CROSSING BOUNDARIES
Regional Data Sharing to Study Worker Mobility

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**Introduction:** The case for regional data exchanges

With increasing student debt, scrutiny over public investments in higher education and ongoing debates regarding the health of the U.S. economy, many people are extremely interested in the labor market outcomes of graduates from our nation’s workforce development and postsecondary programs. Students, workers, employers, educators and policymakers all want to know if program completers are getting good jobs. This paper intends to offer an overview of the feasibility of using regional data sharing agreements to more comprehensively track employment outcomes and study worker mobility.

In-state data sharing agreements negotiated between state education, workforce and social service agencies allow program participant information to be matched with the state’s Unemployment Insurance (UI) wage records. Through this data matching, states can track whether graduates obtained employment and calculate their average earnings. In-state agreements are beneficial, but they are also insufficient. They do not capture outcomes for past participants who work outside the state in which they originally received training or other services.

Surveys also have their limitations. Schools, workforce development programs and training providers often rely on post-program surveys to report the outcomes of their participants, which include employment and earnings. Surveys are time-consuming and can be unreliable, especially for measuring outcomes months or years after program completion.

The Wage Record Interchange System 2 (WRIS2), operated by the U.S. Department of Labor, allows states to exchange wage data for the purpose of reporting on the performance of state and local employment and training programs. However, the system has notable restrictions, especially on using WRIS2 individual-level data often needed for research. WRIS2 is governed by the terms of its data sharing agreement. Only a state agency designated by the governor and responsible for oversight of Workforce Innovation and Opportunity Act (WIOA) programs, which is usually the state workforce agency, may receive individual wage records from WRIS2. Other entities, such as state education agencies, community colleges or for-profit career schools, may only get reports with data aggregated at the program or institution level.

Given the limitations of surveys and WRIS2, policymakers should consider using regional data sharing agreements as another alternative to access wage records and analyze program graduates’ labor market outcomes. These data exchanges could enable state policymakers and researchers to answer pertinent questions about the development and mobility of human capital by linking education and employment outcomes across state lines.

**Developing multi-state agreements**

A data sharing agreement is a formal contract that documents what data are being provided and how data is being used. These contracts are designed to protect the parties involved and ensure that data is not being misused.

Interstate or regional data sharing agreements enable the exchange of wage data among participating states for purposes allowed under the terms of the agreement. Typical data sharing agreements include sections that cover topics such as: purpose and legal authority, description of records or data to be collected, verification procedures, confidentiality and security procedures, records duplication and re-disclosure restrictions, term/duration of agreement, cost of data preparation, penalties for breach or default and duties of the parties.

States can collaborate to craft agreements that permit state workforce agencies and other entities to obtain wage data of individuals who have participated in postsecondary education or workforce development programs in one state, then subsequently gained employment in another. They can use this information to answer questions like: Are college graduates leaving to work in other states? Are people who are receiving training in specific industries, such as oil and natural gas, more willing to relocate to other states that offer job opportunities in those industries? How can states plan for seasonal patterns of interstate commuting of workers related to particular industries?

The purpose of this paper is to help administrators of state workforce, higher education and UI agencies think through the feasibility of forming regional data sharing agreements. We want these leaders to see what is possible, carefully investigate the options and start the process of formulating data sharing agreements where there is good rationale to do so.

This paper contains two case studies, which serve as solid examples of states that have entered into regional data sharing agreements. Each case study addresses:

- What is the process to set up a data sharing agreement?
- What data are being shared and how is it being shared?
- How are data being used?

These data exchanges could enable state policymakers and researchers to answer pertinent questions about the development and mobility of human capital by linking education and employment outcomes across state lines.
To illustrate how a national issue has an impact on a state level, Wyoming has a story to tell about the out-migration of young people, and how following their movements can help other states evaluate where their young people are and where they are going. This case study describes an analysis of workforce mobility that was accomplished through the use of data sharing agreements with partner states. Further, it explores how this model could be expanded in other states, as well as how this data could be used to assess a college scholarship program designed to retain Wyoming youth.

