



Better Data for Better Policy: The Coleridge Initiative in Ohio

Steady Progress and Productive Collaboration

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The Coleridge Initiative is a nonprofit organization that collaborates with federal, state, and local government agencies to build capacity to improve research and policy. They do this both by providing a platform to securely link confidential microdata within and across states and agencies and by providing training classes to agency staff. The Coleridge Initiative's platform is its Administrative Data Research Facility (ADRF),¹ a secure, FedRAMP-certified, cloud-based platform for administrative data analytics. State and federal partners are trained to use confidential data in the ADRF through the Applied Data Analytics training, a modular, project-based training program that allows agency staff to work hands on with their own data.²

Ohio was one of the Coleridge Initiative's early state partners. Representatives from Ohio participated in ADA training in Missouri in 2018 and worked with the Coleridge Initiative to host two ADA trainings, in 2019 and 2020. Ohio also participated in two meetings of the Midwest Regional Data Collaborative, a state-led effort to encourage data sharing that is supported by the Coleridge Initiative. This brief provides a case study of Ohio's experiences to document the Coleridge Initiative's work in the state and to help other states understand how ADA training, the ADRF, and data linking for evidence-based policymaking can support policy to improve the connection between education and work.

Key lessons from Ohio's experiences include that ADA training is strengthened by careful observation of other Coleridge Initiative partners. By observing the work of staff in Missouri, Ohio staff learned how to strategically form and guide ADA training teams to produce high-impact data

products. Ohio found that one of the most important benefits of ADA training was the relationships that it established across agencies within Ohio and with other states. Participants who were well positioned to make decisions in the state were particularly valuable for future policy impact. Ohio partners considered the Midwest Regional Data Collaborative to be a valuable opportunity to collaborate on data sharing processes and data safety practices.

This is the first of three briefs on the experiences of the Coleridge Initiative and its partners. The goal of these briefs is to document the experiences of the Coleridge Initiative; draw lessons from the experiences of state partners that can improve the work of the Coleridge Initiative in the future; and apply broader lessons for data sharing, linking, and evidence-based policy.

The Coleridge Initiative in Ohio

Ohio's partnership with the Coleridge Initiative emerged out of concrete analytic needs, aspirations for a stronger multistate data infrastructure, and existing technical expertise. Many of Ohio's cities and towns are located on state borders, and students frequently migrate to neighboring states after graduation. Workers living in Ohio also commute to job sites in adjacent states. These interstate migration and commuting patterns pose important analytic challenges for several policy domains. Ohio partners unanimously identified the Cincinnati metropolitan area, which straddles the state's border with both Kentucky and Indiana, as a region where policymakers need education and workforce data reliably linked with those states. Policymakers face similar problems in Toledo, which borders Michigan, and Youngstown, which borders Pennsylvania.

Ohio's collaboration with Coleridge has been spearheaded by staff members at Ohio State University's (OSU) Ohio Education Research Center and Center for Human Resources Research. Since 2011, OSU has been responsible for maintaining and linking the state's education and workforce data in the Ohio Longitudinal Data Archive (OLDA) data repository. Because OLDA is a linked data platform, OSU staff members who manage OLDA were familiar with the technical and legal difficulties confronted by the Coleridge Initiative in its cross-state work. In 2016, researchers and data managers at OSU began informal conversations with their counterparts in Kentucky, Indiana, and Michigan to determine how they could work collaboratively to link education and workforce data across states. The four states made inquiries with multiple vendors and determined that a partnership with the Coleridge Initiative was the most promising opportunity. The Coleridge Initiative offered two advantages over other vendors that were attractive to Ohio and its neighbors:

- **Existing partnerships in the Midwest:** The Coleridge Initiative had established partnerships with Illinois, Indiana, and Missouri. Although neither Illinois nor Missouri directly borders Ohio, OSU staff members recognized that their shared borders with Kentucky and Indiana would be valuable for building out a regional data-sharing collaborative, which had been an important goal for OSU and its partners. Moreover, graduates from Ohio's colleges and universities settled throughout the region and the country and not just in states sharing a border.

- **A strong existing data platform:** The Coleridge Initiatives capacity to securely host data from multiple states in the ADRF was attractive to staff in Ohio and their counterparts in Kentucky, Indiana, and Michigan because no state wanted to host the other states' data. Only one other vendor that the midwestern states approached had an existing secure platform for exchanging data.

Like other Coleridge Initiative partners, Ohio began to explore the possibilities of becoming a Coleridge collaborator by joining another state's ADA training and then hosting its own ADA training. Collaboration with the Coleridge Initiative developed in stages. Initially, only training datasets from OSU were shared through the ADRF, but ultimately the Ohio Department of Job and Family Services (ODJFS) signed a data-sharing agreement. Ohio quickly recognized the value of the ADRF because in the words of one OSU partner, OLDA "parallels what Coleridge does" because it "deidentifies and transforms data" so that the data can be linked and used in research across policy domains. OSU's experience with OLDA made the structure and purpose of the ADRF platform easy to understand, but what the ADRF platform added to OLDA's capabilities was easy interstate linking of data as well as the ability to build workforce capacity through training programs.

