A REVIEW OF DATA GOVERNANCE STRUCTURES, POLICIES, AND PRACTICES AFFECTING HAWAI’I’S STATEWIDE LONGITUDINAL DATA SYSTEM DEVELOPMENT EFFORTS

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Executive Summary

In October 2010, as part of a WICHE’s project, Facilitating Development of a Multi-State Longitudinal Data Exchange, funded by the Bill and Melinda Gates Foundation, personnel from the Western Interstate Commission for Higher Education (WICHE) and the National Center for Higher Education Management Systems (NCHEMS) conducted a site visit to assess Hawai’i’s efforts on the development of a P20 Statewide Longitudinal Data System (P20 SLDS). The focus of the visit was to provide a point-in-time view of the state’s underlying data governance policy and structures that facilitate the exchange of data across agencies while protecting the confidentiality of individuals. The ensuing report identifies and provides recommendations for the continued progress in the development of Hawai’i’s P20 SLDS. The site visit consisted of interviews and focus groups with nearly 140 key officials, data stewards, custodians and users from the Hawai’i Department of Education (HIDOE), the University of Hawai’i (UH) System and the 10 campuses, and the Department of Labor and Industrial Relations (DLIR). These three agencies are the foundational partners in the data sharing efforts that underlie the development of the P20 SLDS.

It was clear from the outset of our site visit that there was a lack of clarity around what we and others mean by the term “data governance.” Under our definition, data governance establishes and manages how data are collected, shared, and put to use and addresses the following:

• Gives voice to appropriate parties.
• Sets the rules of engagement, i.e., defines who “owns” what data and who can access it, and establishes a set of procedures or business processes for the collection and usage of data.
• Establishes how decisions impacting data collection and usage are made and how accountability – including data quality – is assured.
• Provides a mechanism for the resolution of conflicts involving data collection and use.

Robust data governance policies and procedures serve to insure the integrity and security of the data held by each agency. It makes possible the sharing of data to better inform educational policy, planning, and practice for state agencies and schools and institutions. It balances the transactional requirements of conducting educational operations with the growing necessity of assembling researchable data extracts for policy-relevant analysis.

The full report includes an overview of the historical context for data governance in the agencies of interest as well as a discussion of major issues. It identifies a number of challenges and highlights the need for state- and agency-wide attention to the issues of data governance raised and documented. Supported with observations culled from the site visit and focus groups, and combined with our experience working with states and agencies on best practices for data governance, the report enumerates thirteen recommendations and proposed timelines (in parentheses):
1. **Establish and utilize a set of core principles (Immediate and ongoing):** The core principles will establish boundaries and set priorities around data use and the processes needed to ensure data integrity.

   Hawai‘i P-20 and Hawai‘i’s SLDS

2. **Independence for the SLDS (Ongoing review):** While in the short term there are reasons to locate the SLDS within the UH infrastructure, including enterprise-wide technological resources, ongoing review is recommended to insulate the SLDS and its products from accusations of subjectivity.

3. **Focus the SLDS tightly on policy-relevant and strategic planning uses of data (Within a year):** The principal long-term focus should be on the collection, analyses, and interpretation of data extracts for longitudinal policy and practice improvements and statewide strategic planning.

4. **Find ways to put data together for policy research and publicize it as quickly as possible (Immediate):** When data are used to describe problems and provide a lens for crafting solutions for key decisionmakers in the state, the importance of data rises. Making the data available helps create the impetus to improve data quality and leads to productive policy discussions based on evidence.

5. **Build clear and unambiguous data governance structures within the various agencies supplying data to the SLDS (Within six months):** A separate data governance structure needs to be built in each agency that uses the strengths of existing groups. HIDOE has already begun this process, but within UH there does not appear to be an existing formal structure with sufficient scope and authority. Guidelines for what should be included in such a structure are given in the full report.

6. **Formally comprise a standing UH Data Governance Working Group (Immediate):** UH should establish a high-level data governance working group with a relatively narrow charge to change the culture around data use to a culture of evidence based on careful and intentional planning.

7. **Clarify the mission for the UH’s Institutional Research Office (Immediate):** With new leadership in IRO, this report endorses recommendations provided in the February 2010 State Higher Education Executive Officers (SHEEO) report that argued for IRO to be empowered as the official provider of policy-relevant research and analysis for the UH System as a whole.

8. **IRO should be engaged in discussions bearing on how transactional data are collected and elements are defined in order to ensure the meaningfulness, integrity, and continuity of Operational Data Store (ODS) data drawn from the system’s transactional data systems (Immediate and ongoing):** While IRO’s chief responsibility would be to provide system-wide research capability and to deliver Hawai‘i’s postsecondary education data to the SLDS, there remains a need for operational usage of data that reliance on ODS data cannot fulfill. IRO should be empowered and sufficiently resourced to proactively facilitate the conversation among campuses about how to get their operational needs met and to work with ITS to accomplish the resulting tasks.
9. Include the HIDOE student identifier as a variable captured in the UH’s student information system (Within a year): Doing so will aid in matching records between the sectors.

