Education Data Systems: A Systematic Look at State Practices Related to Researcher Access




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Executive Summary

Expectations for research and data to inform educational decision making have grown exponentially at all levels of the K-12 educational system, from the classroom to the statehouse. Federal policy - No Child Left Behind and now the Every Student Succeeds Act in particular – require schools and districts to use research evidence in a multitude of ways, ranging from selecting reform packages based on scientific research to using local student performance data in instructional decisions. Under these conditions, state educational agencies (SEAs) and districts (local education agencies, or LEAs) must be able to access and utilize these forms of information in decision-making processes.

As a result, the need for a **robust, aligned ecosystem to support evidence-based decision-making becomes crucial to success**. Significant investments have been made to improve the availability and quality of educational research for decision-makers. We are specifically interested in the development of high quality, relevant research through researcher access to the growing data infrastructure available in the education system.

In this report, we explore key policies related to researchers' ability to access educational data, primarily through statewide longitudinal data systems (SLDSs). In 2006, the Institute for Education Sciences began awarding SLDS grants, initially to 14 states and now to 47. The grant had the long-term goal of meeting reporting requirements, supporting decision making, and facilitating research needed to eliminate achievement gaps and improve learning of all students. Administrative data systems, such as SLDSs, are positioned to support research that could be used to improve education in SEAs and LEAs. Access to these data is therefore a central concern to continued production of research evidence, yet, to date, there is little systematic exploration of how access is granted.

In order to establish the landscape of current policy and practice, we engaged in a content analysis of SEA websites, including all 50 states and the District of Columbia, that were publicly available between August and December 2015. A limitation of this strategy is that it may be possible that key information or resources were not discoverable through the site. Further, as data use is an evolving issue, it is likely that sites, as well as processes and procedures, may have changed and may continue to do so. This is a natural part of the policy process and our intent is to use a snapshot of these policies to advance discussion and improve the quality of policies moving forward rather than to judge individual sites or SEAs at a single point in time.

The research team reviewed all 51 sites for six features of research access policies: **supports for users**, **transparency of the process**, **data availability**, **data privacy and security**, and **data use guidelines**. Although there was great variability across states, several noteworthy findings emerged:

Finding 1: Most state websites don't provide contact information for data requests.

Finding 2: Many states help researchers get the information they need by having a specific path for researchers to request data.

Finding 3: Fewer than half of SEAs offer checklists, flowcharts, or a clear list of steps that explains the process.

Finding 4: While recognized as important, few SEA's offered information about existing partnerships or how a researcher could become a partner.

Finding 5: Most websites DO provide the basic information needed for a data request.

Finding 6: SEAs provide limited information about the review process, including evaluation criteria, research priorities, timelines, costs, and appeals.

Finding 7: SEAs make a wide range of data available for researchers, though availability varies significantly.

Finding 8. A majority of SEAs explicitly address data privacy and security in the request process, and almost half use multiple strategies.

Finding 9: Few states have established guidelines for presentations or publications based on shared data.

In our analysis, we note several strengths to the current state and national dialogue around providing data access to researchers and suggest that widespread adoption of strategies such as providing a **standard form** for data requests, providing **differentiated information** for different stakeholders, and providing **clear guidance about data privacy and security**, would facilitate relationships with researchers.

We also bring attention to a few specific strategies that received scant attention in our data but are potentially significant considerations in the role that state data systems might play in the generation of research evidence. These **include establishing and publicizing research priorities**, **increasing transparency** about SEA processes, **establishing partnerships** to build capacity, **tracking use and impact** of data, and setting explicit **expectations for sharing publications or products**.

In examining results within and then across states, we have found that attention and commitment to the issue of researcher access to data understandably varies by state context, and may be due to differences in capacity at the SEA level, the quality and quantity of current relationships with research organizations, and the presence or absence of a policy champion for this issue. Because of these reasons, the findings reported here may be valuable in raising important topics for discussion or providing models for improving policies in ways that create more even approaches across SEAs. More consistent approaches nationwide is a step toward

both protecting educational data and producing much-needed research evidence in every state, rather than merely in a few for which this issue has been a priority.

To this end, we offer a set of questions for both SEAs and researchers alike to consider in their efforts to work together in the generation of research evidence for educational policy and practice. Through this work, we hope to support and improve the promise of SLDS and large data systems as a useful strategy in supporting the production of research evidence for educational policymaking.

However, we do so cautiously and with recognition that the ecosystem for evidence-based policy making in education is more complicated than simply strengthening the pipeline of data for research. For example, we were unable to identify policy changes resulting from research utilizing SLDS data. Though this can be attributed to some of the findings above, such as few states requiring acknowledgement of SLDS data, it is also likely symptomatic of other barriers between research and practice. We recognize these concerns and limitations of the use of large system data, but offer that the opportunities afforded by the development of these systems in conjunction with **robust processes for researcher access to data may be an important step toward building stronger relationships between research and policy** communities. Such relationships may serve as a foundation for an ecosystem of evidence-based decision-making, and ultimately, for research, policy, and practice to collectively improve educational opportunities and outcomes for all students.

Introduction

Today's educational climate requires the use of data to drive decisions. Across the K-12 educational system, from the classroom to the statehouse, teachers, district administrators and states must critically review student progress, instructional strategies and the systems and processes that inform them. Federal policy - No Child Left Behind and now the Every Student Succeeds Act in particular – require schools and districts to use research evidence in a multitude of ways, ranging from selecting reform packages based on scientific research to using local student performance data in instructional decisions.

As a result, the need for a robust, aligned ecosystem to support evidence-based decision-making becomes crucial to success. Part of that ecosystem are data systems, adopted in LEAs and SEAs, that enable teachers and administrators to input, access, and make sense of data in ways that inform a range of actions, from teachers' instructional delivery to principals' priorities for professional development to SEA decision-makers' decisions about school rewards and sanctions. These data can also support decisions made by stakeholders outside of the formal system, such as families, community organizations, and policymakers. However, data systems infrastructure comprises only one piece of the ecosystem needed to produce the forms of evidence privileged under federal policy. Educational research is a second component.

We are specifically interested in the development of high-quality, relevant research through researcher access to the growing data infrastructure available in the education system.

