify and verify critical systems and employees.

If considered and implemented well, these improvements will catapult Michigan into the top tier of best-in-class systems, providing a wide range of research opportunities. They also would provide (arguably for the first time) comprehensive efficacy measures to accompany billions of dollars in education and workforce investments. This is how we improve the quality of education and workforce systems for individuals, employers, and communities.

How Recommendations Align with Best-in-Class SLDS Characteristics

Recommendations	Best-in-Class SLDS Characteristics							
	Widespread Policymaker Support	Meaningful Agency Collaboration	High Quality Governance Structure	Robust Privacy and Security Protocols	Standardization of Data	Adequate Technical Infrastructure	Dedicated Human Capital	Sustainable Internal Leadership
 <p>1 Expand data literacy & transparency.</p>	✓	✓	✓		✓	✓	✓	✓
 <p>2 Publish rules for data access.</p>	✓	✓	✓	✓		✓	✓	✓
 <p>3 Add vital metrics to wage reporting.</p>	✓		✓		✓	✓		
 <p>4 Add missing data from existing systems.</p>	✓	✓	✓	✓	✓	✓	✓	✓
 <p>5 Assign unique identifier codes.</p>	✓	✓	✓	✓	✓	✓		
 <p>6 Establish a data innovation & quality fund.</p>	✓		✓		✓	✓	✓	✓
 <p>7 Verify critical data systems & employees.</p>	✓	✓	✓	✓		✓	✓	✓

Guiding Questions

- How does Michigan compare to the best-in-class state longitudinal data systems (SLDS) across the country? How can Michigan become a best-in-class system?
- What are the current user experiences, needs, and expectations of a Michigan SLDS? How can the state better serve these stakeholders?
- What funding and resources have been expended on the current SLDS? Have grants and other funding resources delivered on promises?
- Who is able to access SLDS data and to what level? How is SLDS data shared successfully? Can this be replicated?
- What data sharing is desired by stakeholders that has not been accomplished? How can data sharing challenges be addressed?
- What are the goals for a future SLDS and what stakeholders have been identified to develop a feedback loop?
- Do Michigan's current rules for data sharing result in well-informed and coordinated decision-making while protecting privacy? What changes can result in a system that is confidently used for decision-making?
- How is the SLDS funded and is that funding sustainable?

Literature Review and System Scan of National Organizations

Through a literature review, 13 organizations and 15 government agencies were identified as players in the state longitudinal systems space, although many more exist. These entities play various roles, including conducting research, convening stakeholders for best practices, studying or acting upon the economic components of the data, or providing solutions to data-identified workforce gaps. Research and information regarding the development of SLDS is robust.

What is a state longitudinal system?

With the technological advancements of the 21st century, the ability to connect people and things has accelerated at an astounding rate. An expectation for immediate, accessible, easy to understand data has accompanied this technological boom. A complementary expectation that institutional and government decisions be made based on this data has grown concurrently. Many state governments now strive to collect and manage data to support smart decision making as a method of efficient and accountable government. Michigan is no exception.

According to a Hunt Institute report, “The first major push for statewide longitudinal data systems (SLDS) came through the Educational Technology and Assistance Act of 2002, which created the first competitive federal grant process to support state education agencies in the development of these systems” (Siddiqi & Goff, 2019). This initial federal action has snowballed into a rush for all states to develop state longitudinal data systems.

The National Center for Educational Statistics (NCES) defines an educational longitudinal data system as “a data system that collects and maintains detailed, high quality, student- and staff-level data that are linked across entities and over time, providing a complete academic and performance history for each student; and makes these data accessible through reporting and analysis tools.” (National Forum on Education Statistics, 2010, p. 7)

An SLDS is often referred to as addressing P-20W – encompassing data from prekindergarten (early childhood), K-12, and post-secondary through post-graduate education, along with workforce and other outcomes data (e.g., public assistance and corrections data). The specific agencies and other organizations that participate in a P-20W+ initiative vary from state to state (National Center for Education Statistics, February 2017).

What is an ideal data system?

While many states report building and maintaining an SLDS, national standards have only been minimally developed. Federally required datasets provide some structure and uniformity, but there is a lack of standards across the nation for development of these systems. The integrated data, the existence of the datasets, and their availability vary greatly. Most uniformity across states is occurring on a voluntary basis and only in proactive states.

Government organizations and national experts have developed recommendations for developing, maintaining, and maximizing the usefulness of these data systems.

Government Organizations and National Experts

Center for Regional Economic Competitiveness (CREC)

Research and technical assistance related to state data sharing. An evaluation of CREC reports was conducted in this research paper.

Child Trends

National research organization focused exclusively on improving the lives of vulnerable children and youth.

Common Education Data Standards (CEDs)

Education data management initiative whose purpose is to streamline the understanding of data within and across P-20W institutions and sectors (<https://ceds.ed.gov/whatIsCEDs.aspx>). This does not contain data about the status of Michigan's SLDS, but could be a resource for recommendations and possible assistance.

State of Washington, Education Research and Data Center (ERDC)

A number of organizations include the title "Education Research and Data Center." Several states have a similar type of center. For the purpose of this study, this reference is to the State of Washington ERDC, which includes an extensive amount of studies and resources regarding state longitudinal data systems.

National Governors Association

Has a public policy position for workforce development and post-secondary education that includes encouragement of SLDS (<https://www.nga.org/policy-positions/job-training-and-higher-education/>). An issues initiative related to data and accountability identifies governors as the only officials that oversee the entire pipeline from birth into the workforce. The initiative encourages the use of data to ensure that outcomes are met across the education pipeline (<https://www.nga.org/center/issues/data-and-accountability/>).

National Skills Coalition (NSC)

Extensive research and recommendations regarding workforce data and data systems. Includes the Workforce Data Quality Campaign (WDQC) and a State Wage Interchange System.

The Center for IDEA Early Childhood Data Systems

Able to develop or enhance coordinated early childhood longitudinal data systems (<https://www.sri.com/work/projects/center-idea-early-childhood-data-systems-dasy>).

The Hunt Institute

An affiliate of the Duke University Sanford School of Public Policy. Strategic catalyst for transforming public education policy.

Aspen Institute

Offers macroeconomic arguments for extensive state data systems. Reports indicate that state data systems are important to aligning the future workforce to needed skills and training.

Credential Engine

Maintains the Credential Registry, a cloud-based library that collects, maintains, and connects information on all types of credentials, from diplomas to apprenticeships and from licenses to PhDs. The Registry holds detailed information on many types of credentials in an easily accessible format.

Workforce Intelligence Network for Southeast Michigan (WIN)

Provides prioritized real-time workforce data through labor market reports specific to the 16-county Detroit labor region. Also provides occupation or industry specific specialized reports.

Federal Agencies

Department of Labor Employment and Training Administration (DOL ETA)

Holds Workforce Information Advisory Council. Developing report “Recommendations to Improve the Nation’s Workforce and Labor Market Information System” (2018)

National Center for Education Statistics (NCES)

Primary federal entity for collecting and analyzing data related to education in the U.S. and other nations. NCES is located within the U.S. Department of Education and the Institute of Education Sciences. NCES fulfills a congressional mandate to collect, collate, analyze, and report complete statistics on the condition of American education; conduct and publish reports; and review and report on education activities internationally.

U.S. Department of Health and Human Services (DHHS)

Administrative Approaches to Enhance Availability of data (2016) (<https://www.hhs.gov/open/2016-plan/approaches.html>)

United States Government Accountability Office (GAO)

Better Data Needed to Assess and Plan for Effects of Advanced Technologies on Jobs (March 2019) (<https://www.gao.gov/products/GAO-19-257>)

Bureau of Labor Statistics (BLS)

A division of the U.S. Department of Labor, BLS is the principal federal agency responsible for measuring labor market activity, working conditions, and price changes in the economy. Its mission is to collect, analyze, and disseminate essential economic information to support public and private decision making. As an independent statistical agency, BLS serves its diverse user communities by providing products and services that are accurate, objective, relevant, timely, and accessible.

Notable Reports and Activity

A national scan of reports and research reveals promising insights toward developing high-functioning state longitudinal data systems. The extent of the research reflects the strong demand for comprehensive, trusted and accessible data that can be used to optimize education and workforce strategies. The literature summarized below includes analyses of current practices, legislation and recommendations for improvement.

The National Skills Coalition

The National Skills Coalition (NSC) engages in organizing, advocacy, and communications to advance state and federal policies that support a vision of an America that grows its economy by investing in its people so that every worker and every industry has the skills to compete and prosper. Its work seeks to help elected officials answer the question: “Are our education policies equitably serving a diverse workforce and nimbly responding to the evolving skill needs of our 21st century economy?”

NSC is continuing work started through its Workforce Data Quality Campaign (WDQC), and conducted extensive research to develop smart data policies, systems, and tools to address this need. WDQC published multiple briefings sharing best practices and recommendations regarding the development of SLDS:

■ ***Smart Data for a Skilled, Inclusive 21st Century Workforce***

This 2019 NSC report recommends that systems should track employment outcomes for graduates of all post-secondary, workforce development, and support service programs, and document the pathways whereby people combine those programs to develop new careers. These data systems should include information on all credentials, including certificates, licenses, and certifications. State and federal agencies should use this to guide investments to support programs with the greatest success. NSC recommends states and federal agencies make key data available in accessible formats to help students and workers select education and career paths that lead to good jobs. In addition, they recommend (National Skills Coalition, 2019):

1. Better data to align programs and make it easier for workers to move across systems and get skills needed throughout their career. This includes data reforms across workforce training, career and technical education (CTE), work-based learning and apprenticeship, higher education, adult literacy, safety net programs, Trade Adjustment Assistance (TAA), transportation, energy, and infrastructure training programs.
2. Disaggregated employment and earnings outcomes at the program level should be used to show the public who is being well served and who is not by specific programs.

NSC helped develop and pass the Career Exploration Expansion Act, which has been passed in eight states (not including Michigan). This legislation helps states measure non-degree credential attainment. NSC also advocates for federal support of state longitudinal data systems including the Workforce Data Quality Initiative (WDQI). The agency advocates for support of the College Transparency Act, which would require the National

Center for Education Statistics to develop and maintain a secure, privacy-protected post-secondary student-level data system to (U.S. Congress, 2019):

1. “accurately evaluate student enrollment patterns, progression, completion, and post-collegiate outcomes, and higher education costs and financial aid;
2. “assist with transparency, institutional improvement, and analysis of Federal aid programs;
3. “provide more accurate, complete, and customizable information for students and families making decisions about postsecondary education; and
4. “reduce the reporting burden on institutions of higher education, in accordance with section 5(b) of the College Transparency Act.”

■ **Saying ‘Yes’ to SLDS**

This 2019 report by NSC recommends that state longitudinal data systems should contain data from across the education and workforce spectrum. SLDS staff should communicate information about the benefit of SLDS by sharing tailored messages about how stakeholders can benefit from participating in the SLDS. Examples of how other stakeholders have benefited from participating in the system should be used. Staff should proactively provide detailed information about privacy and security practices. States should ensure participation in data governance by enabling participating agency leaders to have a sense of ownership over the SLDS through a governance or advisory council.

■ **Making Wage Data Work**

In this 2018 brief, the Workforce Data Quality Campaign assessed the need for SLDS data at the federal level and the limitations of some occupation types within these systems:

“Congress has mandated that states use UI (unemployment insurance) wage record data to show the performance of some federally funded programs, such as those supported by the Workforce Innovation and Opportunity Act (WIOA), which require reporting on employment and earnings at quarterly intervals. UI wage records do not include data on federal employees and self-employed individuals that are important for providing a complete picture of the workforce. The Office of Personnel Management retains wage data on federal workers, although the government holds military personnel and U.S. Postal employee records separately. The U.S. Department of the Treasury holds W-2 and tax data on all workers. Of note, the Internal Revenue Service (IRS) 1099 form captures earnings from self-employed individuals. The Social Security Administration also retains W-2 and tax data.”