Analyzing youth migration
The baby boomer generation in Wyoming has chosen to remain in the workforce. Boomers are employed in stable industries like public administration, health care and educational services, leaving fewer job prospects for recent high school graduates in the state. That means college graduates may have to leave Wyoming to seek employment elsewhere. This paradigm, known as “brain drain,” happens when well-educated individuals move somewhere else for better pay or conditions, causing the place they came from to lose those educated and skilled people.

According to a 2012 study released by the Wyoming Department of Workforce Services, brain drain is happening there. *A Decade Later: Tracking Wyoming’s Youth into the Labor Force,* showed that for Wyoming workers who were 18 from 1992 to 2006, an average of 56 percent were working in the state five years later.

More intensive analysis examined a cohort of all 18-year-olds who were employed at any time in the year 2000 in Wyoming, as long as they primarily earned wages in the state. This group — otherwise known as the “2000 cohort” — consisted of 7,325 individuals. Looking at employment of the “2000 cohort” in 2010, there were a few interesting discoveries:

- Forty-eight percent retained employment in Wyoming.
- Seventeen percent worked in states with which Wyoming had a data sharing agreement.
- Thirty-five percent of the cohort was classified as “unknown.” Unknowns included people who were unemployed, self-employed, federal government employees or working in states with which Wyoming researchers did not have a data sharing agreement.

Sharing data across state lines
According to *A Decade Later,* the data used were collected from the UI wage records of Wyoming and 10 other states: Alaska, Colorado, Idaho, Montana, Nebraska, New Mexico, Oklahoma, South Dakota, Texas and Utah. Additional databases like the Department of Motor Vehicles driver’s license files allowed for the collection of demographic data, such as age and gender on the youth studied. By linking these administrative data, the state was able to follow groups of youth across time.

Wyoming negotiated separate data sharing agreements with all 10 of the aforementioned states, starting with South Dakota in the mid-1990s. The 10 inter-state data sharing agreements have been in place for different periods of time and have varying terms. Some have been updated over time. For example, the memorandums of understanding that Wyoming has with South Dakota and Nebraska are now in their third version and include optional data elements that Wyoming negotiated for a separate Bureau of Labor Statistics initiative.

The State’s Research Questions Included:

- Where do the youth go?
- What is the typical industry career path for those retained?
- Are 18-year-olds from 2000 similar to other groups?
- How does this analysis help us understand the outcomes of a program like the Hathaway Scholarship?
To begin the data exchange, Wyoming’s Department of Workforce Services sent its partner states Social Security numbers (SSNs) present in their wage record files since 1992. Wyoming asked partner states to return information from the prior three years of their own UI wage records on any individuals matching the Wyoming SSNs. In order to keep data up to date and receive the most accurate information, Wyoming continues to submit annual requests to its partner states. They return information from the previous six quarters, including the year and quarter of employment, amount of earnings and the North American Industry Classification System code which shows the industry of employment.

This continual exchange allows Wyoming to determine the number of individuals who leave the state, even for an extended period of time, and then return.

Using data for future analyses

Just as the data sharing agreements in place enabled Wyoming’s previous mobility study, they could help the state to better understand the outcomes of the Hathaway Scholarship program, including human capital mobility and labor market outcomes of scholarship students.

The Hathaway Scholarship program was designed to provide an incentive for Wyoming students to pursue postsecondary education, and later jobs, within the state. The program consists of four separate merit scholarships, each with specific eligibility requirements, and a need-based scholarship for eligible students that supplement the merit awards. Wyoming high school graduates can use the awards to attend the University of Wyoming or any of the state’s seven community colleges.

The Hathaway Scholarship was created in 2006 and is funded by the state through part of a $1.8 billion state budget surplus supported by the prosperous natural gas industry. It pays up to $3,200 for an annual merit scholarship. Wyoming students qualify primarily through their grade point averages; American College Testing, or ACT, college readiness assessment scores; and high school curricula.