Significant investments have been made to improve the availability and quality of educational research for decision-makers and the need for high quality education research has been clearly established (Shavelson & Towne, 2002; NBES, 2008). However, persistent gaps between research, policy, and practice are widely acknowledged (Bransford, et al, 2009; Burkhardt & Schoenfeld, 2003; Daly & Finnegan, 2014; Huberman, 1994; Robinson, 1992). It is at this nexus between data systems and the demand for educational research that we situate this work. We are specifically interested in the development of high quality, relevant research through researcher access to the growing data infrastructure available in the education system.

In the following analyses, we explore key policies related to researchers' ability to access educational data, specifically through statewide longitudinal data systems (SLDSs). We first review issues related to the development of SLDS, the importance of data to the research enterprise, concerns about data privacy and security, and the need for broader discourse on this topic. We then share our work, beginning with data collection and analysis, followed by what we discovered about data access nationwide. We end this report with some key takeaways for researchers and policymakers which, we hope, will contribute to more transparent and comprehensive policies.

Statewide longitudinal data systems

In 2006, the Institute for Education Sciences began awarding SLDS grants, initially to 14 states. The purpose of the SLDS grants were to enable SEAs to develop and implement statewide data systems to efficiently manage, analyze, and disaggregate data in a manner consistent with the Elementary and Secondary Education Act of 1965. According to the federal government, the long-term goal, as of the 2006 cycle, was to increase the number of States that maintained statewide longitudinal data systems so that SEAs could meet reporting requirements, support decision making, and facilitate research needed to eliminate achievement gaps and improve learning of all students (IES, 2005). These data systems were also supposed to reduce the burden associated with reporting to the federal government. The federal government indicated that their priority was to support states that had the most limited ability to collect, analyze, and report individual student achievement data.

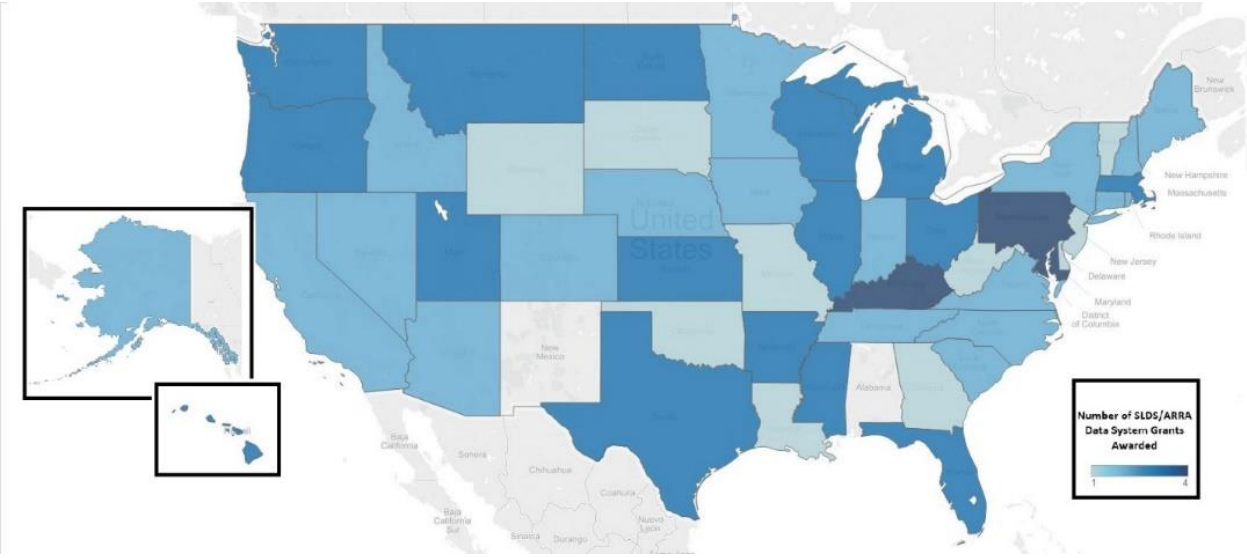
Upon receiving an SLDS grant, SEAs or other agencies to which grants were made were expected to develop a longitudinal data system that met minimum *System Components* and *Policy and Implementation* requirements. The data system included a unique identifier for each public school student to enable tracking of students and outcomes longitudinally. Grantees also had to structure their systems in a style that was consisted with an "enterprise-wide data architecture" style system, capable of ensuring data security, confidentiality, and integrity. Systems were also required to be conducive to lateral data sharing with local and state agencies, and to store collected data in a warehouse accessible to stakeholders. Finally, state data systems were also required to have capabilities of supporting student growth focused research, ad hoc analysis accessible to stakeholders, and access to data for education researchers in a manner that was compliant with federal and state privacy regulations, specifically the Family Educational Rights and Privacy Act (FERPA).

Since the first 2006 SLDS grant awards, there have been several additional grant cycles, including one in '07, '09, '12, and most recently, '15, as well as a related competition included as part of the American Recovery and Reinvestment Act of 2009. Over the course of these cycles, there has been significant change implemented by the federal government's guidelines for expectations and uses of grant funds for the building and implementation of longitudinal data systems (IES 2006, 2008, 2011, 2015). Grants issued after the '06 cycle built on initial *System Components* and renamed them *Technical Requirements*, while also, further elaborating on *Policy and Implementation* requirements, and referring to them as *Governance and Policy* requirements. Additional change occurred in '09 when new grant parameters indicated an evolved goal, which was no longer only to increase the number of States that maintained statewide longitudinal data systems, but also, to enable all States to create a comprehensive pre-kindergarten through workforce (P-20W) system. This goal was accompanied with expected *System Capability* and *System Element* requirements that guided States towards a more sophisticated data system that. For example, a data system that could examine student progress and outcomes over time, including student data at the individual student level from preschool through postsecondary education and into the workforce (e.g., employment, wage, and earnings information), as well as the matching of teachers with information about their

certification and teacher preparation programs, including the institutions at which teachers received their training.

Federal investments in state data systems continued through subsequent cycles in 2012 and 2015, though the parameters for the most recent competition changed notably. States applying for the '15 grant would be required to use data that their longitudinal systems had gathered in previous years to address a specific priority, thus removing the option to use funds to build data systems. Applicants for the '15 grants had to choose up to two of the following priorities to apply for a grant: Fiscal Equity and Return on Investment, Educator Talent Management, Early Learning, College and Career, Evaluation and Research, and Instructional Support.