10. Provide the HIDOE student identifier to nonpublic educational providers and early childhood educators (Within two years): The P-3 Initiative is a fruitful opportunity to expand the role of data in providing information about student experiences in early childhood.

Labor Market Information

11. Ensure the quality of unemployment insurance (UI) wage record matches (Within a year): DLIR is reluctant to correct all its UI wage records that potentially contain errors due to the burden it would create. But for use in policy-relevant research analysis, it is important to take all reasonable steps to ensure that the data are as accurate as possible.

12. Explore the possibility of collecting occupational codes in the UI database (Within two years): While Hawai‘i’s UI wage records captures industry codes, increasingly occupation codes have more utility particularly for the types of longitudinal education and workforce analyses envisioned.

13. Incorporate data from the Federal Employment Data Exchange System (FEDES) and the Department of Defense (Within two years): Hawai‘i’s UI wage records, which do not contain information about employment in the federal government or military, cover a smaller proportion of Hawai‘i’s total labor force when compared to many other states.
Introduction

With intensifying pressure to develop the human capital demanded of an increasingly globalized knowledge economy, the federal government and the individual states have made substantial investments in statewide longitudinal data systems (SLDS) as a critical element in improving educational policy and practice. Such systems would enable states to track individual student progression through public schools and postsecondary institutions and into the workforce, in the process giving them much more information about how best to improve performance and where the biggest roadblocks lay for different students. In fact, the federal government has provided a spark to these efforts by making over $400 million in competitive grants to states for SLDS development in the last four years; spearheading efforts to standardize data element definitions and technical specifications; and in linking data systems to even larger pools of competitive and formula funding, most notably the Race to the Top competition and the State Fiscal Stabilization Fund.

States around the country have responded to the challenge set out by the federal government and to the clear need for information only available from a robust longitudinal data system. Hawaii has made significant progress to date in laying the groundwork necessary to eventually build a robust SLDS for itself. Leading the effort is Hawai`i P-20 Partnerships for Education (henceforward “Hawai`i P20”), which is housed within the University of Hawai`i system (UH) but which acts as an umbrella group for an array of stakeholders engaged in educational policy and delivery across the state.

However, Hawai`i’s and other states’ efforts are not always well coordinated. A particular problem is that the flow of information usually stops at state borders (and typically at the edges of the public educational infrastructure as well), in spite of some limited signals from the federal government that multi-state solutions would be desirable. The Western Interstate Commission for Higher Education (WICHE) has received a grant from the Bill and Melinda Gates Foundation to lead a project entitled Facilitating Development of a Multi-State Longitudinal Data Exchange, to help bridge those gaps by creating a pilot effort to share data and create reports covering four initial states. In order to successfully integrate data from the participating states (Hawai`i, Idaho, Oregon, and Washington), each one needs to be able to supply high-quality data to the exchange. Therefore, the grant is supporting WICHE’s efforts to assist the individual participating states in whatever way may be most mutually profitable.

In Hawai`i, WICHE and its partner, the National Center for Higher Education Management Systems (NCHEMS), have been working collaboratively with Hawai`i P20 to identify the most significant obstacles in its efforts to develop strategies to move forward as quickly as possible. Together, the organizations arranged a site visit consisting of interviews and focus groups with key officials and data stewards, custodians, and users from the Hawai`i Department of Education.
(HIDOE), the University of Hawai`i System (and its 10 campuses), and the Department of Labor and Industrial Relations (DLIR) – the three agencies collecting and storing the core data needed by Hawai`i P20 for a comprehensive SLDS. One reason for conducting a site visit in Hawai`i was to better understand the data governance structures in place in the various agencies that would provide data for the SLDS simply because those data governance structures, which are not the focus of the SLDS, can facilitate or hinder extraction of necessary data for the SLDS. Staff at Hawai`i P20 extended invitations and coordinated the schedules for the site visit, which encompassed 20 separate sessions attended by nearly 140 individuals over four days in October 2010. In order to obtain forthright feedback from the participants during our conversations with them, all were informed that their confidentiality would be protected – at least within the limits of a group interview. Since focus groups were generally organized by functional area, they tended to have a consistent message or story to tell, so tension among the participants in any individual focus group was largely absent. The principle topic of discussion was data governance, particularly how it was enacted within each agency and in the state as a whole. But our inquiry is a bit broader than that, owing to the way in which this engagement with Hawai`i is nested into the multi-state project, and it was motivated by these questions:

- What are the greatest barriers to SLDS development in Hawai`i?
- What is the state of data governance and how might it be improved, both for the state and for the individual agencies supplying data to the SLDS development effort?
- Besides improvements in data governance, what other components would help promote SLDS development in Hawai`i?
- What is a reasonable timeframe for progress and how should Hawai`i P20 proceed?