Ohio's Experience with ADA Training

Ohio's experience with ADA training started with two 2018 trainings in Kansas City, Missouri, where OSU was introduced to the work of the Coleridge Initiative and the ADRF platform. Kansas City provided OSU staff members with a model of ADA training that they would replicate in an adjusted form in Ohio in 2019 and 2020. Each ADA training is modular and project based. The first half of the course covers data, record linking, data visualization, and project preparation. The second half covers machine learning techniques, inference, and privacy. Participants are taught Python, R, and SQL. Participants are divided into teams that work on projects through the course and present their results to the class at the end of the course. Teams are formed by the ADA training hosts, with input from the Coleridge Initiative.

Ohio's experience with ADA training offers several **key lessons** for other Coleridge Initiative state partners. Ohio staff learned how to host their own ADA training by example, by first attending the training of Missouri, an established Coleridge Initiative partner. University and state agency staff in Ohio adapted what they observed and learned in Missouri to the needs of their own state. The Ohio partners learned the importance of strategic selection of training participants with different skill sets and who were well positioned to make decisions in state agencies. Many of the Ohio ADA training participants had strong technical skills, but even those who did not still benefited from the training, which was an opportunity to strengthen technical skills and think about the broader possibilities for their agency data. During the ADA training, clear guidance on research question and coding ensured that participants did not waste time and focused on substantive work on their research projects. Ohio partners suggested that connecting ADA training to academic credit could be an important incentive for participation.

Ohio’s Introduction to ADA Training in Kansas City

Ohio’s first ADA training experience was with the Kansas City, Missouri, training in April 2018. Unlike most subsequent ADA trainings, all the instructors in the Kansas City training were from the Coleridge Initiative, rather than from Missouri. Five staff members from three Ohio state agencies participated in the Kansas City training (table 1). These staff members were strategically selected because they were experienced data analysts (typically chief analytics officers in their respective agencies) who had the stature to facilitate cooperation with the Coleridge Initiative. As one OSU partner described it, the participants “were people who could make decisions.” Because the Coleridge Initiative was relatively unknown in the state at the time, OSU partners provided participants with letters explaining the ADA training and its importance to evidence-based policymaking in the state. Although they surmised the letter made a difference in the decision of only one training participant, it illustrates the importance of institutional buy-in for active partnership with the Coleridge Initiative.

TABLE 1
ADA Training with Ohio Participants

ADA training location and schedule	ADA training topics and participants
Kansas City, Missouri <ul style="list-style-type: none"> ▪ April 23–27, 2018: module 1 ▪ June 4–8, 2018: module 2 ▪ June 28–29, 2018: presentations 	ADA training focused on economic development and was funded by the Ewing Marion Kauffman Foundation. Participants came from Missouri (18), Ohio (5), Pennsylvania (4), Kansas (3), California (2), Illinois (2), Washington (2), and Florida (1).
Columbus, Ohio <ul style="list-style-type: none"> ▪ February 6–8, 2019: module 1 ▪ March 13–15, 2019: module 2 ▪ April 23, 2019: presentations 	ADA training focused on transitions in education and work. Participants came from Ohio (9), Missouri (4), Indiana (3), Michigan (3), New York (2), the federal government (1), Illinois (1), Tennessee (1), and Virginia (1).
Columbus, Ohio <ul style="list-style-type: none"> ▪ March 2–4, 2020: module 1 ▪ April 20–22, 2020: module 2 ▪ June 1, 2020: presentations 	ADA training focused on transitions in education and work. Participants came from Ohio (5), Kentucky (4), Tennessee (4), New Jersey (3), California (2), Iowa (2), Washington (2), Arkansas (1), Illinois (1), Indiana (1), and Maryland (1).

Source: “Past Programs,” Coleridge Initiative. accessed January 11, 2022, <https://ada.coleridgeinitiative.org/previous-programs>.

One training participant from Ohio reported that the technical skills training in Python and SQL provided in Kansas City did not make “a dramatic transformation in my technical skills” because her organization’s data systems did not support Python. However, she noted that the Python training was still important because it helped her to understand how the ADRF platform worked and made her a more productive user of the platform after Ohio uploaded its data.

The Kansas City training also strengthened interagency contacts within Ohio. One OSU participant noted that she made connections with staff members from ODJFS and JobsOhio that she would not have made otherwise. This strengthened relationship is significant because OSU already had a formal data agreement with ODJFS for OLDA. What the preexisting data agreement did not

provide, which was provided by the Kansas City ADA training, was a productive thought partnership among staff members focused on analytic problems and meaningful research questions.