This report also details a major project started from a partnership between the U.S. Census Bureau and the University of Texas (UT) System to provide more longitudinal data for researchers as well as the UT System dashboards that provide public information on the earnings of graduates by program of study. The project shows the potential for matching other higher education data with Longitudinal Employer-Household Dynamics (LEHD) earnings data from around the country. LEHD are datasets through the U.S. Census Bureau that may be used to research and characterize workforce dynamics for specific groups. For more information, visit <https://lehd.ces.census.gov/data/>.

In this report, WDQC recommends:

“Whether or not DOL becomes the backbone of a federal source of wage data, Congress should consider amending WIOA to allow the Department to create a database with personally identifiable information on all program participants. DOL or other authorized agencies could more easily match workforce program-participant data with information from other systems, including wage record data. The eventual reduction in separate administrative steps would result in more comprehensive and timelier workforce program information. In conjunction with better access to wage data, this solution would also make it easier for DOL to create consumer reports for prospective workforce education participants and businesses across the nation.” (Pena, 2019, Making Wage Data Work)

■ **Workforce Success Relies on Transparent Post-Secondary Data**

The NSC noted in this 2018 paper that, to report on trends in post-secondary education, the U.S. Department of Education (U.S. DOE) mostly relies on surveys of post-secondary institutions for its Integrated Post-Secondary Education Data System (IPEDS). The information does not include employment and earnings outcomes.

U.S. DOE also oversees the production of the College Scorecard, which incorporates annual earnings data gathered from the U.S. Department of the Treasury, but these data are limited to federally aided students, and U.S. DOE only recently started reporting the results for individual programs of study or majors.

WDQC is advocating heavily for a federal student-level data network that would enable the government to report on the employment and wage outcomes of postsecondary students nationwide and allow for the creation of online data tools that include indicators on employment and earnings, so students could compare programs within and across institutions to make more informed decisions about their education and careers. (Pena, 2018, Workforce Success Relies on Transparent Post-Secondary Data)

■ **Measuring Non-Degree Credential Attainment (Levantoff, 2019)**

This NSC report indicates that states should incorporate data on non-degree credentials into their SLDS and match data across education and workforce to assess if programs are preparing students and if those students are finding employment and how subpopulations are being served. State systems appear to vary widely regarding their data availability and inclusion of non-degree credentials, with public for-credit certificate programs, registered apprenticeship certificates, and licenses most likely to be available. Most states also have data available for individual-level for-credit certificates from public institutions in their state, and more than half of states report having registered apprenticeship certification data and licensing data. Non-registered apprenticeship certificates and industry certifications data are not widely available. Most states can break down credential attainment by age and race/ethnicity.

Data Quality Campaign

■ *Education Data Legislation Review: 2019 State Activity*

As of August 1, 2019, 325 bills were introduced in 2019 in 47 states, with 83 laws enacted in 32 states. No new laws were enacted in Michigan.

Bills being introduced across the country build on foundational policies that support the ability of everyone with a stake in education to use data to serve students. These bills included:

- Data privacy, security, and confidentiality (student privacy bills were the most common)
- Data governance
- Cross-agency linkages
- Cross-sector data sharing
- Data access for those closest to students
- Tools for local data use
- Public reporting and open data

Education data legislation is addressing education priorities through:

- Accountability or school improvement
- Improving the quality of early childhood education
- School choice
- School safety
- Flexible pathways, including career and technical ed and dual enrollment
- Mental health
- Workforce development
- Teacher quality

Data related legislation should include dollars, training, or incentives that would support the ability of teachers and school administrators to use and act on high quality data to inform practice to serve students.

The Hunt Institute

■ *Connecting the Continuum: Longitudinal Data Systems in North Carolina*

This 2019 report identified that since the inception of SLDS through the Educational Technology and Assistance Act of 2002, federal competitive grant processes have contributed more than \$700 million to support state education agencies in their development. This funding has been distributed among 47 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands through SLDS grants. Race to the Top funding has also been awarded to help with policy reforms that enhance standards and assessments, improve data collection and use of data, and increase teacher effectiveness. Significant progress in SLDS was required to receive Race to the Top funding, serving as an incentive program. (Siddiqi & Goff, 2019, *ibid*)

Regarding SLDS funding, states vary greatly in the amount of funding awarded, with Texas receiving the most funding with over \$33 million, and three states receiving no funding (Alabama, New Mexico, and Wyoming).

Michigan is closer to the middle of the pack, receiving slightly over \$19 million, including \$3,000,000 in 2006, \$5,517,228 in 2009, and an additional \$10,624,964 in 2009 as part of ARRA funding. Michigan ranks 14th in SLDS grant funding.

This report identified the key characteristics of a high-quality SLDS, including:

- widespread policymaker support,
- meaningful agency collaboration,
- high quality governance structure,
- robust privacy and security protocols,
- standardization of data,
- adequate technical infrastructure,
- dedicated human capital,
- sustainable internal leadership.

The Aspen Institute

■ *Aspen Institute Future of Work Report (Aspen Institute, 2019, P. 11-12)*

This report includes an overview of the need for and benefit of improved labor market data, with a list of recommendations for state policymakers to improve data collection and usage. Recommendations include:

- Add new data elements in state UI wage records, such as occupational title (using standardized occupational codes), hours worked, credential completion, and work site.
- Use newly enriched UI data and other administrative data to create training program effectiveness measures if they are matched with education program data through state longitudinal data systems. The agency running the SLDS should have a close working relationship with the state agencies that are providing data. If presented simply and in a standardized format, this system can help students make informed decisions. States should prioritize sharing UI data with other states and the federal government.
- Increase funding for state labor market information systems that produce, disseminate, and analyze state and local labor force statistics to enable informed decision making.
- States should develop a more effective and transparent skills-based labor market, working with employers and educational institutions to make skills a common language and currency for job postings and education and training programs.

Early Childhood Data Collaborative

■ *"2018 State of Early Childhood Data Systems," Fifty State Survey*

A survey of the fifty states in 2018 revealed the following national needs:

- Establish and strengthen state early childhood education (ECE) data governance bodies to guide the coordination, security, and appropriate use of ECE data.
- Strengthen states' capacity to securely link data on young children across all state and federal ECE programs, including Head Start and home visiting.
- Expand efforts to collect and link data about the early childhood workforce.

-
- Communicate with parents about data privacy policies and uses of early childhood data.
 - Use existing data systems planning tools and technical assistance to support early childhood data system integration. (<https://www.ecedata.org/wp-content/uploads/2018/09/ECDC-50-state-survey-9.25.pdf>)

The Joyce Foundation

■ Using Data to Promote Continuous Improvement of Workforce Programs: Guidance for States Preparing Applications to the U.S. DOL Workforce Data Quality Initiative

This 2010 briefing, part of The Joyce Foundation’s Shifting Gears initiative, was created to help potential WDQI grant applicants with requirements and expectations of applications. The report indicates that WDQI minimum requirements for SLDS include data from (p. 1):

- WIA Title I;
- Wagner-Peyser Act;
- Trade Adjustment Assistance program;
- Unemployment Insurance (UI) wage records;
- UI benefit data; and
- Federal Employment Data Exchange System (FEDES) data

State applicants were also encouraged to include:

- Vocational Rehabilitation;
- Registered Apprenticeship;
- Temporary Assistance to Needy Family (TANF); and
- Supplemental Nutrition Assistance Program (Food Stamps).

The report also recommends the following (p. 3):

“State agencies can help to ensure that local workforce education and employment programs are meeting labor market needs by publishing analyses of the gap between projected job demand by occupation and program completers in related fields for each region of the state. This is relatively easy to do for postsecondary career-technical programs, since data on credentials awarded by field are available for community colleges and other postsecondary institutions through the Integrated Post-Secondary Education Database System (IPEDS) compiled by the U.S. Department of Education.”

U.S. Department of Education

■ College Scorecard (U.S. Department of Education, 2019)

The U.S. DOE recently updated the online portal that provides information about college programs, costs, admissions, and results. The November 20, 2019, update included key transparency field of study graduate count, debt, and earnings data. The tool also added a differentiation between degree-granting and non-degree granting schools. The College Scorecard was originally released in 2015 and has undergone several transformations.

Data points include the type of institution, location, graduation rate, salary after completing (only one year available), and average annual cost. Data is only available in aggregate form and is not available for cohorts of less than 20 individuals due to privacy factors. Average annual cost is defined as, “The average annual net price that a student who receives federal financial aid pays to cover expenses (e.g. tuition, living expenses, etc.) to attend a school. Net price is the school’s cost of attendance minus any grants and scholarships received. For public schools, this is only the average cost for in-state students.”

The portal also includes the ability to download data files in addition to a data dictionary, technical documentation for institution-level data files, and by field of study. The site also includes links to additional resources such as apprenticeships, O-NET Career Explorer, and student aid information.

The limitation of tracking salary to only one-year post-graduation can be deceptive. Some occupations can take several years to reach the typical earning potential. Graduation rates for community colleges are skewed, as these institutions also succeed when they provide the steppingstone for students to transfer to 4-year institutions or provide workforce training, which will not be reflected in graduation rates.

National Center for Education Statistics

■ **Statewide Longitudinal Data Systems (SLDS) Survey Analysis (U.S. Department of Education, 2019)**

The NCES Stats in Brief surveyed U.S. states and territories to evaluate data integration, linking, and capabilities. Survey findings include:

- Data elements available in SLDSs include student demographics, grade level, school enrollment and completion, attendance, and statewide assessment data. K–12 student data are operational in 96 percent of state and territory respondents’ SLDSs.
- At least 70 percent of states and territories reported having automated infrastructure to link K-12 student data to K-12 teacher data, post-secondary data, Perkins CTE data, and early childhood data. Half reported having automated links to workforce data.
- Data are linked to K-12 student data in different ways depending on the sector, including by an assigned unique identifier or a Social Security number. The data elements linked to K–12 student data also vary depending on the data sector.
- States and territories most commonly reported using K-12 student data for feedback reports for high schools and for state reports for the legislature.
- States and territories also reported using K-12 teacher data, post-secondary data, workforce data, Perkins CTE data, and early childhood data for state reports for the legislature, federal reports (such as EDFacts), curricular decisions, feedback reports, and policy updates.

National Center for Education Statistics SLDS Grant Program

■ P-20W+ Data Governance, Tips from the States-Brief 4

This 2017 publication recommends the following initial steps to establish a P-20W+ data governance structure:

1. P-20W+ partners identify education policies, priorities, challenges, and needs that span multiple agencies.
2. Partners develop the initial draft of the P-20W+ data governance policy, using the P-20W+ education policies as a foundation and the initial step for governance. Authority for P-20W+ data governance should be granted via executive order, state statute, or as part of memoranda of understanding (MOUs). Either a single MOU for all partners or a separate MOU for each participating agency can serve as the administrative vehicle for responding to P-20W+ education policy initiatives.
3. State leadership reviews and approves the P-20W+ data governance policy.
4. State leadership includes leadership from those agencies participating in the P-20W+ system, along with leadership from the governor's office and legislature.
5. The leadership disseminates the policy to staff and to executive and legislative leadership, including a reference to where it will be available electronically.
6. The leadership identifies P-20W+ data governance leads, establishing the membership of the P-20W+ Data Governance Committee.
7. The P-20W+ Data Governance Committee uses the policy as the foundation for its P-20W+ data governance manual, which details how the policy will be put into practice.

Workforce Information Advisory Council

■ *Recommendations to Improve the Nation's Workforce and Labor Market Information System (Workforce Information Advisory Council, 2018)*

This draft report lays out national recommendations to the Secretary of Labor regarding workforce data systems. A final report either was not published or is not easily publicly located. The report and recommendations were developed through the Workforce Information Advisory Council and included stakeholders from the Bureau of Labor Statistics (BLS) and Employment and Training Administration (ETA), state representatives, heads of other federal agencies. The recommendations in the report give a glimpse of the direction of the federal government pertaining to workforce information systems. These recommendations include:

1. Enhance UI wage data: Include occupational title, hours worked, and work site.
2. Expand Information on occupations, skills, and credentials: Includes a recommendation to increase investments in this area, explore SOC revisions, and show outcomes of credentials.
3. Develop and disseminate a K-12 career awareness educational framework
4. Develop information on the changing nature of work: pursue a regular collection and development of information that provides an understanding of the scope and volume of alternative work arrangements or other causes for the reduction in traditional workforce participation.