In this report, the dialogue from our interviews and focus groups are synthesized and combined with expertise drawn from our work throughout the West and elsewhere. It first provides a brief background of Hawai`i’s efforts in SLDS development to date. Next it defines what we mean by data governance as a central element in SLDS development before describing the principal issues facing SLDS development work in the state. Finally, the report concludes with recommendations and thoughts about reasonable timelines for moving forward.

**Background**

Like many other states, Hawai`i has been active in trying to accelerate the development of its own SLDS. A recipient of a prior SLDS award in FY2009 from the U.S. Department of Education focused more or less exclusively within HIDOE and the public schools, the state narrowly missed receiving a sizeable grant under the most recent competition funded through the American Recovery and Reinvestment Act (ARRA). As proposed, that project would have financed the creation of a full SLDS spanning the state’s K-12 education, postsecondary education, and labor market information systems. Despite not being selected as a recipient of an SLDS grant through...
ARRA, Hawai‘i was awarded $75 million in the Race to the Top program competition, a project that requires the use of longitudinal data.

**Historical Context**

In the course of events leading up to the ARRA SLDS grant application, Hawai‘i put into place several of the key features necessary for the development of a robust data system. Piecing together funding from a number of sources, Hawai‘i P-20 Partnerships for Education contracted with Cal-PASS to match students between HIDOE and UH. While these efforts turned up problems with data quality, they also proved useful enough to help convince the state legislature to pass a resolution in 2009 requesting that Hawai‘i P20 assume responsibility for leading the state’s efforts to develop an SLDS. Over the next several months, Hawai‘i P20 and UH hosted a number of activities to build commitment among constituent groups for SLDS development, including:

- Commissioning a consultant to examine the current status of existing data systems, identify subsequent activities, and offer alternatives for technology solutions.
- Hosting a statewide forum featuring a national leader in SLDS research and advocacy.
- Commissioning a second consultant to review the structure of data collection and reporting at the UH.
- Negotiated a memorandum of understanding (MOU) between the three principal agencies (HIDOE, UH, and DLIR) to share individual-level data; this document specifies that Hawai‘i P20 is the entity responsible for putting the data together and, while it does identify the type of information to be shared, it differs from data-sharing MOUs in many other contexts in that it serves as an umbrella document covering a wide array of potential analytical uses of the shared data rather than restricting sharing to a narrow research question.

The efforts to that point have paid dividends. In 2010, the state enacted Act 41, which requires all state agencies to “share data to support research that will improve educational and workforce outcomes and meet the longitudinal data requirements of the federal ARRA of 2009.” This legislation, which is still uncommon in other states, is an important building block on which to construct a longitudinal data system.

Complementing the progress already made to erect the legal scaffolding necessary for the exchange of personally identifiable information is Hawai‘i’s apparent readiness to collect, match, and consume the data coupled with corresponding analytical capacity. For example, Hawai‘i P20 has developed and released a “College and Career Readiness Report” for the state’s public high schools based on data from HIDOE, UH and the National Student Clearinghouse. It is no surprise that this information has turned out to be volatile and politicized, but it has also led to
additional and better targeted questions about the performance of schools. As such, it is illuminating to policymakers.

Hawai‘i P20 has been resolute in its efforts to advance the development of the SLDS, but the stakes for accelerated progress have been raised by its own success in engaging the legislature to require data sharing and especially as a result of the state’s receipt of the Race to the Top funding. Hawai‘i P20’s leadership, as well as others in the state, has recognized that the time is ripe for change.

**Data Governance**

At each focus group, once we introduced ourselves and the topic of the conversation, we routinely were asked what we meant by the term “data governance.” Simply put, data governance establishes and manages how data are collected, shared, and put to use. A more complete definition would address how data governance:

- Gives voice to all appropriate parties.
- Sets the rules of engagement, i.e., defines who “owns” what data and who can access it and establishes a set of procedures or business processes for the collection and usage of data.
- Establishes how decisions impacting data collection and usage are made and how accountability – including data quality – is assured.
- Provides a mechanism for the resolution of conflicts involving data collection and use.

The best examples of effective data governance strategies recognize that the principal purpose of data is to support strategic planning, policy formulation, or, within educational providers, day-to-day operational use. Therefore, data governance is the joint responsibility of all the stakeholders, not solely – or even primarily – the province of the information technology community within the organization. Both the data itself and information technology resources should serve the broader mission of the institution. To help focus the task of data governance, its roles are often split into more manageable chunks and assigned to committees composed of stakeholders based on their expertise. In its application to the federal government for ARRA SLDS funds, Hawai‘i proposed to do exactly that with four separate committees outlined. The most minimal data governance structure typically requires at least a dual committee structure, with one responsible for determining the essential policies and procedures for access to and use of the data system and one responsible for overseeing the operational/technical management of the system, including ensuring data quality.