The evolution of SLDS grants, which to date have been given to 47 states[1], has significantly altered the data infrastructure in education. Data systems were developed to support internal decision-making by state and district decision-makers, but also to be shared with external partners – researchers in particular – to build a body of evidence to support decision-making. Over time, expectations for the use of SLDSs to support research were more explicit as well as more focused on specific educational issues. However, the intent of the grant program, to enable research that could contribute to the elimination of achievement gaps and improving education for all students, is untested.



[1] New Mexico, Wyoming, and Alabama have not been awarded SLDS grants but have administrative data systems that may serve a similar function to SLDSs.

The role of data in research

The SLDS grants program states "better decisions require better information (IES, n.d.)." The availability of data made possible by SLDSs creates an opportunity for not only SEAs to make more informed decisions but for the research community to help to develop evidence to support those decisions, as SLDSs have great value for research as well. SLDSs are comprised of what is often called administrative data, which we will define here as collected as part of the administrative work of schools and largely for administrative purposes, as elaborated on by Figlio and colleagues (2015). Administrative data are different than retrospective data, survey data, and qualitative data, capturing records and events longitudinally and often for entire populations. As Figlio and colleagues describe, the expansion of administrative data systems, such as SLDSs, "represent remarkable opportunities for expanding our knowledge (p.2)" through access to population-wide data, exogenous variation, and the ability to follow cases over extended periods of time, among other benefits.

As Dynarski and Berends (2015) note, for nearly two decades, education researchers have utilized large system data to explore educational processes and outcomes, tapping into the growing administrative datasets available at the state and district levels. Data systems have been utilized by individuals with negotiated relationships with districts and states as well as through large federally funded centers, such as the National Center for Analysis of Longitudinal Data in Education Research (CALDER). Researchers have capitalized on the power of longitudinal data to explore trends and establish causal estimates of policies and programs, as well as to better describe relationships among student, teacher, school, and district variables. Utilization of these data systems has resulted in the generation of findings on a wide range of critical educational questions. A sizeable body of research utilizes systems to better understand and explain student outcomes. For example, Papay, Murnane, and Willett (2010) explain the outcomes of a longstanding partnership with the Massachusettss Department of Elementary and Secondary Education, which showcases the state's progress in narrowing the achievement gap for low-income students through various policy mechanisms. Another illustrative example has been the use of administrative data to examine local and state policies related to the acceleration of algebra to 8th grade (e.g. Clotfelter, et al, 2012; Dougherty, et al, 2015; Allensworth, et al 2009). Others have drawn administrative data systems to explore issues related to human resources. For example there has been significant work on teacher turnover (e.g. Barnes, et al, 2007; Loeb, et al, 2005; Ronfeldt, et al, 2013) and growing interest in understanding issues related to principal turnover (Baker, et al, 2010; Loeb, et al, 2010; Farley-Ripple, et al, 2010; Papa, 2007). Still other research has used these data systems to connect to other sources of data, allowing research to understand the relationships between early childhood education, K-12 education, post-secondary education, and longer term outcomes. Deming and colleagues (2011) use a rich array of data from a SLDS and the National Student Clearinghouse to understand the complex relationships between school choice, quality, and post-secondary attainment in North Carolina.

Administrative data systems, such as SLDSs, are positioned to support research that could be used to improve education in SEAs and LEAs. Access to these data is therefore a central concern

to continued production of research evidence, yet, to date, there is little systematic exploration of how access is granted. Dynarski and Berends (2015), in an introduction to a special issue focused on SLDS-driven research, note that the work showcased resulted from a wide variety of methods for releasing data, including research partnerships, university consortia, and in one case, the threat of lawsuit. While the research community has been creative in securing access to data and accordingly has generated valuable research, much additional work – potentially important work – has not yet been done because, in part, processes are not in place to permit researchers access to educational data. Therefore, it is critically important to understand SEA approaches to data sharing to leverage these large investments for stronger connections between research and practice.

Concerns about privacy and security

Although administrative data systems, such as those funded under the SLDS grant initiative, have been valuable in generating research, the sharing of data outside of the educational system creates a need to safeguard student and educator privacy and to ensure data is secure in the hands of internal and external users. These issues of privacy and security have become a central concern for policymaker – so central, in fact, that in 2015, 46 states introduced more than 180 bills addressing data privacy and 15 states passed 28 new laws regarding student data privacy (Data Quality Campaign, 2015), though those figures were down in 2016 (Data Quality Campaign, 2016).

FERPA has long guided the use and sharing of educational information. Yet, at the same time, we have reached an unprecedented level of data collection and data sharing, whether with organizations that design and manage data or assessment systems or with research organizations engaged in educational evaluation. This regulation requires strict adherence by not only SEAs but also by partnering organizations that access student and educator data. Other proposed and passed bills address emerging concerns about third-party use, including the use of data to personalize student learning, preventing the use of data for advertising purposes, and the linking of data across state agencies. Further, the U.S. Department of Education launched the Privacy Technical Assistance Center (PTAC) in 2015 to provide guidance and support for all stakeholders regarding privacy and security.

Concerns about privacy and security are an important consideration in the development and implementation of SLDSs, particularly with respect to the use of data to generate research evidence to improve educational opportunities and outcomes. According the Data Quality Campaign (2015), in 2015, 61 proposed bills addressed research activities explicitly, though only 6 were signed into law. These new laws describe what would constitute legitimate research purposes for which student data, including those housed by SLDSs, can be shared and under what circumstances (e.g. parental consent). In spite of attention to the issues in legislation and public dialogue, we know little about how they play out in SEA processes.

Our Work

Our objective is to understand the current landscape of how SEAs grant data access to educational researchers as a means of understanding current policies that support or constrain the development of research to support evidence-based decision-making. We seek surface key issues and considerations in establishing processes that both protect data and enable their use for productive research and improvement purposes. These issues and practices offer the basis for a more coherent national dialogue around data use and ultimately the development of stronger policies and practices nationwide.