Hosting ADA Training in Ohio

After being introduced to the ADA training modules in Kansas City, Ohio hosted its own ADA training in Columbus, Ohio, in February and March 2019. In Kansas City the OSU team felt that they “spent too much time coming up with a project” because project planning was designed to be open ended. To prevent a similar experience in Columbus, the training hosts more closely managed the development of research questions. The 2019 modules were a test case for ADA training with research questions that focused on connections between education and the workforce. The Coleridge Initiative and the OSU team developed a series of research questions that the teams could choose from. Each question was focused on employment outcomes for community colleges or workforce training. In addition to education and workforce data, the OLDA data available for the Ohio ADA training also included data on housing and disability services.

The 2019 Ohio ADA training included 25 participants, 9 of whom were from Ohio. Four participants were from Missouri, which had already hosted a training and was partnering with the Coleridge Initiative to upload state data to the ADRF. Three participants each attended from Indiana and Michigan, Ohio’s partners in the Midwest Collaborative, discussed in more detail below. Two participants attended from New York and one participant each attended from the federal government, Illinois, Tennessee, and Virginia (table 1). The five project teams studied the following issues:

1. employment outcomes associated with vocational rehabilitation services
2. employment outcomes for different associates degree enrollment patterns
3. migration decisions of nursing, accounting, and computer science graduates
4. earnings outcomes for multiple postsecondary pathways
5. earnings outcomes for registered apprentices in Ohio

In addition to providing technical training, experience with the ADRF platform, and project-based learning, OSU staff members saw the initial Ohio ADA training as an important opportunity to promote the Coleridge Initiative in Ohio and in neighboring states. At various points, the nine Ohio-based training participants were joined by staff members from other Ohio agencies who observed the modules and project presentations. Through the participation of these trainees and observers, the OSU organizers felt that “there was a lot of goodwill built up” in the state. The two Ohio ADA trainings straddled a transition in the ADRF architecture. The version of the ADRF that was operating during the 2019 ADRF training was more difficult to use and to teach according to OSU and Coleridge Initiative staff. ADA training participants provided feedback on the platform, which the Coleridge Initiative used in its redesign, which launched in February 2021.

During the 2020 ADA training, five participants attended from Ohio, four each from Kentucky and Tennessee, three from New Jersey, two each from California, Iowa, and Washington, and one each from Arkansas, Illinois, Indiana, and Maryland (table 1). In the 2020 ADA training, Ohio's second ADA training, participants' research questions were even more tightly proscribed to ensure that training time was maximized to learn new analytic skills and put them into practice. Participants in the 2020 ADA training were given a few outcome variables that they were allowed to study. Participants were also provided with prewritten sample code that they could adapt for their own analyses. The five project teams studied these issues:

1. employment outcomes for community college graduates
2. labor market outcomes for different programs of study at community colleges
3. labor market outcomes for different college majors
4. earnings outcomes for nursing students
5. employment outcomes for welding students

The Kentucky Multi-State Postsecondary Report, discussed in more detail below, was developed as a data product during the second ADA training.

Key Lessons from Ohio's Experience with ADA Training

Several key lessons emerged from Ohio's experience with the Kansas City ADA training and the two trainings hosted in Ohio.

- **There is substantial value added through skills enhancement that can be leveraged back in the workplace.** The skills enhancement can create new ways to improve programmatic efficiency.
- **ADA training hosts learn from participation in a training with an established Coleridge Initiative partner before hosting.** Ohio partners strongly endorsed what they called the "missionary model" of ADA training, in which a more established Coleridge Initiative partner hosts a training attended by individuals who hope to bring the training to their own state. Ohio participants in the Kansas City ADA training applied their experiences to the design of their own curriculum in Columbus.
- **Strategic selection of initial ADA training participants is critical to the success of training.** Ohio partners strategically selected training participants to satisfy two key objectives. First, they identified sufficiently skilled data analysts who could benefit from the training, appreciate the technical dimensions of the ADRF, platform and produce strong products. Second, they identified participants "who can make decisions." Participants had to be senior enough to move the conversation forward in their agencies and promote the ADRF platform.
- **ADA training has value even for participants who are already technically knowledgeable.** Some participants in the Ohio ADA training already had considerable experience with SQL or

Python and had practical experience with linked data. These participants still benefited from the training because it freed them, according to one Ohio participant, from being “wired into a particular siloed system.” Many data analysts run standard reports and manage data quality assurance, but the ADA training provides them with an opportunity to think about the broader possibilities for their data and the different ways that their counterparts in other states are using data.