Data governance concerns are generally distinct from issues related to systems infrastructure and architecture and application design, but our conversations tended to drift into that area as well. We are not expert in the technical details of these kinds of issues. But any data governance
structure must acknowledge how applications that use or supply administrative data are
developed and deployed.

**Putting the Major Issues on the Table**

Our conversations yielded a wealth of useful information about the nature of the challenges
ahead for SLDS development in Hawai`i. Certainly, the interviews and focus groups provided
participants with an opportunity to air grievances with current policy or practice, though in
general there was broad agreement on what some of the problems with data governance were
and participants were eager to help contribute to solutions. The most serious issues that
surfaced concerned:

- insufficiently focused high-level attention to and inconsistent communication about data
governance;
- a pervasive culture of local solutions;
- inconsistent interpretation and application of the federal Family Educational Rights and
Privacy Act (FERPA);
- tension between transactional and reporting uses of data; and
- resource constraints.

Given that Hawai`i P20 is sited within UH, it faces an additional challenge: getting enmeshed in
ongoing structural tension among key organizational units, particularly UH’s Institutional
Research Office (IRO) and its Information Technology Services (ITS), which seem to have
overlapping areas of responsibility with attendant uncertainty over which ultimately bears
responsibility for coordinating and managing the Operational Data Store. (This last issue was
part of the review undertaken by Hans L’Orange of the State Higher Education Executive Officers
national organization (SHEEO) in February 2009.)

**Attention and Communication**

One of the more thoughtful participants during our site visits described the state’s educational
agencies as “always chasing the efficiency.” When asked to clarify, he argued that Hawai`i’s
educational agencies have not usually been ahead of the curve on technological advancements
in administrative data systems. As a result, he argued, policies and practices concerning data
governance lack intentionality and foresight in the coordination of the enhancements that have
been adopted over the years. He cited Banner as a product that forced greater centralization on
the UH system when it was implemented, and certainly its adoption has led to greater
efficiencies and more capacity for better, more timely information. But he claimed that the
coordination that must accompany greater centralization has usually emerged only in response
to issues as they arise, rather than being intentional in design. He echoed a number of other
participants who were making the case that many of the elements of data governance – changes
to the system and who gets to make them, how to assure data integrity, and so on – were
creating problems at various organizational levels in the absence of focused attention and high-
level authority to problem solve. Their view was that leadership seemed to think such problems
mostly needed to be “handled,” for the most part by those with responsibility for information
technology management, rather than rising to the level of a conversation that was needed
organization-wide. One participant said that as a result, when a policy decision comes into
conflict with existing technical capacity, Hawai`i tends too easily to accept that limitations of
technology prohibit the change. Furthermore, participants told us that the need to achieve
consensus in Hawai`i, while a laudable goal, has hindered change; one said, “status quo wins all
the time when you have to wait for consensus.” What appears to be missing is an individual or
group with sufficient authority to press ahead with a change, even when a large majority of the
affected parties favors it, especially with decisions that may be binding on everyone.

All of this is not to say that what we have perceived as a void in focused attention at the highest
organizational levels is in fact a vacuum. To the contrary, new leadership at HIDOE has begun to
forcefully take on the issues of data governance and systems/application architecture by
implementing promising strategies. HIDOE’s chief information officer has created a Technical
Architecture Review Committee (TARC) with responsibility for ensuring that new applications
development, hardware procurement, and other similar activities are fully vetted before moving
forward. Our understanding is that this group does not hold the primary responsibility for data
governance issues; therefore, lodging the task of managing data access requests with some
coordinated group is an essential component to ensuring that the underlying data are well
protected and maintained with integrity. Additionally, the appointment of a data governance
director has elevated the importance of the issue within HIDOE, and the identification of “data
stewards” throughout the organization has made for better coordination among those
responsible for raw data and the applications that access those data. The data stewardship role
is a new one for many who have been so designated, and our conversations revealed that it is
not yet altogether clear what it entails or if the assignment was given to all the right people. In
one case, the person designated as a data steward claimed to have no data to steward. Another
case revealed that the individual named as a data steward could access raw data only by gaining
approvals from two other data stewards. Yet anyone requesting access to data, such as for
applications development, could seek to obtain that access from any one of the three data
stewards in that stream. Finally, we were made to understand that the regular meetings called
for the data stewards were inconsistently attended, in part due to the uncertainty about the role
and to a lack of penalties for failure to attend, making coordination more challenging. HIDOE is
also in the process of figuring out how to train personnel on data governance and data integrity
issues, not only at the state level but also at the school level. Nevertheless, these efforts are an
excellent and strong first step, even as refinement of the roles and processes are still underway.
Similarly, at UH there have been steps taken to provide better high-level oversight. One such effort led to the creation of the Banner Advisory Group, which is charged with reviewing, prioritizing, and approving changes to the system's principal student information system. Very recently, a group of leaders within the IRO and ITS have created an informal group calling itself the Data Governance Ad Hoc Group. Initially assembled in an effort to manage the increasingly high volume of vendor-proposed solutions, it has only had a few meetings. Yet its participants have already perceived the need for its scope to widen in order to address data governance concerns more generally. At the moment, however, the group is missing a large number of stakeholders it would need to engage if it is to become a truly representative body for leading data governance issues within UH. It also has been a sort of grass roots effort among those most directly impacted by gaps in the UH’s data governance on a daily basis, working in response to negative stimuli, rather than an intentionally coordinated, system-wide approach possessing authority to act.4