In order to establish the landscape of current policy and practice, we engaged in a content analysis of SEA websites, including all 50 states and the District of Columbia. Our initial starting point was state responses to the Data Quality Campaign (DQC) 2014[2] survey of with specific attention to Action 8, Develop a purposeful research agenda, and in particular, responses to the prompt: Is there a process by which researchers that are not employees of the state can propose their own studies for approval?. A review of those data revealed that the universal means of gaining access to those processes was via websites, most typically through the SEA's own site. Based on this information, we chose to document and code the content of relevant websites that were publicly available between August and December 2015. We started coding from the links provided in the DQC survey or, if the link was not working or did not allow the research team to identify the source page from which a form could be accessed, the primary page associated with state data as determined from the SEA site menu. We took snapshots of these pages as well as any page within two clicks of the page, which included other web pages as well as documents and forms, and saved the series as PDF documents.

In spite of systematic application of the data selection process, the resulting data for each state varied widely depending on the comprehensiveness of websites and SEA processes. PDF documents ranged from a few pages to upwards of 50, with the length of documents roughly corresponding to the nature of the SEA process and site. A limitation of this sampling strategy is that it may be possible that key information or resources were made available by websites or documents not found within two links of the primary page. However, in order to set a reasonable scope for content analysis and to identify a reasonable scope of effort on the part of a researcher seeking information, we set these parameters. An additional limitation was the timing of sampling, which occurred between August and December 2015. As data use is an evolving issue, it is likely that sites, as well as processes and procedures, may have changed and may continue to do so. This is a natural part of the policy process and our intent is to use a snapshot of these policies to advance discussion and improve the quality of policies moving forward rather than to judge individual sites or SEAs at a single point in time.

Analyses of the data occurred in three stages. First, the research team divided the sample into thirds and did a comprehensive read-through to develop an understanding of the major issues addressed in SEA policies and procedures. The review and subsequent discussions were

[2] Where responses were missing (n=3), we relied on state responses from the 2013 survey as a starting point.

supported by a protocol asking the team to a) consider the perspective of a novice researcher seeking access, b) notice similarities and differences between states and on what issues those were evident, and c) list aspects of the process that one might expect to see and did not, as well as ones that were present but not expected. The results of this protocol were used to collaboratively develop a low-inference set of details, practices, issues that characterized SEA policies and processes. For example, one consideration was determining who to contact regarding a research request. We coded whether an individual was listed, a department, and whether an e-mail address or phone number was given. After a review of documents, a simple checklist of means for communication was generated, including name of person to contact, title of person to contact, office/division of contact, and so on. The vast majority of data were collected as yes/no indicators of whether the site explicitly mentioned or requested particular pieces of information, resulting in a low-inference data collection strategy. Details, practices, and other issues were then organized thematically and turned into a Qualtrics survey which was used to code each state's documents. The research team coded all 51 sets of documents for 136 characteristics which were grouped into the categories of supports for users, transparency of the process, data availability, data privacy and security, and data use guidelines. These categories were further examined through descriptive statistics about current practices, state patterns among practices and categories, and illustrative practices presented below.

Results

Supports for users

One of the key issues emerging from our analysis was what we call "supports for users." Supports for users refers to the ways in which each SEA's site clarified how researchers should proceed when seeking to make a data request. One interpretation of these supports is the extent to which procedures posed barriers to making a request (e.g. making it difficult to locate information, have questions answered, etc.) in contrast to the extent to which procedures provided assistance that facilitated the process. We looked for a few key indicators of supports: contact information, specific resources for researchers, scaffolds for moving through the process, and information about partnerships. We elaborate below.

Finding 1: Most state websites don't provide contact information for data requests.

Less than half of state websites (21 of 51) clearly indicate whom to contact to make a data request, though even fewer (13) provide an email address for that contact. One of the clearest ways to help a user navigate the system is to provide contact information for the person or department responsible for handling data requests. SEAs differentiated themselves in terms of the specificity of the contact information. For example, providing the name of an actual person, rather than a unit of the organization, clarifies that there is someone responsible for handling inquiries and answering questions. Listing a department does not point to who one should call in the event of a question and may leave issues unresolved. Similarly, providing an individual's

contact information such as phone or e-mail signals that inquiries will be received, rather than delivered to a potentially unmanned e-mail or phone as indicated by the general Department of Education number or a generic email such as data@SEA.gov.

We found that 21 out of 51 SEAs provided the *name* of a specific contact, though only 13 of those provided a personal e-mail with which to reach that contact while the others were missing contact information or had generic e-mails. Additionally, sixteen SEAs provided a division or department as the point of contact, of which 10 provided a generic e-mail as the point of contact.

Finding 2: Many states help researchers get the information they need by having a specific path for researchers to request data.

At the time we collected our data, 29 SEAs differentiated information for users by stakeholder group, and 25 of those specifically identified researchers as one set of stakeholders. We also note the other groups for which SEAs differentiated: internal SEA use (N=13), LEA administrator use (N=17), the press (N=6), students and parents (N=11), courts (N=3), and community members (N=8).

SEAs also provide support to researchers seeking to make a data request by making it clear that researchers are, in fact, one audience for the data system, or by taking it a step further by differentiating the path forward for researchers. For example, data requests may come from various stakeholders, ranging from students, parents, the press, school administrators, and researchers. Requests from these groups differ significantly in procedures, and SEAs provided different levels of support by distinguishing among those requests when providing direction.

Finding 3: Fewer than half of SEAs offer checklists, flowcharts, or a clear list of steps that explains the process.

SEAs might offer a range of scaffolds to help guide the user through the data request process. These include things like

- flowcharts that depict the movement of requests through the system, which were found in 6 SEAs,
- checklists to ensure that data requests include all necessary information and that each issue is addressed, observed in 3 SEAs, and
- specified steps which enable the requestor to sequentially move through each stage of the process successfully in 19 SEAs.

A total of 22 SEAs provided this type of scaffold. Another scaffold that an SEAs offer as a support for data requests is a glossary. Education is abundant with acronyms and jargon, much of which may vary by state or level of the system. A glossary provides a sort of safety net to avoid confusion about expectations and procedures in making data requests. Only 12 SEAs offered this to users.

Finding 4: While recognized as important, few SEA's offered information about existing partnerships or how a researcher could become a partner.

A final type of support for users we observed in SEAs were partnerships. This is a markedly different kind of support, as partnerships are not directed at individual requests but at supporting collaboration among groups or organizations of potential data users. In five cases, partner organizations served as stewards of the data system, functionally providing resources and capacity to manage the data and its use. Nineteen SEAs indicated some sort of partnership supported data sharing, 11 of which specifically indicated research partnerships with organizations in which data sharing was a component. Further, 20 indicated opportunities to establish partnerships with the SEA, which suggests that our estimates may underestimate current partnerships in place.