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5. Increase support for the states' roles in the WLMI system: include in the DOL budget a request for annual funding to states from BLS for the Federal-State Cooperative Statistics System and from ETA for Workforce Information Grants.
 6. Overcome barriers to data sharing: enable greater use for workforce investment decision-making.
 7. Improve consistency and availability of program evaluation data: establish the state WLMI unit or other unit determined by the state as the designated state entity for provision of WIOA.
 8. Create a 21st century WLMI system using advanced technologies: Use AI and other technology advancements to advance the system.
 9. Initiate collaboration among WLMI system agencies: convene a gathering of representatives from federal and state programs to contribute information.

The report also identifies a declining ability and resource availability for states to provide quantity and quality of Workforce Labor Market Information (WLMI, Page 12):

"In 2017, total annual federal support for state-produced labor force statistics was \$104.6 million. In real (inflation adjusted) terms, this figure is 45 percent less than total funding in 2002 of \$189.5 million. The ongoing decline in real funding since 2002 has led to reductions in the quantity and quality of WLMI important to the participants in the workforce system. In response to a request for information, a significant majority of 25 responding state LMI agencies indicate that they have reduced the availability of state and sub-state WLMI products and services. A number specifically note that, as a result, their capacity to provide information on "in-demand occupations and industries," as required by WIOA, is diminished."

The report identified that states tend to err on the side of caution when considering providing access to UI wage records, which are obtained by the states through state UI programs. This data is identified as important to evaluating outcomes of education and training programs, such as apprenticeships, and were created under federal-state cooperative programs administered by Labor, Education, and Commerce Departments. States avoid using data for purposes other than those expressly required for program administration due to uncertainty of clear authority to use the data for specified purposes and a responsible apprehension regarding their security when outside their control. This caution limits the availability and usefulness of these datasets greatly.

U.S. Chamber of Commerce Foundation

■ Job Data Exchange (JDX)

The JDX is self-described as "Organic labor market data about the jobs that are available and the skills required to fill them, delivered in real-time. The JDX™ open-data toolset will improve an employer's ability to communicate their hiring needs to their education and workforce partners." JDX is a vehicle for employers to move toward competency-based hiring by breaking down a job posting into a machine-readable format and making the data available to education and workforce partners. This tool is currently in a pilot phase. The U.S. Chamber of Commerce Foundation is currently seeking collaboration with large HR platforms. (U.S. Chamber of Commerce Foundation, Job Data Exchange, 2019)

■ T3 Innovation Network

In the chamber's T3 Innovation Network, organizations across the talent marketplace are working together to build an open, public-private data and technology infrastructure for a more equitable future. This network is exploring emerging technologies and data standards to better align education, workforce, and credentialing data with the needs of the new economy. The T3 Network will (U.S. Chamber of Commerce Foundation, T3 Innovation Network, 2019):

- Define what a competency-based lifelong learner record should be so that all learning counts, no matter where it takes place.
- Modernize technology and advance data standards to achieve seamless sharing of data throughout a person's education and career pathway.
- Empower individuals with a validated record of their skills and competencies in a way that all employers can understand.

This work represents an active network of stakeholders working with international standards bodies and enterprise HR software vendors. The collaborations are forming in real time in 2019 and 2020, and have a goal to set workforce standards and data policy to move corporate America so that companies can have similar incumbent and demand reporting metrics.

Additional Data Resources

Additional data resources exist to support SLDS research and integration, including:

- Brighthive: "A Brighthive Data Trust allows networks of organizations to securely and responsibly share and collaborate with data, generating new insights and increasing their combined impact." (Brighthive, 2019)
- Local Employment Dynamics (LED)
- Local Area Unemployment Statistics Program (LAUS)
- Quarterly Census of Employment and Wages (QCEW) file Mass-Layoffs Statistics program (MLS)
- Integrated Post-Secondary Education Data System (IPEDS) from NCES

Overview of Michigan SLDS

General Observations

- Michigan appears to have a trifurcated system, with one agency responsible for education data, one responsible for workforce data, and another responsible for wage data.
- Michigan’s SLDS was created through Executive Orders and data governance is conducted through the P-20 Advisory Council.
- The process of requesting data appears daunting, with few success stories. The state’s Center for Educational Performance and Information (CEPI) website indicates that “CEPI is not staffed to handle most custom data requests, and many such requests must be denied (CEPI, 2020).” The State LMISI office indicated that requests for information about wages were available at the UI website. Even when a link was provided, it was difficult to find and lack an obvious “front door” to make data requests.
- Data is managed in a federated system, where each department, or administrative entity within state government compiles, manages, and determines how and when its data will be shared. Federal and state laws regarding protection of individual level data (FERPA, HIPPA, Employment Security Act, etc) place strict limitations on the sharing of data.
- In many ways, Michigan’s SLDS is in line with many other states and their capabilities. Justifiable privacy concerns and legal frameworks have restricted externally identifiable optimization of the system for research and policy-making decisions.
- Federal funding supported the development of Michigan’s SLDS, but sustainability and maintenance funding sources are less clear. This potential lack of funding could jeopardize the understanding, use and growth of the system.

Governance and Structure

Michigan's P-20 Longitudinal Data System was created with two Executive Orders.

Executive Order 2010-15

Enacted by Governor Jennifer Granholm and created the P-20 Longitudinal Data System Advisory Council. (Granholm, 2010)

Executive Order 2014-6

This order, instituted by Governor Rick Snyder, later reorganized the Advisory Council, defines the council membership as including:

1. Three representatives nominated by the Superintendent of Public Instruction from within the Department of Education and appointed by the state Budget Director representing K-12 academic affairs, K-12 assessment and accountability, and early childhood.
2. One representative nominated by the Chief Information Officer within the Department of Technology, Management, and Budget and appointed by the state Budget Director.
3. One representative nominated by the Director of the Workforce Development Agency within the Michigan Strategic Fund and appointed by the state Budget Director.
4. One representative nominated by the state Treasurer from within the Department of Treasury and appointed by the state Budget Director representing student financial aid programs.
5. One representative from within the State Budget Office appointed by the state Budget Director to serve as his or her designee.
6. Twelve individuals appointed by the state Budget Director, including all of the following:
 - a. Six individuals representing public schools in this state.
 - b. Three individuals representing institutions of higher education in this state but not including community colleges.
 - c. Two individuals representing community colleges in this state.
 - d. One other resident of this state.

The major differences between the 2010 and 2014 Executive Orders include:

- Increased representatives from Superintendent of Public Instruction from one to three,
- Moved several appointments to a nomination by the corresponding office with an appointment from the state Budget Director,
- Eliminated the representative from the Early Childhood Investment Corporation,
- Eliminated four-year terms.

P-20, in this instance, is defined as pre-school through the fourth year of postsecondary education. Some states differ in this definition. Additionally, some states define this work using P-20W+, which includes workforce and beyond.

Responsibilities of the Advisory Council

Executive Order 2014-6 charged the P-20 Advisory Council with acting in an advisory capacity to the state Budget Director and the Director of the CEPI, and doing the following:

1. Review, develop, and recommend policies, procedures, and timelines to be adopted by the Center for Educational Performance and Information for the development and implementation and maintenance of a comprehensive longitudinal data reporting system in compliance with state and federal laws.
2. Develop and recommend state and educational entity model policies related to data collection, maintenance, and reporting for the P-20 longitudinal data reporting system, including, but not limited to, all of the following:
 - a. Storing unique student identifiers and matching student-level data in elementary, secondary and post-secondary data systems;
 - b. Reporting student-level remedial coursework for institutions of higher education;
 - c. Connecting individual teacher data to teacher preparation colleges;
 - d. Ensuring the privacy of individual student data, including that a student's Social Security number is not released to the public for any purpose.
3. Ensure the data in the P-20 longitudinal data reporting system is made available to state and local policymakers and residents of this state in the most useful format possible.
4. Report to the state Budget Director on recommended changes in Michigan law.
5. Other duties as requested by the state Budget Director.

Between 2010 to 2014, the following changes occurred:

- The 2014 EO added maintenance of the system.
- Eliminated: Develop and maintain data definitions, data transmission protocols, and system specifications and procedures for the integrated, efficient, accurate, and cost-effective transmission, collection, and reporting of data, including the movement of electronic student records, that are based on open standards, nonproprietary formats, and without preference to a particular model.
- Added elementary and secondary data systems to the process of storing unique student identifiers and matching student-level data.
- Changed reporting of recommended changes in Michigan law to the state Budget Director. This reporting was previously made to the Governor and Legislature.
- The 2014 amendment removed a reporting requirement directly to the Governor and added the Director of CEPI as a recipient of advisement.

This effort is overseen by the state Budget Office, and the state Budget Director serves as the chair.

Overall, Michigan has a well-defined and efficient method of providing oversight of P-20 data systems, if all representatives are appointed, informed, and replaced when a seat is vacated. There are opportunities to expand this Advisory Council to make it truly "longitudinal" by adding additional workforce representation, adding an early childhood representative back into the appointed representatives, and defining the group as providing oversight for P-20W+. Early childhood initiatives are currently represented on this council, but by an individual serving in dual roles. An appointed seat for early childhood would ensure representation.

Overview of Michigan School Aid Act of 1979

The Michigan School Aid Act of 1979 is the key piece of law governing both data that is required to be submitted by educational institutions, as well as accessibility of state education data in the state of Michigan. (Michigan School Aid Act, 2019)

This Act lays out the state and federal compliance obligations related to education data and enables the Center for Educational Performance and Information (CEPI) (388.1694a). CEPI is created within the Department of Technology, Management, and Budget (DTMB). It coordinates collection of data required by state and federal law for preschool through post-secondary education. In addition, this body creates, maintains, and enhances the state P-20 longitudinal data system and is responsible for the web-based portal that provides access to this data. According to this section, the longitudinal data system required “Includes data at the individual student level from preschool through post-secondary education and into workforce.”

The Act also requires that CEPI “Supports interoperability by using standard data structures, data formats, and data definitions to ensure linkages and connectivity in a manner that facilitates the exchange of data among agencies and institutions within the state and between states.”

The Act requires that data be provided by preschool through post-secondary public institutions, and in some instances, data is also required for programs available through private higher ed institutions (tuition incentive program). If these institutions do not comply with submitting the data required, funding will be withheld, including Section 201 funds, section 236 funds, and tuition incentive funds (individual student tuition assistance that higher education students can qualify for through qualifying institutions).

According to the School Aid Budget, \$16,356,700.00 in state funds and \$193,500 in federal funds were allocated for the operations of CEPI for 2018-2019 and \$16,457,200 in state funds and \$193,500 in federal funds were allocated for 2019-2020. This funding supports data collection, data management, warehousing, reporting, website, data portal and partnership work with universities, ISDs, and locals (Longitudinal Systems in Michigan Report Feedback, 2020). Determining program-level specific line-item spending is not possible with publicly available budget documents. These funds can be carried forward to future years. These funds are in addition to SLDS, WDQI, and Race to the Top grant funds.

Additional points of interest regarding the SLDS within the School Aid Act include:

- Required to provide Michigan with the ability to meet federal and state reporting requirements,
- Contain unique identifiers that does not permit a student to be individually identified by users of the system, except as allowed by federal and state law,
- Has the ability to communicate with higher ed systems,
- Contains student-level transcript information, including courses completed and grades earned,

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- Contains student-level college readiness test scores,
 - CEPI may enter into agreements to supply custom data, analysis, and reporting to other principal executive departments, state agencies, local units of government, and other individuals and organizations,
 - Requires community colleges to report the number and type of associate degrees and other certificates awarded during the previous academic year.