Our conversations revealed confusion and uncertainty about how to get issues concerning data governance resolved among staff impacted by those issues. Several examples at the UH serve to illustrate here, but perhaps the most commonly described episode dealt with the decision-making process to enable Banner to manage a wait list for course registrations. Although both the Academic Vice Chancellors’ group and the Banner Advisory Committee initially agreed to move forward with the change, they apparently made that decision before affected parties, such as registrars and admissions officers, fully understood its implications. Clearly, there was process in place for evaluating these changes and yet a failure of communication still occurred, which suggests the process did not sufficiently engage key stakeholders in the most efficient way or at the most appropriate time. A more inclusive process would also better ensure that decisions are implemented faithfully by those who are most affected. A second episode concerned the introduction of a UH online application. Anxious to require applicants to fill out certain fields completely before the online application would allow them to submit it, the student services staff described their frustration with and uncertainty about where to go within the organization to get their needs prioritized and met. In one session, a participant kept telling us that “they” would not let something happen. When pressed repeatedly to name the “they” he was referring to, he finally said, “I guess that’s part of the point. I don’t know exactly where I need to go to get my problem addressed.” Other participants informed us of a lack of policies and written material dealing with who should be able to access what data, how often, even who all the key players and stakeholders for certain types of data are and who is authorized to give access to data. We were told that campuses have authority to grant access to core data to anyone at their discretion, even though Banner (and other enterprise-wide systems) are managed by the system. Even where such guidelines may exist, the culture allows anyone with the right connections to circumvent those guidelines to get access to data they feel they need. “In Hawai‘i,” we were told, “everything works on personalities and relationships.”
The UH’s recent history with security breaches is likely to focus greater attention on the need to more effectively safeguard the confidentiality of personally identifiable information. Security and confidentiality are among the issues at the heart of an effective, broad-based, and intentional data governance structure and strategy. Simply implementing a narrowly technical and siloed response to those breaches would be a missed opportunity to engage a broader dialogue on data governance.

**Local Solutions**

In the absence of clearly defined coordination and centralized governance, individuals or groups throughout the system have been permitted to create their own, localized solutions to problems. Like barnacles on a ship, often these local innovations serve their own purposes effectively, but collectively they result in an unwieldy accumulation of applications that all need support. A side effect is that it becomes more difficult to manage data integrity and security as individuals and applications access data in unpredictable ways. Their presence also serves to slow the process of making updates to existing data systems.

There are numerous examples of how local solutions have complicated the data landscape in Hawai`i. At HIDOE, a lack of design requirements has helped lead to at least one data collection that fails to capture the statewide student identifier, which makes the process of matching its data to other internal data unnecessarily manual and fraught with the potential for error, if it happens at all. Current tension with the state’s charter schools administration is at least partially due to the way in which some charter schools' data collection activities are incompatible with HIDOE’s systems. Any solution must take into account state legislation and regulations that differentially affect public schools and public charter schools. Given state funding formulas, it was also surprising to discover that the state has not enforced a single census date for charter schools that is the same as it is for the public schools, meaning that students can get lost between sectors and further complicating any possible collaboration.

At UH, local solutions are one consequence of the intentional effort to decentralize management information that occurred in the 1990s. A decade later, there is no shortage of local innovations. Some of them have even proven to be highly prized innovations. The most widely acclaimed example is the development of the STAR application, which was a project with its original home in the College of Arts and Sciences at the Manoa campus. Although it has turned out to be very successful, its evolution from a local solution to a perceived problem in student advisement to a centrally managed and well-resourced operation that performs degree audits and tracks students through the UH system was by no means assured. Yet whatever its roots, it is important that STAR, like other system-wide data resources, should be incorporated into an intentional and coordinated data governance plan. In addition to STAR, there are two other, additional systems for managing articulation and transfer currently in use, and the
definition of “transfer” in use at the community colleges and the system level within UH are inconsistent. Accordingly, the results of an analysis for the number of transfer students do not agree, which results in confusion. Finally, new applications attempting to access the system’s data seem to arise regularly, often evolving out of vendor contacts and with no common, centralized vetting process required. So by the time the request for access is made, plans for the roll out of the new application are well advanced and considerable resources have already been invested. Not only has there been no formalized vetting process, there have been no codified requirements for development of applications.