Transparency of the Process

Another factor emerging from our analysis was what we describe as "transparency of the process". Transparency of the process refers to the ways in which SEA websites explained the information that is needed to submit a data request and the processes after submission is completed. Transparency of the process for users can be understood as the extent to which SEA websites explicitly explain the procedure that someone who is submitting a request must undergo, from start to finish. We looked for a few key indicators of transparency of the process for users: a request form and what information is needed in a request, criteria for evaluating requests, priorities for processing requests, timeline for processing requests and receiving data, costs for processing requests, and whether it is clear or not a user requesting data can undergo an appeal process in the situation that their request is denied for any reason. Specifics are indicated below.

Finding 5: Most websites DO provide the basic information needed for a data request.

Most SEA processes (36 of 51 SEAs) included explicit information about what the requesting user needs to include when submitting a data request. Of those, nearly all simplify the process of requesting data from SEAs by having a request form available. A form enables a user to explain the purpose of the request, what data are needed, and how these data will be used. This form also provides the SEA with crucial information about the user, which commonly included their name, email address, and the affiliated organization. Using a data request form provides structure to the process, as standard forms developed by SEAs should provide insight for the users about what information is needed to initiate their request. In total, we found that 34 SEAs provided a request form for users to access and submit data requests. Most commonly, these forms included the type of data requested (n=31) and goal or purpose of research (n=31). Less common information included a research proposal (n=14), a CV or other evidence of the ability of the researcher/requestor (n=9), or a statement of benefits the state or how research meets state priorities (n=18).

Finding 6: SEAs provide limited information about the review process, including evaluation criteria, research priorities, timelines, costs, and appeals.

Evaluation criteria. Another type of transparency that SEAs sometimes provided to users who are submitting requests were specific criteria that will be used to asses and determine if a request will be filled. Twenty-two SEAs provided minimum criteria for evaluating and processing data request received from stakeholders, though in nearly all cases, the criteria consist of a series of tasks/items to complete for the request to be considered rather than a clear set of priorities against which requests would be evaluated. Only six SEAs indicated whether particular groups of requestors are prioritized, six indicated whether requests are simply filled on a first-come, first-serve basis, and seven indicated whether requests are evaluated based on a particular area of need.

Priorities are Stated. Relatedly, SEAs also provided information about research priorities that are important to the state, which can include an array of topics, including, but not limited to teacher accountability or student performance outcomes. In some cases, SEAs chose their priorities based on the practical issues that their state is currently attempting to address. DQC data indicated that 41 states have established a research agenda; however, we were only able to identify research priorities explicitly listed in 14 SEA sites[3].

Timeline for Processing Requests. In addition to formerly stated characteristics of a transparent process for users, some SEAs specify a time frame for processing data requests. For example, SEAs may indicate on their website that the typical time needed to process a request and issue a response to the user is 30 days. A response from the SEA could be an approval, denial, or indicate that they need more information about the data being requested before a concrete answer can be provided. Twenty SEAs provided a timeline for processing data requests.

Timeline for Receiving Data. SEAs can further increase the transparency of the data request process by providing specific timelines for filling a request, which includes processing the request and sharing the data with the requesting party. Similar to providing a timeframe for processing a request, SEAs should indicate how long after submitting a request will a party receive data if their data request is approved. SEA data was analyzed, and 5 of 51 provided a specific timeframe for receiving data after a request was submitted, which ranged from 15 to 90 days.

Cost for Processing Requests. When referring to financial matters, it is important for SEAs to indicate upfront costs associated with processing a data request. For example, some SEAs have provided information on their websites that specify a flat fee or even an hourly rate that can accrue when processing requests. Users need to understand these costs, and the amount of financial liability, if any, that will accrue upon execution of a data request. Just 18 SEAs stated the costs associated with requests, though we cannot tell whether other SEAs did not charge fees or simply did not post that information publicly.

[3] In some states research priorities may be set by another agency, like in Maryland (https://mldscenter.maryland.gov/ResearchAgenda.html) and Washington (http://erdc.wa.gov/about-us/critical-questions). We did not survey other government agency sites to locate additional information.

Appeal Process. The last component needed in a transparent process for users is a concise statement whether or not there is an appeal process for users who have submitted a data request and were denied. If an appeal process is indicated to be a viable option for denied users, then specific instructions and information necessary for understanding the appeal process should be provided on SEA websites. Of the 51 SEAs that we collected data on, a total of 5 indicated that there was an appeal process that could be followed in the event that a data request was denied.

Data availability

A related category of information from our analysis pertains to "data availability". Data availability refers to both public data that is already available as well as individual level or personally identifiable information (PII) which needs to be requested through a formal process. While SEAs likely store similar forms of data for compliance and other purposes, sites varied in what was listed as available for request from an outside agency or stakeholder.

Finding 7: SEAs make a wide range of data available for researchers, though availability varies significantly.

The table below indicates the types of data explicitly mentioned as part of the data request process.

Types of Data	Number of SEAs Listing Data Type
Assessment	28
Data About Teachers	26
Enrollment	25
Demographic	24
Graduation	21
Program Information	19
Course/transcript	16
School Data (e.g. institutional characteristics)	16
Financial Data (e.g. about expenditures)	12
Student Financial Data (e.g. financial aid)	8
Survey Data	4
Parent Data	1

We also considered other characteristics of data made available to researchers. Most SEAs (n=31) explicitly referred to public data available on their websites that can be downloaded by any user without requiring a data request. SEA websites (n=23) also described public data that needed to be requested for particular forms of aggregation, including schools, or other groups, while 36 SEAs specified a request process for individual level data. A common standard for limiting or aggregating data is to suppress cells containing less than 10 individuals so that there is no way for anyone to identify specific students or teachers. After analyzing websites, we found

that 14 SEAs indicated that they suppress cells with fewer than 10 individuals. Additionally, two SEAs provided explicit information about the frequency (e.g. annual, quarterly, etc.) for which data are available.