- **Paying for participants to attend training is valuable, but it has trade-offs.** Ohio partners highlighted the importance of foundation support to fund the ADA training. They noted that the time and effort committed by participants was substantial and covering the additional costs of travel and accommodations for in-person training was important. However, they also noted that financial support comes with trade-offs. Training participants who pay tuition (or whose agencies’ pay their tuition) have more “skin in the game” and may be more dedicated to their work.
- **Receiving academic credit for ADA training is an incentive for participants.** Ohio partners identified academic credits for ADA training as a valuable incentive for participation. Credits are valued by participants, and they can also make it easier to access state training funds to pay the ADA tuition. Awarding academic credit for professional education like the ADA training is common, but it must be negotiated with individual institutions (a process that the Coleridge Initiative could facilitate or support).
- **Careful curation of research questions and sample code helps ADA trainees stay focused.** Ohio partners found that in earlier ADA trainings a substantial portion of their teams’ time was taken up deciding on their research question. Project scoping has always been a component of ADA trainings, but later trainings hosted by Ohio were more restrictive of research questions in response to their earlier experiences.

Ohio partners used the ADA training to provide a common base of knowledge to a diverse set of participants, including senior agency staff, early career staff, individuals with strong technical capacities, and individuals with policy domain expertise. Although job titles varied across agencies, the Ohio partners found that an agency’s senior data analytics staff members were generally available to commit several weeks to training but were also senior enough to influence decisionmaking upon their return.

Some Ohio partners disagreed and felt there should be more “differentiation of roles within training” between technical and nontechnical participants. This model would provide “more pro forma training for senior staff so they feel invested but not burdened with the technical stuff they are never going to use.” One possibility for implementing this suggestion would be to invite more nontechnical senior staff only to certain sessions, so that they could receive an overview of the Coleridge Initiative and participate in team project design and presentations but skip the technical sessions. Designing a different or less intensive ADA training to accommodate nontechnical participants would arguably disrupt the course, but alternative strategic engagement of selected nontechnical staff could be a valuable innovation on the training.

Ohio's Experience with the ADRF

For Ohio, the problem that the ADRF platform solved was “both technical and legal.” On the technical side, Ohio and its regional partners needed a secure, usable data platform that could flexibly host data from several states without threatening the states’ control of their own data. No state government in the region wanted to host the platform, and none were confident in the existing platforms of other states. Legally, the regional partners have struggled with disparate data protection procedures and standards for linking data. In many ways, the laws governing Ohio agency data helped to prepare the state for participation in the Coleridge Initiative. An Ohio statute limits state agencies from linking their own state data. This responsibility rests with OSU, which consequently has deep relationships with a variety of state agencies. The Coleridge Initiative’s role as a data intermediary has been familiar to Ohio state agencies in part because OSU has served a similar role for them in the past.

The primary added value of the ADRF over OLDA is that it offers a clear strategy for cross-state data linking. Ohio partners emphasized that the added value provided by the ADRF platform was not that it improved on current state longitudinal data linking itself. State data systems are designed to fulfill the current mission of state agencies, and they generally succeed at that, or as one Ohio respondent put it, “We’re not in a situation where we couldn’t do what we do as a research center without the ADRF.” Ohio is unique in the degree to which agency data are already linked within the state; for other states, linking agency data may be a more valuable contribution of the ADRF. For Ohio, making the case for participation in the Coleridge Initiative depended on making the case for an expanded set of possibilities for state agencies or identifying new analytic tasks or research questions that require the ADRF platform, including tracking the employment outcomes of students who move out of state.

Ohio’s experience with the ADRF platform and the Midwest Regional Data Collaborative offers several **key lessons** for other Coleridge Initiative state partners. First, Ohio found during its collaboration with neighboring states that concerns about state data sovereignty can be a barrier to expanding the ADRF. To overcome these barriers, states participating in the Midwest Collaborative developed a consensus on broad principles for data governance. Second, Ohio partners learned that because crafting data-sharing agreements is a long and sometimes difficult process, developing intermediate agreements for restricted training datasets can ensure that data products and ADA training move forward while other state agencies make progress on full participation in the ADRF. Finally, Ohio has learned from its own experience and the experiences of its neighbors that because of essential groundwork laid by earlier data sharing efforts, it is easier to obtain permissions for sharing labor market data than educational data. These earlier data sharing efforts provide a template for data sharing in the postsecondary space.

ADA Training Helps to Promote ADRF Participation

In Ohio, ADA training was important for moving the state to full participation in the ADRF. The state’s experiences illustrate that the full use of the ADRF platform is not a discrete choice so much as it is a

process with multiple escalating steps. Each step toward the end result produces its own valuable products and the potential for expansion to other states.

In 2018, Ohio sent five representatives to the Kansas City, Missouri, training. This training occurred after Ohio had begun discussions with the Coleridge Initiative about a broader partnership but before they had made any formal arrangements to host their own training or upload data to the ADRF. In Kansas City, representatives from OSU and their partners in the region were convinced that the ADRF satisfied their technical needs because they were able to work with the system in active collaboration with other states in the training. After the Kansas City training, the OSU team started to explore the possibility of hosting their own ADA training. Although participation in the Kansas City training did not require uploading Ohio data to the ADRF, this step was required for hosting a training in Ohio.