The Wyoming State Legislature established an endowment fund that would eventually grow to $400 million, to be accumulated over several years (with scholarships being drawn from the endowment’s proceeds). About 5 percent of the growing fund – or $20 million a year – then could be used for student scholarships. The program was named for former Wyoming Governor Stan Hathaway.

In 2012, the state legislature allocated funding to assess the long-term impact of the Hathaway Scholarship program on retaining youth in Wyoming’s postsecondary institutions and subsequently in the state’s workforce. The first recipients of the scholarships are now at the point when they could acquire a four-year degree and enter post-graduate employment. Wyoming’s Department of Workforce Services has been tasked with “collection and analysis of data necessary for the long-term effects of the Hathaway student scholarship program on Wyoming high school students.”

According to the Wyoming Department of Workforce Services, they plan to release a mobility study with several descriptive analyses by the end of the first quarter of 2015. While other states have funded scholarship programs, such as Georgia and Louisiana, there is little comparable research on long-standing programs such as Georgia's HOPE Scholarship.

Although analysis of the Hathaway program is still on the horizon, available research using data sharing agreements in Wyoming already demonstrates how the program can be evaluated by matching postsecondary student records and UI wage records from multiple states. Through its data sharing agreements, Wyoming has proven its ability to track its youth longitudinally and across state lines.
WICHE: Examining student mobility

Over the past several years, the Western Interstate Commission for Higher Education (WICHE) has gained a lot of traction and attention for its Multistate Longitudinal Data Exchange (MLDE) pilot project. It has stood out as a model for creating regional data sharing agreements that could aid in the further development of our nation’s human capital. The idea was to link secondary education (K-12), postsecondary education and employment data between four states, proving that this type of multi-state governance and infrastructure are possible.

WICHE is a public, interstate agency that was established to promote and facilitate resource sharing, collaboration and cooperative planning among the Western states and territories and their colleges and universities. WICHE’s members include: Alaska, Arizona, California, Colorado, Hawai’i, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, Wyoming and the U.S. Pacific territories and freely associated states (the Commonwealth of the Northern Mariana Islands is the first of the group to participate).

Funded by the Bill & Melinda Gates Foundation, the MLDE pilot worked with four states (Hawai’i, Idaho, Oregon and Washington) to determine whether and how states could share individual-level, longitudinal data. Where possible, WICHE worked with each state’s longitudinal data system to obtain and merge data across state lines.

In addition to data traded among participating states, MLDE also used enrollment and credential attainment data from the National Student Clearinghouse. This additional information permitted the inclusion of data from public and private institutions across the United States.

Developing the pilot

To launch the MLDE pilot, the WICHE team was driven by three research questions:

1. What are the patterns of postsecondary enrollment and employment of high school graduates from each participating state?
2. What are the patterns of postsecondary enrollment and employment of students in public postsecondary institutions in participating states?
3. To what extent does sharing data among states supplement existing state data resources available for conducting evaluations leading to policy and program improvement?

These research questions informed the design of the data exchange agreements between states. There were significant challenges in negotiating these agreements, which mainly centered on federal and state privacy concerns and governance in regards to who owns the data. Approving the agreements expended the majority of the first two years of the project.

Students from two cohorts were selected for the data exchange. Cohort A contained Class of 2005 public high school graduates from Hawai’i, Idaho, Oregon or Washington. Cohort B contained college students who enrolled at a public postsecondary institution in one of the four pilot states for the first time during the 2005-2006 academic year. There is some overlap between the cohorts: students who went directly from high school to college, all within the four pilot states. In all, there were 192,689 students in the data set.

Data elements exchanged included: term-by-term enrollment; credentials earned and field of study; employment; and demographic and student characteristics, in addition to identifying information necessary to link records across systems and states.

Documenting success

This past summer, WICHE released two reports that offered initial findings from the MLDE pilot project.