The lack of centralization has made it impossible to get all 10 campuses to agree on common definitions for many data elements being captured. As a result, data collected are incomplete and the data element dictionary is not kept up to date. Without a central authority to lead the data governance conversation, there is an inadequate understanding of how system reporting needs dovetail with the campuses’ operational data needs. As one consequence, individual campuses have built systems and applications to meet their own needs because the responsible offices are not fond of the way Banner operates. Then they want those systems to link in with Banner, costing resources in duplication and having an uncertain impact on data quality and, ultimately, on meaningful reporting.

The bias toward local prerogative has also foreclosed opportunities to improve data integrity on a systematic basis. On occasions when errors are found in the frozen extracts from administrative data systems, it is not clear that there exists any systematic process to correct the identified problems in the underlying administrative data, or – especially in light of recent personnel changes – even an entity with responsibility and the requisite authority and time necessary to ensure that such corrections are made. The result is that the same errors occur repeatedly, consuming scarce resources, and potentially undermining accuracy in analysis and reporting.

Having identified the culture of local solutions as a problem that deserves to be addressed, it is important to note that in doing so care should be taken to strike an appropriate balance in the tradeoff between rigid bureaucracy and the excessively “loose” environment that exists today. There is sure to be resistance to centralizing or coordinating efforts: one theme we heard is that individuals who complained of the lack of a centralized authority felt it should only be imposed on other units’ “rogue” data systems, not their own. Furthermore, there are legitimate distinctions among institutional missions that have implications for how campuses want to collect and use data; one consequence is inconsistency among campuses in how important they view certain types of data relative to the burden they incur in populating those fields. Yet, it is clear that the relationship between local innovation and a centralized process for data governance is currently out of balance, creating an “ad hoc-cracy” that has led to wasted
resources, tension among organizational units, and a reduced capacity to respond to new needs such as populating an SLDS.

**Transactional vs. Policy Research Uses**

Experience has shown that there exist tensions between the collection and use of data for transactional, or operational, purposes and for the purposes of performing policy-relevant research or informing strategic planning. Among other distinctions, data for operational use is most valued when it is current and available in real-time for limited decisionmaking and for monitoring performance. It is also the kind of data that are called for when educators want to intervene with an individual student, to set up an early-warning system, or to administer a student support office such as financial aid. The databases upon which such systems are built often serve many different organizational units and purposes. Contrast that with data for policy-relevant research. The resulting information there is reported only in the aggregate with no attempt to identify individuals; quite the opposite in fact – efforts are made for the express purpose of not identifying students. Data are organized in a researchable dataset and are typically extracted at a fixed point or points in time. The intent is to examine the general pattern of behavior and adjust policies or practices according to what analyses show might have the greatest effect, not to seek out exceptional cases. An analogy might be appropriate here: a speedometer provides transactional/operational information while the pressure strips used for traffic studies provide researchable, policy-relevant information.

This tension also exists in part because the audience for the operational, day-to-day use of data is typically much larger. For instance, each financial aid administrator is accessing the transactional data system every day. But only a handful of people are making strategic policy decisions using that same data. Therefore, transactional data users have a high need for immediate, localized data products and are willing and able to make adjustments on the fly, reinforcing Hawai‘i’s existing culture of localized control. Furthermore, there is a growing awareness that action analytics – the leveraging of real-time data to make continuous course corrections in serving students both individually and in groups (e.g., a class) – is a significant new tool in improving student outcomes and productivity.

In practice in Hawai‘i and elsewhere, extracts from transactional systems supply the raw materials – the administrative data – on which the research datasets are built. Ideally, this looks like a symbiotic relationship in which data definitions and data integrity are smoothly integrated. In reality, under resource constraints and with widely distributed access to the data system, operators fail to prioritize and follow through on the needs of others once they have their own needs met. A lack of high quality information does not stop strategic planning and policymaking activities from taking place; it just does so without the benefit of a more nuanced view of student progression and success than it might. Or it happens while in possession of multiple
versions of the truth, based on a disparate array of reports, none of which is clearly recognized as the official source of record (or at least the leadership must first choose an official source of record from among the alternatives before it can be used for decisionmaking). That is where effective “command and control” can provide a standardized set of rules and expectations around data quality, systems development, and so on, which are necessary to effectively bridge the gaps between transactional and research usages of the data system. The development of such a standardized set of rules and expectations can only occur through a deliberate process that engages stakeholders and accounts for the many ways in which operational data and data needed for policy research intersect and even occasionally conflict.