For their first ADA training, Ohio uploaded a subset of the OLDA to the ADRF that was approved by the agencies participating in OLDA. That selected subset of data is reapproved every year through normal OLDA data approval processes so it can continually be used for training purposes. The training data upload was not a full agency data upload, but it was important for facilitating training and for making state agencies comfortable with the ADRF as a platform.

After the first Ohio ADA training and the upload of the OLDA training data to the ADRF, the state's agencies began to explore entering directly into a data-sharing agreement with the Coleridge Initiative. The COVID-19 pandemic disrupted this process, but currently the state has signed an agreement between ODJFS and the Coleridge Initiative. Ohio signed the agreement with the Coleridge Initiative after being reassured that it would not lose control over its data. The cost of participating in the ADRF is considered "relatively minor" in Ohio, which OSU staff members attributed to the fact that the initial technical development of the platform was already paid for and the Coleridge Initiative's nonprofit status. Payments cover maintenance costs for the platform and a small Coleridge Initiative staff.

Collaboratives Can Help Overcome Barriers Caused by Variations in State Data Governance

One of the difficulties of collaborating with the Coleridge Initiative highlighted by OSU staff is the wide variation in state data governance practices. The ADRF is valuable to Ohio and other states in proportion to how many state neighbors are also participating. Each of these states has different data governance practices that have resulted in different approaches to collaboration with the ADRF. OSU holds state agency data as a result of a long-standing (15-year) but nonpermanent memorandum of understanding between the agencies and the governor's office. The full use of the ADRF by OSU would require the involvement and approval of those agencies. OSU received approval to share an ADA training dataset with the ADRF, but so far only ODJFS has independently signed an agreement to provide data. In contrast, the Kentucky Center for Statistics (KYSTATS) is a legislatively mandated data system with control over state agency data and a line item in the state's budget. This state recognition

makes Kentucky's collaboration more streamlined and less reliant on persuasion and agency relationships.

State agency data for Indiana, a neighbor of both Ohio and Kentucky, are managed by Indiana University through a long-standing memorandum of understanding (much like OSU), but it also has direct funding from the legislature (like KYSTATS). One OSU partner called Indiana's longitudinal data system a "hidden gem." Michigan, in contrast, has a centralized longitudinal data system but lacks a coordinating body governing the use of the education data in the system, making ADRF collaboration in Michigan more complicated than in the other states.

One mechanism for coordinating different states' data systems in the region is the Midwest Collaborative. The major accomplishment of the first meeting of the Midwest Collaborative in 2018 was to launch many of the region's ADA trainings. The second Midwest Collaborative meeting was held March 4–6, 2020, immediately prior to widespread closures from the COVID-19 pandemic. One of the three meeting topics was to establish a state data governance structure. Collaborators developed guiding principles for governance that included a statement of support for strong but flexible privacy protections, support for research access, respect for state data sovereignty, and the removal of "veto points" in data access. A key principle was to encourage "individual states to develop internal governance processes that allow multiple agencies to participate without having to negotiate [data access] agency by agency."³ The National Association of State Workforce Agencies was selected as the interim administering organization; the ADRF was selected as the interim platform organization.

An interim executive committee was established and met repeatedly to establish a permanent governance structure for the Midwest Collaborative. That structure was approved in early 2022 and was charged with setting policy for the collaborative, determining priorities for collaborative projects, approving new projects following the project approval process, meeting no less than annually, conducting routine reviews of all processes to minimize burden and increase effectiveness, and selecting and reviewing permanent administering and platform organizations.

Ohio's Experience with the ADRF Offers Key Lessons

Several key lessons emerged from Ohio's experience with the ADRF and the Midwest Collaborative.

- **State data sovereignty can be a barrier to the full use of the ADRF.** Ohio's experience with cross-state data linking shows that state data sovereignty can be a barrier to fruitful collaboration. States guard their data out of reasonable concern for privacy and security and because of the inertia of state law and data governance processes. The Midwest Collaborative has developed principles for data governance that should be agreeable to states and streamline the data-sharing process while preserving data sovereignty.
- **Crafting data-sharing agreements requires a long process, and they are different in every case.** Ohio demonstrates that establishing a collaboration with the ADRF can be a long process. ODJFS took two years to develop and sign a data-sharing agreement, and other agencies in the state have not yet signed independent data-sharing agreements. Intermediate

steps, such as the agreements to share robust ADA training datasets, can ensure that projects and training move forward. Successful ADRF collaborations using training data (e.g., the Multi-State Postsecondary Report)⁴ can even encourage agencies to sign data-sharing agreements. The federally supported Longitudinal Employer Household Dynamics (LEHD) program,⁵ which established a new basis for linking and sharing labor market data, took seven years to establish initial protocols, and twenty years to reach its fully incorporate all states' data. Many administrative data projects take a decade or more to establish (Potok 2009).