Beyond Borders: Understanding the Development and Mobility of Human Capital in an Age
CROSSING BOUNDARIES: REGIONAL DATA SHARING TO STUDY WORKER MOBILITY

of Data-Driven Accountability, described the full process of creating interstate data sharing agreements. A Glimpse Beyond State Lines: Student Outcomes from WICHE’s Multistate Longitudinal Data Exchange Pilot Project, provided results from a series of analyses of 192,689 students from the states that participated in the pilot exchange. Workforce Data Quality Campaign recognizes some key findings from both reports:

- Student confidentiality can be protected through data sharing agreements and a common, usable dataset can be assembled from numerous data sources.
- Exchanging data across state lines helped to fill significant gaps in each state’s separate data, and gave state leaders an enhanced picture of employment outcomes of graduates from their state. For example, sharing data between the four states made it possible to determine where college students ended up after graduation for 7 percent more graduates on average than the states would have known about from their own independent data.8
- More than 60 percent of college graduates remained in the state where they graduated college at least a year after graduation. College students who were recent high school graduates of the states were found in-state after graduating college at a slightly higher rate than other graduates.
- Earnings for college graduates varied significantly, depending on whether the student moved out of state or continued on to graduate study, among other factors.10
- The MLDE demonstrated how cooperative cross-state data sharing could help address workforce planning by being more responsive to local industry needs and working with educational institutions on program design. State policymakers can also investigate how their state attracts workers who were educated elsewhere, which can be a crucial component of meeting current and future workforce needs.11

Lessons learned
WICHE learned a few lessons along the way. The lessons that emerged include:12

- Real value comes from combining education and employment data, but making these linkages is challenging due to privacy restrictions.
- There is genuine appetite for linked data among participating states, but there is some confusion about what level of detail is necessary. Regional data sharing agreements need to balance the expectations of partnering state agencies relative to how the data is actually going to be used.
- It can be challenging to get data to track college graduates many years in the future, but having this data is useful. It is important not to overemphasize initial earnings for college graduates, and instead look at longer earnings trajectories.
- States need a resource to understand the outcomes of those who do not complete a
postsecondary program of study (or never elect to pursue one), as well as those who do.

- The data exchange benefits states because they can better understand how regional labor market need is being filled by recently educated talent, either by developing it locally or importing it from elsewhere.

In addition, WICHE identified some adjustments it would like to make to the data sharing process. Those changes would enable states to more actively query the MLDE to get enhanced data for cohorts they construct that are aligned to the research/policy question they are trying to address. An upgraded query system would give participating states tools and templates to present data, further demonstrating value for policymakers.13

Next steps
Even through trepidation, the pilot proved to be a success. The favorable outcomes have led to a planned expansion of MLDE, which will include at least six new states that have yet to be identified.

In their outreach for additional states, WICHE is looking beyond the Western region; thus they are trying to work with other regional compacts to identify and recruit states. They are aiming for clusters of states where mobility is routine. Ideally WICHE would like for those states to also exchange data with one or more of the original four MLDE states. Other factors for selecting states for the MLDE expansion include: the appetite for and interest in using employment data to examine human capital development and its mobility; readiness to contribute the data elements needed to the MLDE; and the political and legal ecosystem for data sharing in each state. WICHE plans to use the original memorandums of agreement as guides for developing a new set of agreements with the additional states. In addition, the new agreements will reflect the adjustments to the data-sharing process, which are aimed at improving usability and flexibility for participating states.14

By the summer of 2016, WICHE hopes to have data sharing agreements in place with states that will participate in the second phase expansion of the MLDE project. By then, it also hopes to have a working infrastructure for the exchange that incorporates improvements to the data-sharing process.

Endnotes
4 Glover, A Decade Later.
5 Tom Gallagher, Wyoming Department of Workforce Services, e-mail message to author, October 13, 2014.
8 Prescott, “Sharing State Data.”
10 Bransberger, A Glimpse Beyond State Lines.
11 Prescott, Beyond Borders.
12 Prescott, “Sharing State Data.”
13 Brian T. Prescott, Western Interstate Commission for Higher Education, e-mail message to author, November 6, 2014.
14 Ibid.
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