The following excerpts are of particular interest when researching the State Longitudinal Data System:

388.1619, Sec 19 (1): Data provided to the center (CEPI), in a form and manner prescribed by the center, shall be aggregated and disaggregated as required by state and federal law. In addition, a district or intermediate district shall cooperate with all measures taken by the center to establish and maintain a statewide P-20 longitudinal data system.

Michigan Employment Security Act

According to the Michigan Employment Security Act, data from the UI agency can be shared in certain circumstances, but the ability to share this data is restricted and misuse of the data comes with penalties:

“The unemployment agency may also make information that it obtains available for use in connection with research projects of a public service nature; for course, program, or training program planning, improvement, or evaluation; for grant application or evaluation; for institutional or program accreditation; for economic development or workforce research; for award eligibility; or for federal or state mandated reporting, to a public official, eligible educational institution, or Michigan works agency or to an agency of this state that is acting as a contractor or agent of a public official and conducting research that assists the public official in carrying out the duties of the office.” (Michigan Employment Security Act 421.11, 2019)

This act goes on to indicate that this data may also be shared with independent educational institutions in a similar manner.

Data System Funding

Funding to develop and sustain the SLDS and WLDS has mainly consisted of federal competitive grant dollars.

According to the Education Commission of the States (Education Commission of the States, 2019), the Michigan Statewide Longitudinal Data System was created by Executive Order No. 2010-15. This SLDS is a centralized system that connects three of the four core agencies (early learning, K-12, and postsecondary) but lacks workforce data. Federal grants assisted in creation of the Michigan SLDS, including a 2009 ARRA grant (\$10,624,964), a New Bridges: Building Michigan's Capacity for a Longitudinal P-20 and Workforce Data Decision Support System (\$5,517,228), a 2006 grant in partnership with Minnesota and Wisconsin (\$3,000,000), and a WDQI grant (National Center for Education Statistics, n.d.)

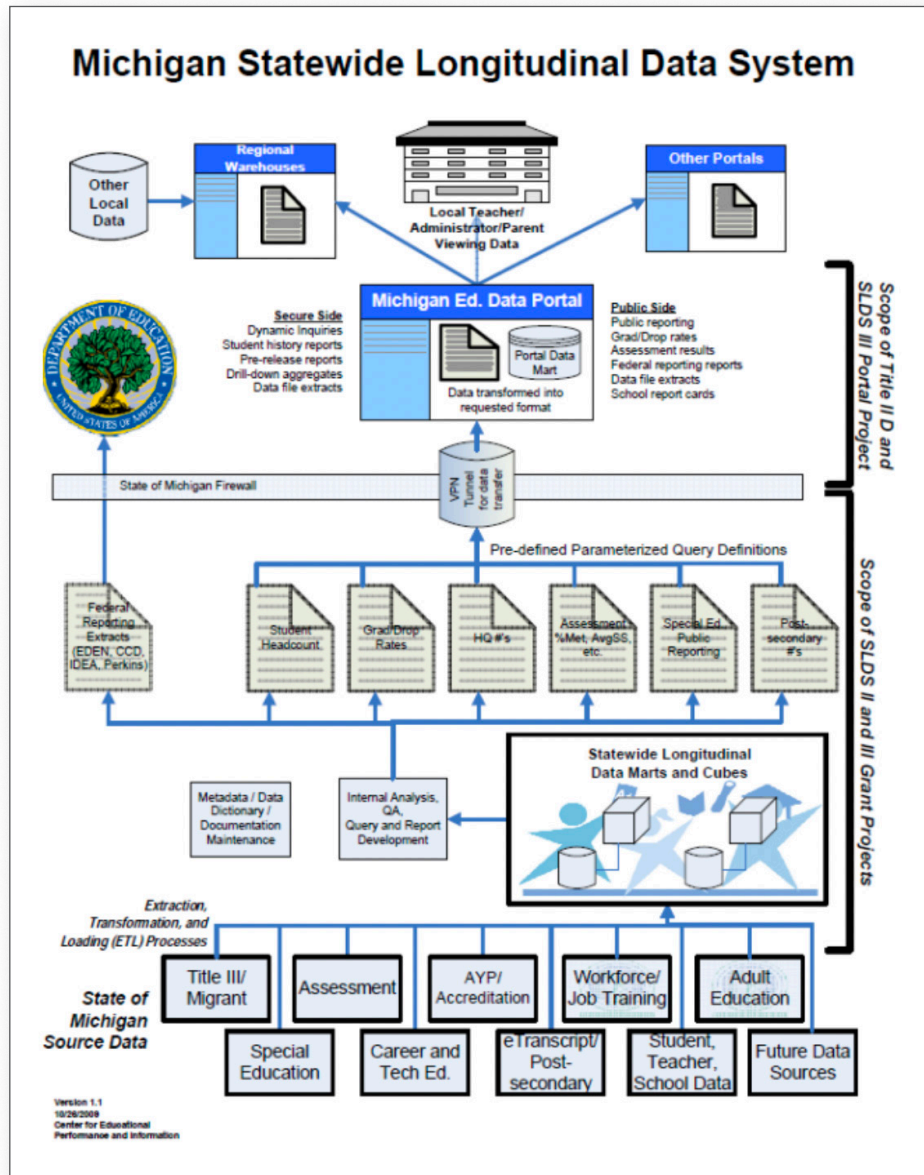
Workforce Data Quality Initiative (WDQI) Grants (US Department of Labor, 2019)

- Funder: U.S. Department of Labor, Employment and Training Administration
- Recipient: Michigan Workforce Development Administration (WDA)
- Grants awarded for development of a workforce longitudinal data system (WLDS)
 - 2012: \$1,000,000
 - 2015: \$1,088,282
 - 2019: \$998,028

WDQI grants provided resources to WDA to sync workforce data from One Stop Management Information System (OSMIS) and other sources to the Unemployment Insurance Agency (UIA) master files. The matching process is completed using Michigan's Master Person Index (MPI) system to generate unique identifier codes (UIC) and Social Security number matches, which links the same individual in multiple systems (Longitudinal Systems in Michigan Report Feedback, 2020). Home address and other identifiers for records could not be matched by Social Security numbers. Information regarding the MPI system is not easily accessible outside of State offices.

Additional funding may have been utilized by the state to support these federal awards, but the State of Michigan fiscal year budgets available to the public do not contain details attributable to individual program level activities.

According to the Center for Educational Performance and Information, this is the flowchart for the Michigan State Longitudinal Data System, circa 2009. A current system map was not discovered in the course of this research. (Center Educational for Performance, October 26, 2019)



Center for Educational Performance and Information (CEPI)

The Center for Educational Performance and Information (CEPI) houses data on finance, test scores, teacher preparation, gender and ethnicity, courses and grades, graduation rates, college enrollment, free or reduced-price lunch eligibility, career and tech programs, special education, and gifted programs. The CEPI website claims that this system “can span from early childhood into the workforce, help ensure Michigan’s public education system is meeting the needs of all students.” CEPI makes this information publicly available on the MI School Data website (<https://www.mischooldata.org/>). CEPI owns and manages both the SLDS with secondary education data, and the Student Transcript and Academic Record Repository (MSLDS: STARR) system with post-secondary data. The SLDS contains records from 2003 to today, with the purpose of tracking high school completion and Career and Technical Education status. MSLDS: STARR contains records from 2009 to today with the purpose of tracking post-secondary completions. (Center for Educational Performance and Information, October 9, 2019)

MI School Data serves as an excellent source of aggregate state data and includes the categories of early childhood, kindergarten-12th grade, post-secondary, and workforce.

Early Childhood

- Child count
- Participation by kindergarten
- Early childhood impact on K-3 absenteeism
- Kindergarten pathway
- Continuity of service in special education: service pathways
- Continuity of service in special education: service comparisons

K-12

- Parent dashboard for school transparency
- School index
- Student count
- Student assessment
- Career and technical education
- Staffing information
- Financial information
- English learner data
- Post-secondary outcomes by high school
- Graduation/dropout rate
- Our schools-at a glance
- Non-resident status
- There is an indication that additional resources are available

Post-Secondary

- Success rates
- Outcomes by high school
- College transfer
- College undergraduate enrollment
- Data inventory (historical record of financial events and instructional activity)
- College degrees and certificates awarded
- Entity list

Workforce

- Median wages by educational attainment
- Entry level wages over time
- Median wages by field of study
- Median annual wages by education attainment and high school CTE status
- Additional sources of data cited include Talent Investment Agency, Department of Technology, Management and Budget, Pathfinder, Michigan Works!, and Michigan Training Connect.

This system includes 5.3 million unique identification codes (UIC) for early childhood, Early On (a state intervention program for developmental delays), and K-12 dating back to 2002. It also includes approximately 635,000 unique post-secondary records as far back as 2009. (State of Michigan - LEO, 2019) According to its website, MI School Data also includes a back-end login for K-12 personnel, college and university personnel, and state of Michigan employees. Secure logins allow access to student level data to allow instructors to tailor instructions and programs to best meet individual needs. (MI School Data, 2019)

CEPI possesses individual-level data but has strict legal constraints on the methods and processes in which this data is shared to protect privacy and confidentiality. Individuals can be tracked even prior to entering kindergarten if they enter a publicly funded early childhood program. Education-related individual tracking does not occur via Social Security number. Instead, a unique identifier code (UIC) is assigned and used throughout the individual's educational career. Since the UIC does not translate to programs outside of education nor does it carry forward to the point in time when the individual enters the workforce, Social Security numbers are used for most other tracking needs. According to the Michigan Bureau of Labor Market Information and Strategic Initiatives, crosswalks have been conducted using UIC/SS, with a majority of individual records linking.

The CEPI website explains: "If you need non-aggregate data for program evaluations or studies, please visit the MDE Office of Evaluation, Strategic Research and Accountability website or email mde-research@michigan.gov. Rigorous data use, storage and destruction policies must be met before data are provided. Confidential data are masked by research identification codes and file layouts modified for research purposes. Common users include researchers doing national studies or performing program evaluation across several entities in Michigan."

An extensive library of resources about the data available through MI School Data and the methods of accessing and using this data is available at: <https://www.mischooldata.org/HelpAndSupport2/DemosAndGuides.aspx>

In addition to the MI School data tool, CEPI developed and sustains the following applications (Michigan.gov, 2019):

- Educational Entity Master
- Financial Information Database
- Graduation and Dropout Application
- Michigan Student Data System
- Nonpublic School Personnel Report
- School Infrastructure Database
- Student Transcript and Academic Record Repository
- Registry of Educational Personnel

CEPI offers a calendar that identifies data collection deadlines and events. This calendar occasionally includes training opportunities. To access, visit: <https://www.michigan.gov/cepi/0,4546,7-113-72089---,00.html>

Under the School Aid Bill (Michigan HB 4242 of 2019, p. 218-223), CEPI is also allowed to enter into any interlocal agreements necessary to fulfill its functions.

Early Childhood Data (prenatal to age 5) and Career and Technical Education (CTE)

According to the 2018 State of State Early Childhood Data Systems report (King, Perkins, Nugent & Jordan, 2018), Michigan fares well in comparison with other states regarding the development and connections of early childhood data systems. These data systems have a quality rating and improvement system, workforce registry, early childhood integrated data system, and data governance body. The state links child data across ECE (early childhood education) programs, with K-12 data systems and ECE program data. The state does not link child data with health data, social services, or workforce data, but reports that plans are in progress to address these three areas.

Michigan is 1 of 22 states that link data between all or some early childhood education programs. Michigan does not link ECE programs data with workforce data, while 15 other states do create this linkage. According to the Bureau of Labor Market Information & Strategic Initiatives, the prioritization of outcomes for early childhood programs has been lower than other outcome areas. Outcome comparisons for students with or without Career and Technical Education studies has been prioritized (Longitudinal Systems in Michigan Report Feedback, 2020).