- **States require funding for new ADRF projects outside the context of the ADA trainings.** ADA trainings offer participating data analysts a rare professional opportunity to design and implement projects using the ADRF. Outside the ADA trainings, many of these participants run standard analyses for reporting purposes or respond to inquiries from policymakers. Developing creative new projects with the ADRF requires similar investments. Coleridge collaborators at OSU and KYSTATS have pursued grant funding for this work.
- **Investments in products that demonstrate the value of data access and use pay off.** The Multi-State Postsecondary Report and Ohio's planned project on cross-state labor market outcomes for career and technical education (CTE) students highlight the relative difficulty of Coleridge Initiative collaboration for different types of data stewards, although investments in demonstrating the value of data access pay off. The Multi-State Postsecondary Report includes more states' labor market data than it does postsecondary education data because relatively more labor data are available in the ADRF. The success of past investments in labor market data sharing for the LEHD program in the 1990s, and the demonstrated value over the subsequent 20 years of such products as the Quarterly Workforce Indicators,⁶ the On the Map,⁷ and the Job to Job Flows,⁸ means that there is an established data model and set of relationships that can be built on, which has made it relatively easier to persuade workforce agencies to share labor market data on the ADRF. The past investments of workforce agencies in demonstrating the value of data sharing between states provides a model for state postsecondary agencies. The Family Educational Rights and Privacy Act protections also play a role in the relative difficulty of sharing postsecondary data across states, and data governance that respects those protections will be an essential component of broader sharing of postsecondary data.

Projects and Policy Impact

One Ohio partner argued that “there’s nothing that helps the job better than products.” The Ohio ADA training was the origin of several projects and policy impacts, both executed and planned. The most complete and highest-profile project emerging from the ADA training hosted in Columbus was the Kentucky Multi-State Postsecondary Report.⁹ This report has already been used to provide more accurate data to state policymakers and demonstrate the value of using the ADRF. Ohio also has planned projects using the ADRF, particularly focused on high school and CTE training.

Kentucky Multi-State Postsecondary Report

The Kentucky Multi-State Postsecondary Report is a flexible, accessible, online data platform that allows users to track labor market outcomes across state lines for postsecondary completers in Kentucky and Ohio. Users can track in-state and out-of-state employment and earnings for completers by credential type, major, and institution. The report, which draws on the ADRF for its data, was developed by KYSTATS at the first Ohio ADA training with the support of OSU. Because it relies on the ADA training data maintained on the ADRF to identify Ohio students, full use of the ADRF by the Ohio Department of Education and the Ohio Board of Regents will be required to keep those data current in future versions of the report.¹⁰

Partners in Kentucky felt that a major benefit of building the Multi-State Postsecondary Report using data hosted in the ADRF was that the platform gave them considerable flexibility in their access to the Ohio data and go create value in joint products, such as the multistate report. They did not consider the legal requirement for accessing the Ohio data burdensome and attributed this to progress and investments during prior state longitudinal data system initiatives. KYSTATS expects to add a new base of Indiana postsecondary students to the Report in the next six months. The report currently includes labor market data from Indiana, Kentucky, Ohio, and Tennessee, and it is close to including Illinois and as many as five additional states.

KYSTATS has been “on a roadshow” with the report and soliciting feedback from policymakers on what would make it more valuable. A consistent response is that the report should include more granular majors (currently it includes arts and humanities; business; education; health; social and behavioral sciences; science, technology, engineering, and mathematics; and trades) as well as demographics. OSU has also shared the report in Ohio and gotten the feedback that it was important to policymakers to track outcomes for certificate completers, even if those completers eventually earned a higher degree. Because of the flexibility of the ADRF, including these outcomes was an easy change for KYSTATS to make.

More Accurate Data Available to Policymakers

Products developed using data hosted in the ADRF have already enabled OSU staff to provide more accurate data to policymakers. One OSU partner described how the state’s Department of Education reached out to confirm the number of Ohio college students who work in the state after graduation. The governor’s office determined from a privately produced research report that about half of Ohio graduates remained in the state. The Department of Education’s internal numbers showed that the share of graduates retained was higher, a little less than three-quarters of all graduates. OSU was able to confirm with their Kentucky partners using the Kentucky Multi-State Postsecondary Report that the figure was as high as 86 percent of graduates. Some of the differences in these estimates were due to different methods and definitions, but most of the difference was attributable to Ohio’s access to the most accurate cross-state linked data.

In addition to getting more accurate data on Ohio students, this episode highlights two important advantages of the state's collaboration with the Coleridge Initiative:

- **Ohio data analysts can quickly produce results in house.** The OSU partner described how they were able to provide an accurate estimate to the governor's office using the Multi-State Postsecondary Report developed by KYSTATS within 10 minutes of receiving the request.
- **Cooperation between Ohio and other states yields a high payoff.** Kentucky was only able to provide the estimate to the governor's office because Ohio made its postsecondary data available for the Multi-State Postsecondary Report through the ADRF. Other states provided linked labor market records to the Multi-State Postsecondary Report, but only Kentucky and Ohio currently provide educational "base" data for running reports on students.