FERPA’s Chilling Effect

Hawai‘i’s educational agencies resemble their counterparts in most other states in at least one key respect concerning data governance: confusion about what is and is not possible in terms of data sharing under FERPA. While it is beyond our expertise to mount a nuanced legal argument specifically about what can and cannot be shared, there is no doubt that interpretations of FERPA, in Hawai‘i and elsewhere, a) are inconsistent from unit to unit and individual to individual, b) have had a chilling effect on certain kinds of longitudinal research that could inform policy and practice, c) are evolving gradually to permit more sharing, and d) apply the law inconsistently. During our interviews and focus groups, FERPA was cited on numerous occasions as the reason why data could not be shared with other parts of the state’s educational apparatus. Whether the justifications we heard accurately reflect legal advice passed down from appropriate authorities within the state or agency, the reality is that other states and their state agencies have found legally permissible ways to share data for research and evaluation purposes aimed at improving practice and policy. Indeed, within Hawai‘i the state has explicitly stated that data should be shared among agencies and Hawai‘i P20 has already successfully matched student records between HIDOE and UH under a pilot arrangement with Cal-PASS. There are of course legitimate concerns about student privacy and confidentiality. Those who are invoking FERPA as a reason to withhold student records may be motivated by a genuine concern to protect records and err on the side of caution to do so. But the inconsistent way in which those who have data stewardship responsibility apply FERPA is an issue that needs to be addressed as part of the data governance conversation within each agency and statewide as part of the SLDS development effort underway.

Resource Constraints

At a time when states across the nation are wrestling with the lingering effects of the Great Recession, virtually all of them are searching for ways to cut back. That means that SLDS development activities in states that did not receive grant awards are going to be facing funding challenges. While we commend Hawai‘i’s legislature for injecting some momentum into the
effort to link data, we understand that the requirement they passed down was not accompanied by additional funding. Therefore, resources are tight both for the necessary work needed to link data and for the educational agencies seeking to improve their structures and policies related to data governance, and the reality of those challenges must be recognized. One way in which these constraints are apparent is the uncertain status of the HI-PASS pilot effort, which has been made possible by Hawai`i P20’s cobbled together of funding from a variety of sources. The HI-PASS pilot has demonstrated that it is feasible to link HIDOE and UH data to produce meaningful analyses, in spite of challenges related to data integrity and a relatively cumbersome matching process based on name and date of birth rather than through the use of a shared unique identifier. Our conversations revealed that improving data governance could lead to greater efficiency and lower operational costs in the long term, particularly through the standardization of a process for properly providing access to data, application development, codified communication pathways, and so on.

**Recommendations and Timeline**

Although Hawai`i has gotten by without having carefully developed and monitored, strategic and agency-wide policies on data governance to this point, several factors have converged to force a more intentional path forward. Hawai`i’s commitments to the federal government, particularly as a Race to the Top grant recipient, require it to make more effective use of longitudinally linked data. Meanwhile, the state itself has elevated the importance of centralized data governance through the Act 41 legislation that established a requirement among state education and workforce agencies to share data.

The good news is that it seems state agencies are beginning to seriously engage in an effort to improve data governance and facilitate sharing. During our site visit, we observed that personnel consistently displayed an appetite for change desiring more structure and more effective communication. There are a number of thoughtful individuals throughout HIDOE and UH currently trying to lead changes that smooth out some of the issues we have outlined above and addressed below. With those advantages in mind, our recommendations address areas where our external perspective can provide especially useful guidance. What follows are our recommendations, organized based on which entity they apply to, along with a suggested timeline.

1. **Establish and utilize a set of core principles (Immediate and ongoing).** Within Hawai`i, Hawai`i P20, the UH, and HIDOE should all consider establishing a set of “core principles” to guide their work. These first principles will likely look similar across agencies, but their utility comes from constantly and consistently applying them. These core principles help establish boundaries and set priorities around data use and the processes needed to ensure data integrity. Suggestions for these core principles include:
a. Data and technology are components in service to the overall mission of the agency, not the end product of the agency.

b. Be clear about the distinction between data for longitudinal policy research questions and transactional day-to-day data. Each is important, but both need to be managed in appropriately different ways.

c. Communicate widely, clearly, and often. Everyone must know the “rules” regarding data, their use, enforcement of data policy, and methods of redress or conflict resolution.

d. The “command and control” regarding data elements, data stewards, applications and their use of data, enforcement of data policy and methods of redress or conflict resolution must be clear, unambiguous, and enforced. Some office, unit, or individual must have final decision-making capability.

Hawai‘i’s P20 and Hawai‘i’s SLDS

The recommendations for the SLDS recognize that its development falls under Hawai‘i P20’s responsibility, but that this task is not the only important part of Hawai‘i P20’s mission. Therefore, it may seem as though these recommendations refer to the SLDS effort as a distinct activity. Hawai‘i P20 has the interest, the expertise, and the endorsement from principal stakeholder groups to take the leadership role in the development of Hawai‘i’s SLDS.