Data privacy and security

Our fourth category of analysis is "data privacy and security." Data privacy and security refers to the ways in which each SEA site addressed the Family Educational Rights and Privacy Act (FERPA) or other related legislation and institutional procedures that are abided by to ensure that individual level privacy is appropriately maintained. Data privacy and security can be understood as the extent to which State websites explained the procedures that both the SEA and persons who they share data with have to undergo to prevent any violation of privacy.

Finding 8. A majority of SEAs explicitly address data privacy and security in the request process, and almost half use multiple strategies.

Data privacy

Data privacy pertains to ways that SEAs ensure that data are used appropriately and for their intended purposes. There were five components of data privacy evidenced through our content analysis: FERPA, other state laws, MOUs, and IRB processes.

FERPA. In order to ensure data privacy, each SEA has processes and methods for maintaining privacy of student and teacher data in their longitudinal systems. FERPA is a federal law that pertaining to the release of and access to educational records and applies to all schools that receive federal funds. FERPA is designed to protect "personally identifiable information" (PII) in such as the student names, addresses, social security numbers, and any other personal characteristics that may make someone identifiable. In our analysis, we found that 25 SEAs explicitly require assurances related to FERPA. However, only two require training for FERPA and only one offered such training.

Other state laws. SEAs may also govern their collected data in accordance with other state laws that regulate specific types of data. For example, West Virginia, Wyoming, Maine, and Pennsylvania indicated that their data and processes for ensuring data privacy is regulated in accordance with Protection of Pupil Rights Act (PPRA), which provides the parents of students power on how their child's data is used or shared. Others mentioned the Health Insurance Portability and Accountability Act (HIPAA), the National School Lunch Act, and the Individuals with Disabilities Education Act (IDEA) as laws guiding their consideration of data requests. Sixteen states reference laws other than FERPA to regulate their data sharing activities.

MOUs. Many SEA processes included having a memorandum of understanding (MOU) when sharing data. An MOU is generally used by SEAs to establish a confidentiality agreement with agencies and organizations that are requesting data, with specific intentions of providing data privacy and security. Fifteen states listed an MOU or "data sharing agreement" as a required part of the process, and 23 require specific assurances about confidentiality that would be included in an MOU or similar document.

IRB Process. SEAs may also require users who are requesting data to obtain institutional review board (IRB) approval from their respective organization, or, users may have to undergo an IRB process that the State provides prior to fulfilling data requests. The IRB process was designed to protect human subjects and assure that throughout the research process human subjects are not harmed, physically or psychologically. After conducting analysis of SEA websites, we found that 13 states required users requesting data to have internal or external IRB approval.

While the former components primarily addressed the privacy portion of the data privacy and security theme, SEAs also have responsibility for ensuring data security. The SEA that is collecting, storing, and arguably most importantly, sharing data, must ensure that all parties receiving data have outlined or specified procedures that will be followed in order to ensure data security. In our analysis, we found the following examples.

Data security

Data security pertains to processes that are in place to ensure data isn't being used or accessed by unauthorized individuals or parties. To ensure data security, some SEAs provide specific procedures, suggestions, or requirements that users need to indicate in their data request that explain how data will be kept secure in the scenario that their data request is filled. Generally speaking, data security can be understood as guidelines provided for keeping data secure once the SEA has given the data to a user who made the request. For example, SEAs included provisions such as:

- Storing each electronic file sent by the SEA in a secure location, such as a locked desk or file cabinet, except when in use for the purposes for which it was provided
- Encrypting all electronic transfers of personally identifiable data.
- Requiring users to sign a security policy before accessing requested data
- Specifying procedures such as computer passwords, computer auto shutdown/logout/lock, updated anti-virus software, internet firewalls, paper copies locked in cabinet, and that portable devices are encrypted

According to our analysis 23 states had provisions for data security.

Data Destruction. While SEAs may have provided general provisions for data security, some set guidelines for destroying data upon completion of research. It is important to note that there were various methods for destroying data, which included users deleting all data from where it was secured, and or, submitting a certificate of destruction once completed. We found that 20 SEAs provided or required guidelines of destruction for users who requested data.

Data use guidelines

A final category that emerged from our analysis is what we describe as "data use guidelines". Data use guidelines refers to how users can handle and present data provided to them from SEAs through data requests that were submitted and filled. Data use guidelines can be understood as the SEA regulatory and reviewing practices of any product originating from a data request. For

example, if a data request is submitted and then some sort of presentation or publication is produced from said data, then SEAs may or may not have procedures that products must undergo before being presented or published. Below is a list of potential guidelines and procedures that SEAs might take prior to presentation or publication.

1. The SEA requires a statement of acknowledgment
2. The SEA requires/provides a citation to be used in products
3. The SEA indicates there is a right to review products prior to publication
4. The SEA indicates there is a right to refuse publication, and
5. The SEA offers no guidelines or restrictions.

Finding 9: Few states have established guidelines for presentations or publications based on shared data.

As specified above, SEAs may require a statement of acknowledgement. This means that if a user who requested data created a product that incorporated data provided from the SEA, then somewhere within the product the user must indicate that data for their project was provided by the respective SEA. After analyzing data, we found that one state required a statement of acknowledgement in products stemming from SEA data.

Similarly, SEA websites may indicate that they require a reference. If a SEA requires a reference, then users who produce any presentations or publications must reference the SEA as a source of data. According to the data that we collected from websites, 3 SEAs specified the requirement of a reference.

SEAs may also indicate the right to review products prior to publication. This means that all products using data provided by an SEA must be reviewed by the respective SEA before it can officially be published. Eighteen states indicated some level of review is required. For twelve SEAs, the site does not indicate the issues for which a product is being reviewed. For six, the site explicitly mentions specific issues. For example, SEAs may want to review products to ensure that authors have not in any manner identified specific students or teachers as it would be a violation of FERPA and other state laws.

Additionally, SEAs may indicate that they have the right to refuse publication. This is straightforward and means that an SEA can prevent the user who was given data through a request from publishing particular products developed from SEA data. After analysis, we found that two SEAs reserved the right to refuse publication.

Lastly, we found that 29 SEAs offer no guidelines or regulating rules for using data. In the case of no guidelines, this means that the SEA may not require acknowledgement, citation, review of products, or reserve the right to refuse publications that use data provided by a respective SEA, or that this requirement is not made explicit to researchers at the point of requesting data.