Planned Project on Career and Technical Education Outcomes

Ohio is planning and actively seeking funds for an ADRF-based project with Kentucky that would explore the labor market outcomes of CTE students in Ohio and Kentucky high schools, with a particular focus on the Cincinnati area. CTE instruction provides students with occupational skills training that leads to further education or a career, but little is known about the employment outcomes for these students. Students in Cincinnati could easily commute across state lines, particularly as the area is a major transportation and logistics hub. The CTE research project faces two principal obstacles that are common for ADRF collaborators: high school data availability and funding support.

Both Ohio and Kentucky have found it difficult to obtain data on high school students in their states for linking to other data sources. Heightened privacy concerns around minors and lower interest in labor market outcomes for these students among policymakers compared to postsecondary students have been barriers to strong data-sharing partnerships. One OSU staff member shared that even local school districts do not and cannot share data easily across state lines. For example, if a high school student in Cincinnati moves across the river to Covington, Kentucky, the schools have no bilateral agreement in place for sharing information on that student. Obtaining CTE data for linking through the ADRF would be a major achievement and could provide a blueprint for other states that have difficulty linking their secondary school data out of state or between agencies within a state.

Kentucky and Ohio have not made substantial progress on their planned CTE research, in part because of a lack of funding. Projects using the ADRF outside the ADA training environment typically require resources to cover analysts' time. The two states applied for an Institute of Education Sciences grant in 2017 to support an earlier version of this research question and are actively seeking funding now, but without a policy mandate supporting this type of work, progress can be difficult.

Future Challenges and Prospects

Interstate Data Sharing Thrives on Regional Collaboration

Cross-state data sharing is most valuable to states that border each other because students and workers are most likely to move between neighboring states. Moreover, the participation of one additional state can improve the value of the ADRF for multiple states simultaneously. For this reason, regional collaboration is more essential to the success of sharing data in the ADRF than it was for earlier state longitudinal data system or workforce data quality initiatives. Partners in a regional collaboration can be fluid across different efforts. The Ohio ADA trainings, the Midwest Collaborative, and the Multistate Post-Secondary Report are all regional collaboration efforts in their own way, but each features a somewhat different cast of regional partners.

The Midwest Collaborative's second meeting provided principles and approved structure for a data governance framework which, in combination with the demonstrated benefit of projects using data in the ADRF and the "missionary model" of ADA trainings, can bring in more state collaborators in the region. The next step in the collaborative's data governance work is to use those principles to draft a data governance charter that all states in the region could agree on. Drafting this charter would be a critical next step in the collaborative's work and a possible model for other regional collaboratives. Expansion of the use of the ADRF would benefit from maintaining the momentum of these state-led efforts, rather than relying exclusively on the Coleridge Initiative's relationships and outreach.

"The Next Big Thing" Is Training City and County Staff to Use the ADRF

The Ohio partners believed that expanding ADA training and access to the ADRF to city- and county-level officials was "the next big thing" for the Coleridge Initiative, although they struggled to articulate the most effective way to involve them. Longitudinal data-linking initiatives historically involve state-level agencies with little or no local agency participation, so the gap between local data access and analytic capacities and the solutions that the Coleridge Initiative offers are greater for these officials. Two data analysts from the Seattle mayor's office and the Seattle Department of Transportation who had already participated in the Kansas City, Missouri, ADA training provided the Ohio partners with inspiration for the idea that county data analysts could benefit from the experience. Ohio had planned a "full county class" for county data managers and officials before the COVID-19 pandemic, but the class never occurred.

In Ohio, local policymakers and analysts have relatively limited access to linked data. One interviewee described how "a county in Ohio will scrape [Temporary Assistance for Needy Families] data from the state database because they don't have their own" to build a longitudinal data system for reporting to the county commissioner or funders. Counties have legal authority to access certain statewide data, but they often do not have the technical skills or experience to do it. Local agencies have considerable access to LMI from important federal linked data platforms, but these data are reported in aggregate and cannot be linked to education or other data.

ADA training and ADRF access would also provide local partners with the same personal ties and connections to participants in other agencies, counties, and states that have been experienced by other ADA participants. ADA participants consistently report that one of the most important benefits of the training is making connections with their counterparts from different agencies and states so that they can think about their own data and the problems that they face in new ways. These connections could be extremely valuable for siloed and isolated local staff. Table 2 lists the potential benefits and costs of county-level ADA training.