Michigan has strengthened its early learning data system using a Race to the Top-Early Learning Challenge grant (RTT-ELC) phase 3-2014 (U.S. Department Health and Human Services, 2019). Through these funds, an Early Childhood Integrated Data System (ECIDS) was developed and is aligned and interoperable with the MSLDS. This tool was developed, in part, with CEPI and connects data with the MSLDS and MI School Data tools.

During the ELC grant, CEPI scoped a design, gauged interest in a multistate solution, and initiated conversations with the national data system vendor that manages ChildPlus, which is utilized by a majority of Head Start programs across Michigan. In 2018, grant money was allocated to Kalamazoo Regional Educational Service Agency (RESA) to execute a contract between Kalamazoo RESA and Double Line Partners to continue this work. Data currently available through the system is mainly from state and federally supported programs (childcare subsidy, ECSE, Early On, Great Start Readiness Program, and Head Start) and much of the data is voluntary. Work has been accomplished and progress has been made to create common definitions and leverage common data systems, as well as connect with other states to ensure interoperability.

Michigan Community College Data Inventory

According to the State School Aid Act-Act 94 of 1979, 388.1817, Sec. 217, CEPI is also charged to establish, maintain, and coordinate the Michigan Community College Data Inventory. This includes collecting data concerning community colleges and community college programs, developing model policies to ensure privacy of individual student data, provide data to allow state policymakers and community college officials to make informed policy decisions, and work with other state departments to develop demographic enrollment profiles. The act also indicates that a community college data inventory advisory committee be formed to provide advice to CEPI. Among the committee's responsibilities is a charge to ensure the data are made available to state policymakers and residents in the most useful format possible.

Department of Labor and Economic Opportunity-Workforce Development

Workforce Data

The Michigan longitudinal data systems appear to have one major drawback: A lack of a longitudinal connection and incorporation of workforce data in a manner that allows for the evaluation of institutions and individual programs.

Wage Records – Unemployment Insurance Agency and Workforce Longitudinal Data System

While CEPI maintains and makes aggregated workforce information available publicly, individual level workforce data is owned by Michigan Department of Labor and Economic Opportunity Unemployment Insurance Agency (UIA). U.S. DOL ETA awarded Michigan funds in 2012 to create a connection between workforce data and Michigan's existing educational state longitudinal data system. A workforce longitudinal data system (WLDS) resulted and the state indicates that it connects and evaluates educational and workforce data. Database records are linked to allow analysis between education and training, the provision of employment services, and employment within Michigan (Department of Labor & Economic Opportunity, October 10, 2019). The Unemployment Insurance Agency is required to retain wage records for five years, after which they purge these records. UI wage records are incorporated into Pathfinder, Michigan Training Connect, and MiSchoolData.org. Workforce Development (WD) has accessed wage records since 1998. Beginning in the first quarter of 2001, WD has stored the entire yearly wage record set collected by UI and shared with WD. Historical data (beyond five years) in aggregate is approved and supplied by WD. Non-aggregated wage data from over five years would need to be approved by WD and UI. Data within the most recent five years would be approved and supplied by UI. (State of Michigan - LEO, December 9, 2019) These records only use Social Security numbers from 2008 and beyond. (State of Michigan - LEO, ibid) This data is incorporated into Pathfinder and MiSchoolData.org, but not Michigan Training Connect.

The UIA does house an option to request disaggregated wage data to specific individuals for specific uses, but many of the researchers and decisionmakers who are eligible either are not aware of this possibility or are requesting datasets that are unavailable.

Additional Systems of Note

One Stop Management Information System (OSMIS)

While OSMIS appears to lack an informational website, it is used exclusively by the Michigan Works! Agencies as a statewide system to manage data, including program participant and a wide variety of employee and jobseeker data. System access is highly restricted and includes individual-level data protected by privacy and confidentiality laws. As of 2014, there were 3.1 million unique records in this system, which consists of clients of Michigan Works! (enrolled dislocated workers, DHS clients, veterans, trade assistance members, migrant seasonal farmworkers, adults and youth) with data collection extending back to 1999 (WLDS, 2014).

Pathfinder

Pathfinder is an online career exploration tool that matches education and employment outcomes to provide outcome data for schools and fields of study choices. Pathfinder is managed by the Talent Investment Agency. According to the Pathfinder website, “This free tool uses current labor market information, longitudinal wage data, and other institutional data and metrics, allowing improved skills-matching to career paths and jobs.” (Pathfinder, 2019)

Credential Engine

According to its website, “Credential Engine is a nonprofit whose mission is to create credential transparency, reveal the credential marketplace, increase credential literacy, and empower everyone to make more informed decisions about credentials and their value. Several Michigan Departments are working with Credential Engine.” (Credential Engine, 2019)

Requesting Custom or Non-Public Data

Limited Options Available

Upon review of the websites that correspond to the data systems listed above and through discussions with stakeholders, it has been found that a process and ability to submit requests for data are absent with only a few exceptions. Michigan Talent Investment Agency (TIA) provides a fact sheet that describes the process of requesting information and records. (Michigan.org, 2019) A parent webpage that allows an individual to identify that this request process is available is not apparent. This fact sheet was only discovered after searching specific terms related to “UI wage data request.”

The Michigan Talent Investment Agency (now the Office of Labor and Economic Opportunity), released a fact sheet regarding information and records request in July 2018. (Talent Investment Agency, 2018) This fact sheet pertains to Unemployment insurance data and describes the circumstances under which UI data may be made available.

The fact sheet indicates the following (abridged):

- Who can request information: UI may make confidential information it collects available to the following entities:
 - Public officials
 - Eligible educational institutions
 - Michigan Works! agency
 - Contractor or agent of a public official in the state of Michigan
- Requesting and processing disclosure of information:
 - Form UIA 6439, Request for Disclosure of Information, available at www.michigan.org/uia, must be completed, signed and returned to: Disclosure of Information Coordinator
3024 W. Grand Blvd, Suite 12-100
Detroit, MI 48202

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- Types of information disclosed:
 - UI may disclose:
 - name
 - Social Security number
 - gross quarterly wages
 - the name, address, and federal and state employer identification number of the individual's employer
 - other remuneration information
 - whether an individual is receiving, has received, or has applied for unemployment benefits
 - the amount of unemployment benefits the individual is receiving or is entitled to receive
 - an individual's current and most recent home address
 - any other available information in UI data that is consistent with the statute
 - Information that is *not* available:
 - Out of state wage data
 - Quarterly wage/tax reports
 - Information in the state's directory of new hires
 - Wages from non-covered employment such as independent contractors
 - Aggregate data released to independent educational institutions cannot be of the nature that it could be reasonably transparent to reveal personally identifying information (PII)
 - Estimated reports
 - Federal tax information
 - State Treasury information
 - No investigative data that reveals investigative technique
 - Information that could reasonably be assumed to cause harm to any individual

Independent Educational Institutions

UI is unable to release confidential information to an independent educational institution. UI, at the request of an independent educational institution, will perform data analysis and provide the results to the institution. Before any analysis is performed a Memorandum of Understanding must be signed between the requester and UI. Any data analysis must be of such a nature that no confidential information can be identified.

There is no obvious function or process described for an entity or individual to submit or inquire about a request for data from any of the other systems.

As of August 2019, the State LMISI Office has received a total of 10 data requests, with five coming from Michigan Works! agencies and five from colleges and universities. No data requests have been submitted from other state agencies or legislators.

Conclusions

When compared to other states, Michigan's data request process is daunting. Through the state comparison process, it was found that a number of states provide clear instructions and information about data limitations and transparent processes with obvious methods of submitting requests.

Stakeholder Input: Convening and 1:1 Discussions

As users and contributors to Michigan's SLDS participated in our stakeholder discussions, they revealed frustration with data that is abundant but often inaccessible, not useful, or incomplete. Their familiarity with the system provided invaluable and practical insights, such as including specific data points or including stakeholders in the process of system development.

In 2019, SLDS stakeholder groups were convened for two facilitated meetings in Novi (October 11) and Grand Rapids (November 8). More than 120 individuals were invited to each of these meetings. Invitees were identified by the authors and thought leaders from across the state as individuals familiar with Michigan's SLDS as contributors or users.

In addition, eight one-to-one meetings were conducted with system influencers who contribute to, analyze, or manage Michigan's SLDS. Individuals who participated were promised they would not be identified by name in this report, but all acknowledged and approved that their employing organizations would be disclosed. These organizations can be found in the acknowledgement section of this report. In total, 41 individuals provided feedback in group meetings or 1:1 sessions.

Additional Insights

The CEPI P-20 Longitudinal Data System Advisory Council meeting was held on September 26, 2019. During this meeting, attended by an author of this paper, system overviews were provided by CEPI, the Michigan LMISI office, and small group discussions took place by meeting participants to provide CEPI feedback on possible updates to its mission and vision statements. Draft minutes for this meeting are posted on the CEPI website. Approximately 25 people attended this meeting between advisory council members and those interested from the public, at-large.

On November 12, 2019, the U.S. Chamber of Commerce Foundation hosted the T3 Innovation Network annual meeting in Chicago. This meeting was attended to learn more about national efforts to convene international standards-making bodies with enterprise human resource system developers. The goal of this convening work will be to establish national standards for employer workforce reporting. The T3 Innovation Network is currently seeking partner organizations from academia, industry, and state governments to collaborate on research and beta projects concerning mapping and measuring education, certificate recognition, and workforce outcomes. Approximately 80 people from around the United States participated in this meeting and discussion.

Observations from Convenings in Novi and Grand Rapids, Michigan

Employers and business associations are interested and actively involved in talent pipeline development, as is evidenced by 45 employers participating in the Talent Pipeline Management program and heavy involvement in MICareerQuest. But these stakeholders desire better data about their efforts to ensure the best return on investment. Specifically, they want data that tracks the participants of the programs they develop and invest in, to gauge efficacy and evaluate if they are making progress regarding the occupations they employ. Data collection should be happening at each “gate” (various logical measurement points in primary, secondary, and post-secondary education), and a yield rate should be developed to assess how many people end up in the occupations employers are demanding. Participants expressed interest in the state establishing this additional data infrastructure.

Identifying Shortcomings

The state has described its SLDS as “best-in-class,” but stakeholders disagreed with this assessment. The message that can be gleaned from MiSchoolData is that education equals a better job with better wages, but there is very little that can be asserted beyond this fact with the level of granularity of the data. The groups wanted programmatic impact information around employment wages and to be able to assess if programs are meeting the supply and demand needs across the regions of the state. Several stakeholders expressed that they are disappointed such high-stakes decisions are being made using “incomplete, faulty, and not contextualized data.” Limitations of the data need to be better understood. Data collection, definitions, and standards vary drastically across the hundreds of institutions across the state collecting information.

A few stakeholders indicated they have submitted requests for education or workforce data to the state but have not received useful responses. Several indicated they have been more successful getting data from workforce-focused nonprofits and other intermediaries. Both focus groups indicated that Talent 2025 and the Workforce Intelligence Network play key intermediary roles for education, post-secondary and economic developers. Both organizations provide easy access to data if they have the means and access.

Participants in both groups indicated disappointment in the defunding of the MI Bright Future program, which is viewed as a key link between employer needs and student career exploration. Of those focus group participants engaged with career planning/development tools, only a few were familiar with Pathfinder. Most used either Naviance or Xello.

Each group indicated the need for partners, translators, or some form of intermediary to interpret and provide assistance (technical or navigation focused) to assist understanding and properly using available data.

There was a common chorus that data is plentiful, but those with the data have a difficult time synthesizing it and making it useful.

If the end users of the data are not considered in the design process of the data system build and collection, the value and usefulness of the data declines drastically. Several participants used the phrase “data rich, information poor.”