Takeaways

Our purpose here has been to surface key issues in granting data access to educational researchers – a requirement under the SLDS grant initiative, but more broadly, a strategy for generating timely and relevant research that can inform education policy and practice. Both data systems and research are part of the evidence-based decision-making ecosystem, and the relationship between them is critical to ensuring that ecosystem is robust and productive. What we have learned in developing this landscape of SEA policies is that while there is some clear commonality in approaches, there is also great variability nationwide.

Both data systems and research are part of the evidence-based decision-making ecosystem, and the relationship between them is critical to ensuring that ecosystem is robust and productive.

In our analysis, we note several strengths to the current state and national dialogue around providing data access to researchers. A sizeable majority of SEAs (N=34) have a request form that was easily accessible and guided the researcher as to what information was needed to fulfill a request, though the information required varied significantly across states. A simple step such as a form may go a long way in making the process transparent and to clarifying requirements both for internal and external stakeholders. Additionally, 29 SEAs differentiated information about data and access for multiple stakeholders in the system, ranging from researchers (of particular interest here) to parents and even courts. Differentiation may empower not only the research community but all stakeholders to understand and engage with data in productive ways by helping them understand what they can access and how. Lastly, we found that national dialogue around data privacy and security is strongly reflected in most SEA processes, not only as an explicit reference to FERPA, but through MOUs, IRB requirements, and other state laws such as HIPPA and IDEA as well as explicit references to data security and destruction. The inclusion of this information signals that *SEAs are taking their responsibility to safeguard student privacy seriously and that data sharing falls under that responsibility*.

Additionally, we bring attention to a few specific strategies that received scant attention in our data but are potentially significant considerations in the role that state data systems might play in the generation of research evidence. First, we were able to locate research priorities for only 15 states. Though DQC's 2014 report indicates 41 states have adopted research priorities, the public availability of those decisions remains limited. *From the perspective of a researcher seeking access, the absence of information about what type of work is prioritized and how one might contribute to SEA goals for improving education is problematic and potentially discouraging*. Consistency with SEA research priorities may also be useful criteria for evaluation of a data request as a means of ensuring relevance of supported research, though only seven states stated this was the case.

A second strategy rarely addressed is to provide information about the timeline for producing/delivering data to the researcher. SEA capacity is a likely contributor to this issue, as time per request varies not only by the scope of the request but by the demands faced by the department at the time a request is made. Future exploration of the number of researcher

requests made and fulfilled would be instructive on this point, as well as the capacity of the department to handle, review, and approve data requests. However, as a common criticism of educational research is the timeliness of findings relative to the issue being evaluated, improvements are likely only with greater collaboration and support among researchers and SEAs providing data. Knowing when data can be available is useful in developing a research plan, but communicating realistic timelines is also a means for SEAs to communicate with partners and assume responsibility for their role in that relationship. Further, *a number of states indicated that they have formally established partnerships, which if used creatively, may reduce the burden on SEAs to meet the demands of multiple data requests*. In Texas, for example, the University of Texas at Austin has assumed responsibility for managing and maintaining the SLDS, thus reducing the administrative and bureaucratic burden born by the SEA. In another case, the State of Alaska works with several partners including the University of Alaska and other organizations that compose a network called "ANSWERS" which are relied upon to collaboratively fulfill data requests.

Additionally, only a handful of SEAs offer a clear appeal process by which educational researchers can appeal a data request rejection. However, almost none of them explicitly described what the process looks like, what researchers must do, and how long the process in total would take. Developing an efficient and collaborative appeal process is a particular strategy SEAs might adopt to process requests in a timely manner, and if the process engages the educational researcher, this may improve relationships and ensure future requests meet expectations and are better aligned to SEA needs and goals. Further, posting a list or links to research conducted using the state data system, though no examples were found, may be a way of publicly communicating commitment to generating and using research evidence at the state level.

It is difficult to monitor and evaluate the relationship between the development of these large data systems and the production of research evidence. As this was an explicit goal of the SLDS grant initiative, it is important that SEAs be aware of the impact of their system.

Fourth, few SEAs require acknowledgement or a citation in published works resulting from shared data. While there is no tangible benefit to the SEA to have such a requirement, we found it difficult in our work to identify work that drew on SLDS or other similar data systems, and have been unable to locate any policies or programs that may have been informed by SLDS-driven research. In turn, this means it is *difficult to monitor and evaluate the relationship between the development of these large data systems and the production of research evidence. As this was an explicit goal of the SLDS grant initiative, it is important that SEAs be aware of the impact of their system*, which may be measured through citations or acknowledgements.

Lastly, although efficient data sharing practices between SEAs and educational researchers will encourage various areas of educational issues to be deeply explored, few policies entail reviewing researcher publications or products. Though publication should be an explicit goal of any research project, there are a few reasons why engaging SEAs at the point of publication may

be a productive strategy. First, sharing of results ensures that researchers are funneling useful information back to the educational agency. Further, such a process may enable the SEA to provide additional information about context that could improve interpretation of results. Lastly, a review or sharing process helps ensure that research results are communicated in a way that maintains student privacy as well as educator, school, and district confidentiality.

In examining results within and then across states, we have found that states that have comprehensive approaches in one category (such as process transparency) – defined as having greater numbers of strategies in place – are also likely to have comprehensive approaches in the others as well. Therefore, *we find that states that have engaged in this work comprehensively and deeply have done so across the board, while other states have, based on our indicators, engaged in this work to a notably lesser degree, and similarly, have done so across the board.* The attention and commitment to the issue of researcher access to data understandably varies by state context, and may be due to differences in capacity at the SEA level, the quality and quantity of current relationships with research organizations, and the presence or absence of a policy champion for this issue. Because of these reasons, the findings reported here may be valuable in raising important topics for discussion or providing models for improving policies in ways that create more even approaches across SEAs.

Adopting a more consistent approach nationwide is a step toward both protecting educational data and producing much-needed research evidence in *every* state, rather than merely in a few for which this issue has been a priority.

Using these findings

Our purpose has been to better understand the landscape for researcher access to administrative data systems, especially SLDS systems and, in doing so, to foster dialogue that will take this work forward. To support that dialogue, we offer some questions for both SEAs and researchers alike to consider in their efforts to work together in the generation of research evidence for educational policy and practice. Below, we share two sets of prompts.