TABLE 2
Potential Benefits and Costs of County-Level ADA Training

Benefits of county-level ADA training	Costs of county-level ADA training
<ul style="list-style-type: none"> ▪ County-level ADA training could be valuable to states like Ohio, where large data infrastructure and analytic skill disparities exist between state and county staff. ▪ County-level ADA training could develop a pipeline of data analytics talent in the state. ▪ County-level staff are more likely to directly interact with and impact clients than state-level staff. ▪ Shorter county-level ADA training could cost less than more extended training. 	<ul style="list-style-type: none"> ▪ County-level ADA training participants are unlikely to contribute new data to the ADRF. ▪ County-level ADA trainings are likely to require substantial revision of the ADA training curriculum so that it is shorter and possibly targeted to a less technical audience. ▪ County-level staff are less likely to impact state policymaking than state-level staff. ▪ Shorter county-level ADA training may not adequately prepare participants to use the ADRF.

Ohio partners reported on the difficulty of developing a model for ADA training for county-level workers that would be sustainable. They raised the possibility of a “mass exposure” model in which every county would get two slots for the training, but they conceded that the model was unlikely to work because of the wide variation in interest and technical capacity across the state. One approach to broad county-level training that could limit the costs identified in table 2 would be to strategically mix local data analytics staff onto teams with state data analytics staff in the existing ADA training framework. Local data analysts from Cincinnati, for example, could join team members from an Ohio state agency and a Kentucky state agency and local data analysts from Covington, Kentucky. Similarly, a local data analyst from Toledo could be selected for the training to be on a team with staff members from Ohio and Michigan state agencies. This type of targeted ADA training invitation would ensure the selection of the strongest local data analysts with a meaningful stake in the training and a high likelihood of continued partnership with their team members after the training. If participants were carefully selected for experience and technical abilities, a county-focused ADA training could use the traditional curriculum and continue to capitalize on the key interstate prerogatives of the Coleridge Initiative.

State Data Governance Processes Are Diverse and Should Be Streamlined

The Ohio partners felt state processes for approving data sharing imposed a potential barrier to future use of the state's data in the ADRF. The data governance process for Ohio state agencies requires that all projects using restricted individual-level state data get agency approval of the final product. Although this extra approval step has not been a barrier to any existing projects or products, it could be an impediment to future multistate projects that include Ohio.

Regardless of the particular circumstances of Ohio's data governance, the problem of different data-sharing processes could complicate widespread use of the ADRF. One solution to this problem could be for the Coleridge Initiative to identify best practices for data governance that are either recommended or required for states making use of the data in the ADRF. The former would likely not be sufficient for changing state policy, while the latter may prevent interested state partners from collaborating with the Coleridge Initiative.

Alternatively, the regional collaboratives could deliberately develop and negotiate more streamlined data governance policies, with state leaders at the table. This deliberative approach could shift policy norms without stalling the use of the ADRF, and deliberations on data governance would be informed by the experiences of ADRF users. A strong example for the Midwest Collaborative would be Kentucky, which removed restrictions on sharing individual unemployment insurance wage record data for research purposes prior to making use of the ADRF. Although the Kentucky policy change was not implemented in direct connection with their work with the Coleridge Initiative, state agency staff members reported that the change was essential to the success of their Coleridge Initiative partnership and the development of the Kentucky Multi-State Postsecondary Report.

Notes

- ¹ The ADRF is built around a “five safes” data strategy, with clear standards around safe projects, safe people, safe settings, safe data, and safe exports (“Five Safes Framework,” Coleridge Initiative, <https://coleridgeinitiative.org/adr/five-safes/>).
- ² “Applied Data Analytics Training,” Coleridge Initiative, <https://coleridgeinitiative.org/training-programs/>.
- ³ *Midwest Collaborative Spring Convening Report of Proceedings*, p. 18, Coleridge Initiative, 2020, https://coleridgeinitiative.org/wp-content/uploads/2020/04/Midwest_Spring_Summary_Report.pdf.
- ⁴ Kentucky Multi-State Postsecondary Report, https://kystats.ky.gov/Reports/Tableau/2021_MSPSR.
- ⁵ Longitudinal Employer-Household Dynamics program, <https://lehd.ces.census.gov/>.
- ⁶ “Quarterly Workforce Indicators (QWI) (Time Series: 1990 – present),” US Census Bureau, last revised October 8, 2021, <https://www.census.gov/data/developers/data-sets/qwi.html>.
- ⁷ <https://onthemap.ces.census.gov/>.
- ⁸ <https://j2explorer.ces.census.gov/>.
- ⁹ “Kentucky Multi-State Postsecondary Report,” KY.gov, accessed March 17, 2022, https://kystats.ky.gov/Reports/Tableau/2021_MSPSR.

¹⁰ Currently the Kentucky Multi-State Postsecondary Report includes credential completers between 2013 and 2017. See “Kentucky Multi-State Postsecondary Report,” KY.gov, accessed March 17, 2022, https://kystats.ky.gov/Reports/Tableau/2021_MSPSR.

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