With few exceptions, focus group participants indicated the level of trust in longitudinal data is not high. This was explained as a variation in understanding of data definitions among those who contribute data. Integrity of the information is impacted when changes in the data are required from year to year. Participants indicated it was not due to a lack of trust in the technical way the data systems operate. A lack of data literacy was identified as a major obstacle and the term “garbage in, garbage out” was referenced in both convenings. Recent positive progress was cited, but participants felt tremendous opportunity for improvement exists. Participants indicated that if longitudinal data is developed and past data points are used, they don’t trust the data because it is often not an exact match for the measure that has been created.

It was observed that development of SLDS is often devoid of engagement with stakeholders. Stakeholders also expressed disappointment in the lack of data to back up certain policy decisions such as third grade literacy laws. They recommended that policy changes should not be made using data that is absent or invalid.

Expressed Interest of Stakeholders

- Data for more occupations than just those that are “high wage.” Participants specifically expressed an interest in data pertaining to teachers and pointed at the statewide teacher shortage and use of long-term substitutes as an impetus for this data.
- Data for experiential learning programs such as apprenticeships and job shadowing in order to evaluate and make decisions or make the case for post-secondary education paths outside of traditional colleges.
- More detail in education and wage data to make assessments about whether education was relevant to the careers people ended up in.
- Projection data with ability to narrow to hyper-local geographies, including occupational openings, wage data, projected number of retirements vs. openings. This would be used to identify emerging industries and areas of focus where hiring will likely be happening.
- Retention data.
- Workforce demand data for skilled trades.
- Complete and accurate licensing data that can also be used to measure retention and completers. LARA should be contributing data to the SLDS and 1099 data should be integrated into SLDS.
- Data with reduced lag times, especially graduation data. If grades have to be in by June, why does it take until the following year for that to be available?
- Community trust was identified as an important factor in data system work. One stakeholder indicated white papers are in progress to address this topic. The research will indicate that society should move away from rigid models and work toward network data sharing.
- Connect publicly accessible data feeds with APIs to open data platforms.

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- Transfer and linkage of credentials for work-based learning data.
 - Employer representatives indicated they want better forecasting of occupational data. This included a request for mapping of the programs that are developing knowledge, skills and abilities that can feed employers.
 - Special education programming with longitudinal entry and exit information. The stakeholders indicated this is needed, but they expressed strong concerns for overburdening schools with reporting requirements.
 - Postgraduate data at 1- and 5-year points. Also, longer-term metrics, 10- and 15-year outcomes.
 - 2-5 year forecast of post-graduation talent and metric for IT skills.
 - Analysis of graduating students not going to college, and where they land in the workforce.
 - Data to uncover reasons students don't finish college.
 - Skill sets in high-demand fields.
 - Program outcomes for:
 - Adult basic education
 - Employment support programs
 - Better data sharing between state departments.
 - Data for various education paths, including employer pathways.
 - Employment and wage outcomes by program and institution to identify best practices for four-year degrees and credentials.
 - A marketplace of data sources: Matching of the Master Person Index with ONET, including micro-credentials available on an open market that can be linked to an individual. Suggested linking libraries with this capability.
 - A chart that identifies all education mandates and whether those mandates are funded, and time to complete mandates within the school year. This will allow education institutions to assess whether time and dollars are available after all mandates are met to support liberal arts education.

Opinions of Identified Data Systems

Pathfinder

Stakeholders identified that Pathfinder has a plethora of underlying data that is fed into this tool, but thought the tool itself is underutilized and not well marketed. In one session, only two or three people were familiar with the tool, and most had a poor opinion. The groups did not believe this fit the definition of a longitudinal tool, but those familiar saw opportunity that has yet to be tapped. It is difficult for institutions to negotiate access to the data. Labor market outcomes are needed, and it would benefit from an improved user interface.

Upon follow-up with LEO-WD, the office shared that an API for Pathfinder is being created by which included institutions and providers will be able to apply for a key to download their institutional data (Longitudinal Systems in Michigan Report Feedback, 2020).

Credential Engine

Some stakeholders expressed interest and excitement over the potential of what Credential Engine is doing, but most indicated that what is being promised is not something that can be delivered, especially from a national organization in a far-reaching, national manner. The vast number of existing industry credentials caused concern among focus group participants, with some sharing concerns about the efficacy of the initiative. The industries that are being asked for information or to provide input usually struggle themselves with identifying what credentials they should require. This will lead to multinational organizations having significantly more influence on the topic because they are more organized.

Feedback from the State LEO-WD office garnered additional details of the Credential Engine work. The office indicated “LEO-WD’s work over the last 18 months has been focused on state efforts to ensure qualified education and training and talent development through assistance to other federal and state departments that offer individual credentials and licensure. We are partnering with USDOL, LARA, DIF, MDE, DOS, EGLE, and DTMB in the project (Longitudinal Systems in Michigan Report Feedback, 2020).” In the same communication, LEO-WD shared the following activities and information:

- LEO-WD has published the High School Equivalency (HSE) credential and is working on an Adult Ed (AE) partner outreach plan for the uploads by individual AE provider.
- The Michigan Department of Education, Office of Career and Technical Education (OCTE) has defined 53 career and technical education descriptions. LEO-WD is working on a secondary CTE partner outreach plan for the uploads by individual provider.
- MDE will soon publish 3+ types of High School Diplomas – (MME, STEM, CTE endorsements).
- LEO-WD in partnership with DTMB is creating an API connection to upload credential information to the Registry for secondary and postsecondary education partners, including:
 - Colleges, high schools and CTE submissions to MDE/CEPI
 - Adult Ed submissions to MAERS
 - Proprietary and private postsecondary institutions to MiTC
- A Credential Engine system adaptation was recently approved to allow third-party account creation, as LEO-WD is uniquely poised to do the major data lift for a majority of its educational partners with this change. DTMB Agency Services have been able to recently assign staff to this project under Credential Engine and WLDS grant funding.
- LEO-WD is working with the USDOL Michigan Office of Apprenticeship and many of the labor unions to identify credentials that are imbedded in Registered Apprenticeship programs and get them listed on the Michigan Training Connect, which makes those learning opportunities eligible for federal funding and inclusion in the Going PRO marketing campaign.

Additional General Stakeholder Statements

- The United Way’s “Asset Limited, Income Constrained, Employed” (ALICE) report was identified as an example of truly longitudinal data system that could be replicated.
- Education is currently driven by the wants and desires of students, not by the demand or expected demand of the marketplace.
- Real-time talent supply and demand information is lacking. There is data available through EMSI, but IPEDS and BLS data lags and lacks broad accuracy.
- Supply and demand information provided several years ago was useful in making the case about decision making in education, but it is now outdated.
- Hands-on education has declined due to the increase in requirements to teach other topics (Algebra II was cited). The Michigan Merit Curriculum has sent the message that all students need to get a 4-year degree.
- Some stakeholders indicated interest in **fee-for-service data requests**, and an estimate of total cost, for supporting data requests. There was some discussion of support for these costs through state appropriations, third-party requestors, or from foundation funders.
- There is an important **economic development** aspect to the SLDS. Site selectors are interested in labor force numbers over time. Economic development and the businesses they are recruiting and trying to retain want to know if there will be enough people and if they will be adequately trained. The current recruitment approach is typically to poach talent from other businesses rather than grow talent.
- Focus group participants cited the **Family Educational Rights and Privacy Act (FERPA)** as the greatest hurdle to accessing data, with the **Health Insurance Portability and Accountability Act (HIPAA)** also protecting sensitive data. A few organizations have been able to overcome the privacy issues by having been retained as an “agent of the state.” But these organizations are only able to conduct research in areas that they are specifically requested to work and the resulting information is kept confidential to stay in compliance with the federal laws. **Michigan’s Employment Security Act** was also cited as protecting wage data.
- **Employers** desire transparency and accountability regarding the effectiveness of education. This was described as a desire for outcomes measures for high school as well as college students a decade after graduation, conducted and released by a third party, independent organization or government accountability office. Outcomes measures are currently compiled and released by colleges, who have a vested interest in distributing data that positively reflects the institution. Certification and apprenticeships should also be included in this outcomes information.
- **National Student Clearinghouse** was cited as a national system that tracks students who have left or entered the state. While this is an effective data exchange system, states may vary in data definitions or methods of data collection.
- According to participants, there is **no workforce data certification or standards body**. There is a concern around the digital skills needed and whether education institutions are providing education that meets this need. Credential Engine was mentioned as an organization the state is starting to work with, but several participants indicated doubt regarding the ability of this organization to fulfill its scope of work in a useable manner.

Labor Market Information and Strategic Initiatives

Department of Labor and Economic Opportunity-Workforce Development Discussion

Workforce (UI wage data) is now accessible to eligible partners (community colleges, universities, Michigan Works! agencies), but is not available to third parties due to confidentiality and privacy regulations. There has been one instance in which a third party has been able to attain the workforce data: the third party was working on behalf of an eligible partner in order to analyze the data on their behalf. The eligible partner was required to sign off on the sharing of this data and strict rules were put in place regarding the use of the data.

The access point for data requests is the Unemployment Insurance Agency website. Because they have the largest number of records over the highest amount of years and it technically owns the data, it is the initial access point for requests.

Michigan has a federated longitudinal data system. The data must be provided to the office conducting research from many different agencies and all agencies must approve the request for data. Data is not provided unless research is required. The LMISI office has a crosswalk to be able to match a majority of the individual records across datasets using Social Security numbers, Unique Identifiers Codes, and other indicators. A majority of records are able to be matched. Potential partners in WLDS projects include LMISI, CEPI, Department of Treasury, LARA, Department of State and MDE. LMISI provides research services when needed. This structure and national/state data regulations limit internal state research projects and eliminate the potential of research by non-state entities.

Several departments of the State of Michigan have worked since 2012 to develop the system using mostly federal grant dollars. The LMISI office (part of DTMB) has received QEWI funds. The Department of Education has developed CEPI through SLDS grants (much larger grant awards).

Barriers

Barriers to data access include:

- Misconceptions about the type of data available.
- Slow development of the data request process.
- HB 4545, which granted access to the eligible higher education partners, requires the state LMISI office to sign all MOUs to provide access/grant data requests. The legal process for this was not in place when HB 4545 passed and has been difficult to institute.
- Staffing levels are not on par with the amount of work required to fulfill specific and time-consuming data requests from requestors.
- The LMISI office does not currently have access to data pertaining to self-employment but has a high level of interest in incorporating, if possible.

The LMISI office indicated there would be value in convening or getting all eligible partners to agree to a set data request. If all parties agreed, the LMISI office would be able to produce and distribute a set report to each institution in a timelier manner.

The LMISI office indicated additional data from employers would be of high value. Helpful new data could include: occupation (perhaps tied to ONET classifications), job title, and number of average weekly hours the person worked.

1:1 Meetings

Universities

The University of Michigan and Michigan State University have developed institutes that serve as agents of the state of Michigan for longitudinal data research capacity. Stakeholder conversations revealed that both systems encounter challenges in matching data, as individual (federated) state departments are not equipped with the available capacity to do so. Michigan has a strong proprietary relationship to data. At least one stakeholder indicated the state does not have the capacity to conduct the data work desired. Stakeholders would like to see the state shift away from fear-based decision-making, and seek a cultural shift toward collaboration and transparency.

Both university offices have negotiated extensive data sharing agreements with the state and are able to receive individual level state data for secondary and post-secondary education. The research conducted at these institutions is directed by the Michigan Department of Education, with topic areas limited to only those specifically requested by the state administrators that are part of the data sharing agreement.

The University of Michigan Youth Policy Lab (UMYPL) is an applied research center housed within the Institute for Social Research (ISR), which started in 2016. UMYPL is part of a data partnership between Michigan State University Education Policy Innovation Collaborative and CEPI. ISR has a pending data-sharing MOU with the Michigan Unemployment Insurance Agency (UIA). The main focus of this pending research is impact analysis and program evaluation for post-secondary education.