Questions for State Education Agencies to Consider	
Supports for Users	• Is the name, title, and direct contact information available for the SEA staff member responsible for supporting requests? • Are directions for data requests tailored to potential audiences (e.g. researchers, parents, district/school personnel)? • Are there any tools, such as checklists, steps, or flowcharts that help someone making a request ensure that they provide all the relevant information? Are those steps referenced on all relevant web pages? • Has the SEA defined needs for which partnerships with other organizations could help build capacity for data sharing? Are there any processes for establishing formal partnerships? Are partnership opportunities or existing partnerships publicly posted?
Transparency of the Process	• Is a structured request form available in an online format or in a format that can be sent electronically? • Are the criteria for evaluation made explicit to the requestor? • Are research priorities or needs clearly stated? • Is there a timeline for data request review and/or fulfillment, and is it publicly shared? • Are there costs for data requests and are they stated up front? • Does the site explain process for appeal, clarification, or revision?
Data Privacy and Security	• Does the SEA provide clear explanations for data limitations that protect privacy, such as at what level data must be aggregated and the minimum "cell size" for data to be reported and shared? • Are SEA staff members clear on policies and processes that protect student privacy? • Are FERPA and other relevant privacy related policies clearly defined for requestors? • Are there clearly stated expectations for researcher (or other requestor) compliance with FERPA and other relevant privacy related policies? • Are expectations for IRB approval part of the request process? • Is there an internal SEA IRB process, and if not, what other options are acceptable? • Is there a secure process for transferring data to researchers? • Are there specific security/destruction processes in place for requesters? • Are policies for data privacy and security consistent with PTAC guidance?
Data use Guidelines	• Is there a process for or capacity to review research originating from SEA data to ensure that FERPA or other privacy guidelines are not violated prior to public release? • Is there a process or requirement for reviewing results of research to support interpretation and implications for policy and practice? • Does the SEA require acknowledgement of use of data and in what form? • Does the SEA track publication of research based on its data, and is that work linked/posted publicly?
Data Availability	• Does the SEA have an easily accessible list of data that is housed in and available through their data system? • Is it clear for what years data are available? • Is it clear for what level of aggregation or unit of analysis data are available (e.g. students, teachers, schools)? • Is it clear which data are publicly available as non-personally identifiable and which are personally identifiable? • Are there directions for how to request or access data not housed within the system?

Though much of our work is focused on SEA policies, we also believe that there are actions researchers can take to both support the development of SEA policy but also to engage more successfully with those policies during the data request process. We offer the following prompts for researchers to consider:

Questions for Researchers to Consider

- Have you reviewed all materials available from the SEA to support your request?
- Have you considered the extent to which your proposed work aligns to SEA research priorities and how the research might benefit the educational system in the state? Are these clearly articulated in your request?
- Have you clearly articulated specific data, levels of aggregation, and dates for which you are requesting data?
- Is your research request made in a timely fashion and affording a reasonable amount of time for the request to be made?
- If steps, checklists, or other tools are available, have you used them to ensure your request is complete?
- Has your work been approved by an IRB, and if so, are the letter and relevant materials included in your request?
- Have you familiarized yourself with FERPA and other privacy policies in the state and prepared to uphold those policies in your research? Is that made clear in your request?
- Do you have a secure location for storing data and a plan for data destruction if applicable? Are these consistent with SEA guidelines?
- Have you contacted the SEA with any questions that might help you develop a successful data request?
- Do you have a plan for communicating your work back to the SEA? Do these plans include opportunities for collaborative interpretation of findings and an opportunity to discuss implications for policy and practice?
- How will you recognize the role the SEA played in supporting your research?
- Are there particular ways you might be able to support the SEA as part of the data sharing process and help build SEA capacity? Are there partnership or service opportunities you can engage in to support the SEA?
- Have you communicated with the SEA or other key stakeholders about improving the process for making data requests or shared feedback about your experience?

Through this work, we hope to support and improve the promise of SLDS and large data systems as a useful strategy in supporting the production of research evidence for educational policymaking. This may be particularly important under the Every Student Succeeds Act, which makes more specific demands about the role of evidence in improvement planning. Howe (2016) notes:

> *And, at least in part as a result of ESSA, an increasing number of SEAs are seeking to collaborate with external researchers as a way of making informed policy decisions that impact students and workforce by addressing and supporting their research agendas. SEAs are developing their data systems to be used for high-quality evaluation and research studies, and increasing partnerships with researchers for help is a natural next step that is beneficial for all parties.*

However, we do so cautiously and with recognition that the ecosystem for evidence-based policy making in education is more complicated than simply strengthening the pipeline of data for research. In fact, we were unable to identify policy changes resulting from research utilizing SLDS data. Though this could be attributed to some of the findings above, such as few states requiring acknowledgement of SLDS data, it is likely symptomatic of other barriers between research and practice. As Conaway, Keesler, and Schwartz (2015), note, these systems may not be a "game changer". The authors highlight key issues with internal SEA capacity and with SEAs historically limited attention to research (Massell, Goertz, & Barnes, 2012), which is likely reflected in some of the findings presented here. Further, many have noted the faulty assumption that availability of research evidence does not necessarily equate to use of that evidence in policy or practice. Rather, it must be valued and interpreted (Hood, 2003; Coburn, Toure, & Yamashita, 2009; Finnigan & Daly, 2014; Honig & Coburn, 2007) and may not be "useable" without additional resources and efforts for translation and dissemination, which Burkhardt and Schoenfeld (2003) note is a "decidedly non-trivial task" (p.4).

On the other hand, there are well known barriers from the research production side, including time, the non-triviality of translation, negative incentives, how problems are understood and framed, and capacity to engage in meaningful partnerships (Burkhardt & Schoenfeld, 2003; Robinson, 1992). Further, the types of research that can be generated using administrative data is limited. Administrative data, such as that found in SLDSs, offer few measures of program implementation, exclude qualitative data, and typically include little, if any, information about perceptions related to leadership, climate, learning, and other important dimensions of the educational process.

We recognize these concerns and limitations of the use of large system data, but offer that the opportunities afforded by the development of these systems in conjunction with robust processes for researcher access to data may be an important step toward building stronger relationships between research and policy communities, helping to surmount critical barriers such as timeliness and relevance. Such relationships may serve as a foundation for an ecosystem of evidence-based decision-making, and ultimately, for research, policy, and practice to collectively improve educational opportunities and outcomes for all students.

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