The Michigan State University Education Policy Innovation Collaborative (EPIC) is a strategic research partner with the Michigan Department of Education. EPIC is an external, quasi-independent evaluator for MDE. Research topics include teacher pipeline research and a Read by Grade Three partnership. An MOU is in place between EPIC, MDE, and CEPI, with EPIC serving as an agent of the state. Work is entirely client driven, with research restricted to requests from the state agency, the Governor, or the Legislature. Under FERPA, there is a study exception and a program evaluation exception, which allows use of disaggregated student data. Due to federal regulations, all student level data must come through MDE. CEPI collects and holds this data, but MDE is still the owner and data can only be released at the direction of MDE. EPIC is also in its infancy, with only 3 years of existence. While there is a desire by EPIC personnel to link CEPI data with UI and LARA, it would require a request from MDE and approval from the Governor's office for this to occur.

Seeing a Need for Access

Stakeholders in the 1:1 meetings shared that information about the process to request and attain data is close to non-existent. They said that LMIS is the most transparent, but a relationship must be built, and no active obvious point of access exists. UIA data is tied to both access and ownership issues and it is difficult to determine the process and access point of requesting this data. CEPI now has an access point through MI School Data, but this has taken 10 years to develop and it struggles with matching/linking of data to any other data sources.

The Upjohn Institute is the only known organization outside of state agencies to be granted access to UIA data for research purposes. MOUs are pending with a few state universities, but are not yet finalized.

A group of philanthropy organizations, including the Ralph C. Wilson Jr. Foundation, The Ballmer Group, JP Morgan Chase, The Skillman Foundation and the McGregor Fund are currently negotiating a grant for the Michigan Department of Technology, Management, and Budget that will link individual data to UI data so labor market outcomes can be tracked over time, alongside other data from education and other sources. The data cannot be reported back on individuals, but can be aggregate for cohort sizes of 10 people or greater. The grant is pending approval from funders in 2020.

The Employer Perspective

Employer-focused stakeholders indicated a desire to assess the effectiveness of their training programs and talent pipeline activities. Interactions with these groups also indicated an openness to discussing the addition of occupational information to UI forms, especially if it is requested on a voluntary basis.

During 1:1 stakeholder conversations, it was discovered that tracking of individual UI data is not only difficult to attain by external organizations due to privacy requirements, but the data can only be received once and cannot be kept. If Social Security numbers are known, UI data exists and is retrievable – if access is gained. This includes whether or not a person worked, and the amount earned in that quarter, by education institution. Data for the past five years is also available on individuals who get money from Michigan Works! Agencies and higher education. Subject matter experts indicate that 10-year data would be much more useful. Non-state programs do not have this type of data available, but there is movement to make data available to complementary grantees.

Some stakeholders expressed a desire for accurate and well-constructed forecasting, with an indication that 10 years of past data would allow for more accurate forecasting models. Without long term data, assessments cannot be made that include second or later jobs over a 40-year career. This can tell a much more compelling story about the outcomes of education and programs than a one-year post graduation statistic.

Stakeholders also expressed a desire for more training providers to contribute data to the system and for data to be available by program, not just by institution. The institutions that currently provide data to the SLDS are primarily formal education institutions, not private intuitions that do not receive federal or state funding.

Best Practices from Across the United States

Although most states have an SLDS in place, not all have developed equally. With a minimal level of national standards, states have been left to devise their own best practices. Several are acknowledged to be leaders in this arena, due to their commitment to accessibility, data privacy, sound governance, agency collaboration and other best-in-class characteristics.

Washington

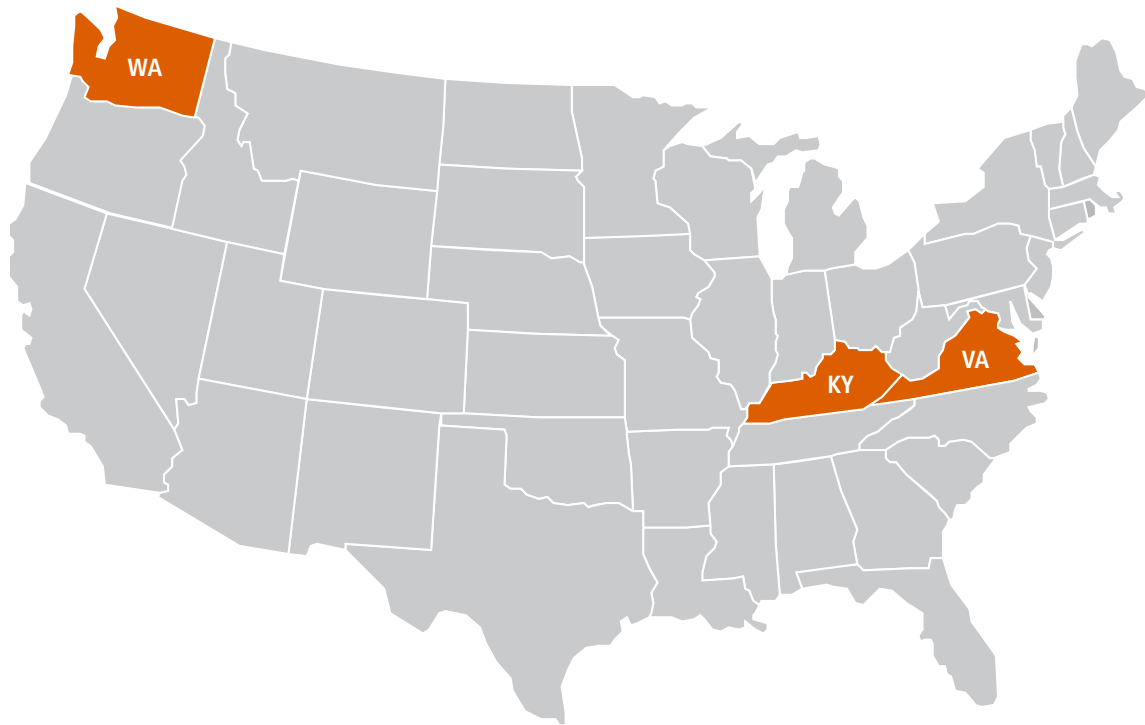
The State of Washington created the Education Research and Data Center (ERDC) in 2007 through a legislative bill. The system was initially focused only on tracking student progress and transitions through school to improve student outcomes. In 2009, ERDC's mission expanded to include several data governance responsibilities, identify critical research and policy questions, and monitor and evaluate data collection systems. Grants from the Department of Education and Department of Labor led to online feedback reports, improving the functionality and standardization of the ERDC data warehouse, and the inclusion of workforce programs that allowed for tracking workforce participants to school and back to the workforce. It appears that ERDC only tracks participants who have touched the workforce development programs, and is not able to connect with workforce data systems. ERDC also runs three committees:

- Data Stewards Committee
Ensures that the data is correctly understood and used correctly.
- Data Custodians Committee
Ensures that the data is delivered and protected.
- Research and Reporting Coordination Committee
Ensures that the right questions are being asked to address the important policy considerations of today.

SLDS Data and Process

SLDS data and information is available through the Education Research & Data Center (ERDC). ERDC serves as a portal for education data.

Each report, dashboard, or visual on the ERDC includes an "about this report" section, which explains the definitions, methodology, and variables prior to a member of the public accessing the report. A statewide report and a contractor report are available, but the contractor report is password-protected. ERDC information often cites the expected users of the data and the questions that can be answered using the data. The ERDC includes a robust set of reports using their SLDS data. Data sets vary regarding the amount of data lag, but most dashboards appear to be updated in 2017 or later. ERDC includes mention of an MOU that is signed by all education and workforce data contributors, which includes a set of principles.



The states of **Washington, Virginia, and Kentucky** are identified as **best practice states** due to their abundant references in multiple literature review materials.

Data request process:

- Washington’s ERDC identifies a robust explanation of the data request process, including the process for data requests that involve redisclosure (individually identifiable data) vs. no redisclosure (aggregated data). This includes links to request forms and e-mail addresses used to submit. A list of important terms with definitions is also included. A list of all data requests submitted including requestor name, date submitted, topic, product type, authorization path, decision, and whether the request has been fulfilled is available on the website (<https://erdc.wa.gov/data-resources/data-requests-0>). As of October 29, 2019, twenty-nine requests had been made for the calendar year 2019, with 5 denied, 6 pending, and the remaining fulfilled fully or partially.
- Washington used an SLDS grant to adopt a more effective process for collecting student-level credential attainment data from private career schools (PCS) that grant certificates. Washington has a Workforce Training and Education Coordinating Board (WTECB) that has been attempting to collect this data in voluntary and non-standardized methods for years. Prior to the SLDS grant, WTECB engaged with the Northwest Federation of Career Colleges (the PCS regional Trade Association) to set data requirements and adopt regulations requiring PCS to annually transmit student-level data. This data was transmitted in many different forms and

methods. The SLDS grant helped Washington develop a student data portal to collect data from PCS, including standardized codes and program titles. This includes automatic error discovery and a linkage between PCS data and wage records and other data sets. Student outcomes can be measured with this resource. The outcomes information is transmitted to the ERDC and included in workforce program reports. (Levantoff, 2019, p.6)

- Washington has received WDQI and SLDS grants. In July 2012, the Washington State ERDC used ARRA Statewide Longitudinal Data Systems Grant dollars to fund an Employment Data Handbook that provides guidance to other states for connecting education and employment data. The Handbook recommends connecting UI program data. Washington employers are required to provide additional data beyond the federally required dataset, including hours worked. Alaska also includes a requirement for occupation of the employees reported. Additional workforce data systems can be used to create a more complete picture, including the Federal Employment Data Exchange System (FEDES), Wage Record Interchange System (WRIS), Administrative Data Research and Evaluation (ADARE), and Local Employment Dynamics (LED). (Education, Research Data Center, 2019)

As of August 1, 2019, Washington passed seven of the 29 bills introduced in state government addressing data quality. The state considered a bill to expand existing privacy law governing school service providers to cover all services used in schools, whether originally intended for that purpose or not. These covered platforms used for in classrooms but not designed for that purpose (DQC 2019 Education Data Legislation Review).

Virginia

According to the Commonwealth of Virginia's website:

"The Virginia Longitudinal Data System (VLDS) is a powerful tool for Virginia's future, giving the Commonwealth an unprecedented and cost-effective tool for extracting and analyzing insightful education and workforce development data within a secure environment." The VLDS is a federated system and touts a "double deidentifying hashing process that leaves private data behind existing firewalls of the participating agencies. This technology was developed, in partnership with VLDS participating agencies, almost entirely with in-state resources including Virginia Tech, Virginia Information Technologies Agency (VITA) and Center for Innovative Technology (CIT)." (VLDS, 2019)

Each participating agency is a voting member of the VLDS Data Governance Council, which meets monthly to discuss research, challenges, and system growth and to make decisions about VLDS policy and procedure on a consensus basis. (National Skills Coalition, Saying Yes to Longitudinal Data, 2019)

A Book of Data Governance is identified as a reference guide for stakeholders, identifying structure and defining the major roles of the data governance council and technical, legislative, communications, and research subcommittees.

While the structure for data governance and research process appear to be the same for all agencies under the VLDS, each agency appears to have a high level of autonomy, including research agendas, and their own data sets.

Virginia does not operate using a data warehouse. Instead, agency data remains with the agency that collected and owns it. There is no login capability to VLDS. According to the website:

“Data requests can only be made by vetted researchers who have completed an application process and whose research questions have been reviewed and validated by VLDS participating agencies. Then, all researchers within the system are assigned a committee of agency “sponsors” who guide and oversee the process — all in the name of accuracy AND privacy. Each step along the way, from access request to publication of results, must be approved by the researcher’s sponsoring agency.”

There is very little description of all of the various forms of data that might be available, opting instead for external researchers to align with individual department research priorities and be sponsored.

Interesting research and findings are shared via a blog on the VLDS website. There is no public-facing data other than the data shared in these blogs. The public is not able to look up aggregated data, as stakeholders are able to do in other states, including Michigan.

Data-contributing state agencies include the Virginia Department of Education (VDOE), the State Council of Higher Education for Virginia (SCHEV), the Virginia Employment Commission (VEC), the Virginia Department of Social Services (VDSS), the Virginia Community College System (VCCS), the Virginia Department for Aging and Rehabilitative Services (DARS), and Virginia Department of Health Professions (DHP), Virginia Department for the Blind and Vision Impaired, Virginia Department of Juvenile Justice, and the Office of Children’s Services. Two non-governmental organizations, Virginia Goodwill Network and Virginia Early Childhood Foundation, are also members. (National Skills Coalition, Saying Yes..., *ibid*)

Virginia has a robust process for articulating approved credentials for credit and building stackable career pathways. Credentials are incorporated that meet the parameters developed or endorsed by employers. These credentials are widely recognized and serve as proof of acquired skills through third party testing. This process is led by the Virginia Community College System (VCCS). (Levantoff, Measuring..., 2019)

Estimated costs of Virginia’s federated system near \$7.5 million to plan and build Virginia’s SLDS, with approximately \$6.75 million dedicated to software development and integration services, \$450,000 for staff services, \$300,000 for hardware, and \$75,000 for software. Yearly operations and maintenance costs roughly \$475,000, including \$325,000 on vendor support, \$100,000 on hardware and hosting, and \$50,000 on software licensing (Levantoff, Costs..., 2019)

As of August 1, 2019, Virginia passed four of the 6 bills introduced in state government addressing data quality (Anderson, 2019).

Kentucky

Access and information for Kentucky's SLDS is available at Kentucky Center for Statistics (KYStats). According to the site, it "was created in 2012 to expand upon the work of the Kentucky P-20 Data Collaborative, including maintaining the Kentucky Longitudinal Data System (KLDS), a statewide longitudinal data system that facilitates the integration of data from the Kentucky Department of Education (KDE), the Council on Postsecondary Education (CPE), the Education Professional Standards Board (EPSB), the Kentucky Higher Education Assistance Authority (KHEAA), and the Kentucky Education and Workforce Development Cabinet."

This is a centralized system that originated with three state agencies and grew to five through executive orders and legislation. KYStats now has an independent office and a formalized governance structure, which includes each participating agency's representation on the Kentucky Longitudinal Data System governing board. Success of this system is attributed to personal relationship-building through shared understanding of the value agencies realize by engaging in the work, to joint presentations by KYStats staff and successful users who bring real-life examples of funding decisions and strategy work to the table. (KYStats, 2019)

KYStats includes a robust set of reports addressing future skills, post-secondary, high school, CTE, teacher prep, and Skills U feedback, as well as an early childhood profile, and work ready communities. Reports are searchable and filterable. Many reports feature interactive and customizable infographics allowing for reports to be adjusted by data sets, geography, time frame and occupation or industry categories. Kentucky's Labor Market Information statistics are also embedded into this site.

KYStats includes a "request data" link on the homepage. The request process is initiated when a user selects individual or aggregated level data. Restrictions and process information is displayed to assist the user in understanding their request and potential limitations including potential timeframes (3 weeks for aggregated/4 months for individual-level data). A questionnaire must be completed to initiate the request process. Policy and access information is shared on the site, as well as information about privacy laws and regulations. This site also houses a career explorer tool. All data request fulfillment does not include Personally Identifiable Information. Data is only shared through strict MOU procedures, which govern how the data is used and provide guidance on sharing research outcomes and restrict from linking to any other system. The data must also be destroyed after use. (KYStats, *ibid*)

Kentucky is able to link their early childhood data systems with child social services data such as TANF, child welfare, and SNAP. (King, Perkins, Nugent, Jordan, *ibid*)

As of August 1, 2019, Kentucky passed two of the five bills introduced in state government addressing data quality (DQC 2019 Education Data Legislation Review).

Other Noteworthy States

Texas and the University of Texas

Both the state of Texas and the University of Texas emerged as innovators in conversations with stakeholders, but were seldom cited in the literature reviewed. According to a session agenda from the 2019 Close-It Conference:

“In order to help students make informed decisions about academic pathways, career choices, and borrowing practices, the University of Texas System developed a partnership with the United States Census (U.S. Census) Bureau to merge UT System student data with national UI wage data that is maintained by the Longitudinal Employer-Household Dynamics (LEHD) program. The LEHD program maintains a voluntary data agreement with 49 states who submit individual-level UI wage records to a data consortium. The U.S. Census has matched their records with UT System student records. The matching of records allows UT System to create a national-level earnings metric (annual earnings) by major for any graduate who has UI wage records from across the nation. The metric was integrated into the UT System seekUT™ tool – a free, online tool that provides students and parents information on earnings and student debt by major.”

The conference session description also indicated a sharing of the process UT underwent to become a U.S. Census Bureau partner and inferred that the U.S. Census Bureau is open to additional partnerships. Additional information is available by visiting: <https://seekut.utsystem.edu>.

Additionally, Texas enacted HB3 in 2019, which overhauls school funding formulas to increase availability of data about early childhood education quality and requires districts to set early childhood literacy and math proficiency goals and publicly report on progress. (Andrews, 2019)

Other State Activities

- California passed a new law this year establishing an SLDS. It has been one of the only states across the nation without a system (Data Quality Campaign, 2019)
- Maryland passed a law that will add juvenile delinquency and discipline records to its SLDS and add the secretary of juvenile services to the state’s pre-existing data governance board. (ibid)
- Utah passed a law to create infrastructure for the sharing of student data between districts and the State Board of Education. This creates a standardized data collection and reporting process. (ibid)
- A Florida law established the Florida Talent Development Council, which will use data to align education and workforce needs by assessing whether postsecondary degrees and credentials align with employer needs. (ibid)
- According to the Aspen Institute, a number of states have taken steps toward a more skills-based labor market. For instance, Colorado, and more recently Indiana, have worked with the Markle Foundation’s Skillful Initiative – in partnership with Microsoft, LinkedIn and other partners – to develop a more effective and transparent skills-based labor market. In February 2019, 20 governors helped launch the Skillful State Network in an effort to scale the model. But achieving that level of transparency – and linking the theory up with actual hiring decisions in practice – can be quite difficult without the underlying data and information on skill needs and gaps. (Aspen Institute, 2019).

Recommendations

With a solid foundation in place, Michigan has an opportunity to take its SLDS to the next level. These refinements are critical. For the state to remain competitive in a modern, knowledge-based economy, it must have a robust data system that supports improvements to workforce and education strategies.

The following recommendations should be considered by Talent 2025, the West Michigan talent working group, interested parties across the state, and state policy makers. Dedicated public servants working in state government have created the backbone of a useful SLDS. Additional convening, collaboration, and investment will be required to lift Michigan to a best-in-class state when comparing SLDS systems nationally. With so many organizations in the public, private and nonprofit sectors focused on educating for “the future of work,” and on how to activate long-term unemployed persons during this time of full employment, SLDS systems are a natural place to look to measure program results and systems performance for lifelong learning among youth and adults in Michigan.



1. Grow a culture of data literacy and transparency in Michigan.

It is evident through this research that the executive branch and state agencies have a key role to play in making access to high-quality data a priority. With additional resources, and respectful stakeholder engagement, CEPI, LEO-WD and LMISI could play a transformative role in how Michigan leverages a robust system of data collection to drive positive system investments and outcomes. There are plentiful opportunities for engagement throughout the state, and intermediaries willing to collaborate and share the work needed to clearly articulate SLDS and WLDS programs and capabilities.



2. Design and publish clear rules for engagement for access to SLDS data, and make the “front door” obvious across websites and dashboards for all federated data owners.

There is a palpable sense of frustration among many stakeholders concerning why they have not been able to get access to data that they assume is available and accessible. Concerted efforts were made to discover how to even make requests of the SLDS, which are detailed in this report. Other states have clearly defined and published rules of engagement. Michigan can improve current external communications to alleviate these frustrations.



3. Add vital reporting metrics to employer unemployment wage reporting including: ONET occupation code, job title, hours worked, and primary job site.

The U.S. Department of Labor 2018 draft report, “Recommendations to improve the nation’s workforce and labor market information system,” the Aspen Institute’s 2019, “Future of Work”

report, and stakeholders internal and external to state government agree if the state is to have a robust SLDS, it must include critical pieces of information that are missing from what is currently collected. The missing information is routinely demanded by employers, researchers, and educators alike, but most do not realize that the four data points in this recommendation are not collected by local, state, or federal agencies.



4. Add missing data from existing state systems.

Many helpful sources of information are not included in current SLDS systems, these include but are not limited to:

- Self-employment data (IRS 1099) sometimes framed as the gig-economy,
- Professional licensing databases from the Department of Licensing and Regulatory Affairs,
- U.S. Department of Labor Apprenticeships,
- Workforce investments not contained in the OSMIS reporting system.



5. Implement a system of assigning unique identifier codes (UIC) at birth, or at first engagement with state services. Integrate a common system of UIC assignment across all state agencies, agents of the state, and subcontractors.

The LEO-WD, state LMIS office, CEPI, and other agencies have invested considerable talent, time and capital over the past decade building systems to match individual records across numerous databases. This process involves painstaking work to assign UICs and to test and verify combined data sets. Setting a standard policy for UIC assignment, independent of Social Security numbers, will streamline future analysis opportunities.



6. Appropriate a “data innovation and quality fund.”

Michigan has among the best and brightest minds in the world, focused on solving big challenges. With a proactive position, and a desire to build a culture of data literacy and transparency, researchers from the public, nonprofit, education and private sectors will pose the questions and do the work that will lead the nation in SLDS innovation and implementation. Even a small annual appropriation would be able to seed a competitive fund to ask the questions that will make Michigan reflect on its education and workforce investments through the helpful and critical eye of researchers at colleges, universities, workforce agencies, and intermediary nonprofits.

A number of foundations (reference page 41) have come together to support additional capacity for SLDS and related resources. More details may become available in early 2020, if and when a grant from the Ralph C. Wilson Jr. Foundation board is made public. Foundation funding does not, however, replace the immediate and long-term need for additional thoughtful investment on the part of the State of Michigan to support systems for the state. A competitive fund, focused on

innovative research and data quality, similar to recent state competitions for workforce and education collaborations (Marshall Plan for Talent, Going Pro, etc.) would provide a practical and creative outlet for valuable research and program development around the state. While an assessment of funders supporting education and workforce data research are outside the scope of this analysis, a variety of funders and grants have been identified in this paper.



7. Revisit succession plans among key state agencies to identify and verify critical systems and employees.

A small number of dedicated public servants have created the SLDS systems we have today, and loss of institutional memory for positive or tragic reasons could negatively impact systems management.

About the Authors

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David Palmer is a multi-disciplinary convener, facilitator, public speaker, researcher, entrepreneur, and Realtor, in private practice. He is principal of DC Palmer LLC. David spent 10 years working in kitchens and managing restaurants. Another ten years managing successful small businesses: one focused on environmental remediation and the other flow dynamics measurement and software/hardware systems integration. Most recently, he has invested six years in nonprofit workforce development and in serving his residential real estate clients. While the Senior Director at the Workforce Intelligence Network (2014-2019), he supported the development of over \$40 million in federal, state and foundation grants awarded to support workforce training and capacity building in the 16 county Detroit region. He has spoken at over 100 conferences and meetings since 2014. He holds a Master of Public Administration degree, with honors, from Eastern Michigan University. Also, a Graduate Certificate in Nonprofit Management and a Bachelor's in Political Science and Business from EMU. David is a licensed Real Estate Associate Broker, a Certified Nonprofit Professional, and a Documenter for WDET, Detroit's National Public Radio Station. He is a member of the American Association of Political Consultants, the National Association of Realtors, the Great Lakes Renewable Energy Association, and has served on numerous advisory committees and nonprofit boards. Links to his publications can be found on his website: www.dcpalmer.com. David lives in the Hubbard Richard neighborhood in Southwest Detroit and travels the United States and Europe in search of inspirational music and amazing food.

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