2. Independence for the SLDS (Ongoing review). There are many good reasons for locating Hawai‘i P20 and its responsibility to lead the SLDS development effort within UH, namely that it makes sense to capitalize on the enterprise-wide technological resources the UH already has in place to support and secure the sensitive data contained within the SLDS, rather than necessitating a new infrastructure to fulfill that essential purpose. In the short term this is the best solution, but it need not preclude the state from making the SLDS – and perhaps Hawai‘i P20 as a whole – an independent entity. The principle reason for doing so is to insulate the SLDS and its products from accusations of subjectivity. Its current location organizationally directly under the UH’s Executive Vice President for Academic Affairs/Provost, may lead to a perception that it may not be completely objective. In the politics surrounding the release of the initial College and Career Readiness Indicators reports, there is some evidence that Hawai‘i’s educational community is keenly aware of the potential of longitudinally linked data to change the power dynamics in the state. Accordingly, Hawai‘i P20 could benefit from having the obligation and authority to independently produce policy-relevant analyses from the SLDS without having to answer to accusations that it unfairly represents the interests of one educational sector at the expense of another.
The value of independence for an SLDS is evident from Washington’s experience. Rather than locate its SLDS within one of the educational sectors or institutions, Washington created the Education and Research Data Center (ERDC) and housed it within the state’s Office of Financial Management, an influential state agency with broad authority over other state agencies. ERDC was established as an educational entity to allow it access to educational records under FERPA, and its charge is to develop and manage Washington’s SLDS and to analyze the data. Seated where it is, it has the political clout to compel cooperation among the various parts of the state’s relatively complicated educational infrastructure, while remaining independent from any one of the sectors.

The ERDC model demonstrates one way of creating an independent but politically connected SLDS. Hawai‘i’s less complicated state structure probably makes the full-featured Washington model unnecessary, but Hawai‘i can learn from the example without adopting Washington’s approach in its entirety. The SLDS still needs access to extensive enterprise-wide technological support and security, which is a central reason why UH was designated as the “host” for Hawai‘i P20 and the SLDS. Yet UH is not the only option – HIDOE may also have sufficient resources and capacity, and is implementing a federal grant to expand its own longitudinal data system, but the issue of where the SLDS should reside among those two education entities, and potentially other state agencies with sufficient capacity, highlights the virtues of independence for the SLDS.

A possible solution may be to relocate Hawai‘i P20 as an independent research center at UH that obtains support from UH for its technology needs and other administrative overhead needs, while being governed by an independent body and receiving operational appropriations directly from the state. Such a structure could potentially provide the kind of independence needed for Hawai‘i P20. As the SLDS develops, the data governance model outlined in Hawai‘i’s ARRA application provides an ideal roadmap forward. But without the resources of the grant, it may be necessary to limit the committees to two: one that establishes policy and guides the SLDS in its activities to define and prioritize the research agenda, and one to serve as a technical advisory group.

3. **Focus the SLDS tightly on policy-relevant and strategic planning uses of data (Within a year).** With its SLDS activities serving as an impetus, Hawai‘i P20 is to be commended for its leadership in helping to push the data governance conversation forward within both HIDOE and UH. At times, that conversation seems to have been dominated by both agencies’ need to better manage and use their own transactional data systems for operational purposes, although that is vitally important work if the SLDS is going to have a steady supply of high-quality data from them. Nevertheless, we recommend that the SLDS’s principal long-term
focus should be on the collection, analysis, and interpretation of data extracts for longitudinal policy and practice improvements and statewide strategic planning. It should not be a core function of the SLDS to wade into agency-, campus-, or school-level dialogues about how operational data are turned into information for day-to-day decisionmaking. Such discussions, as witnessed by the unresolved debate surrounding the COGNOS implementation (to cite one prominent example), should be internal matters for each agency and are likely to distract from the SLDS’s core mission. Too much involvement in any one of the sectors also has the potential to undermine perceptions of the SLDS’s independence.

In the short-term, it may be necessary in an environment of constrained state resources, and given the still-pressing need to coordinate the collection and linkage of high-quality data within the state, for Hawai‘i P20 to continue facilitate and observe the individual agencies’ efforts to develop effective data governance that includes operational data systems. But the goal for the SLDS should be to move toward a more narrow focus on the matching of research-ready data policy-relevant analysis as quickly as possible.

4. **Find ways to put data together for policy research and publicize it as quickly as possible (Immediate).** One of our interviewees described how fixing problems with the data become much higher priorities when the problems are known to key decisionmakers in the state or the agency. Hawai‘i P20 already has some experience with whetting policymakers appetites’ for longitudinal analyses, but in the process they also found out how threatening the data can be for some entrenched groups. A tendency therefore is to hold off on releasing information to ensure that everything is completely above reproach. But getting the data out, perhaps in a limited way, can help create the impetus to clean up the data quality and lead to productive policy discussions. As Hawai‘i P20 wrestles with when and how to release information, it is worthwhile to remember that, to the extent the educational outcomes being produced in Hawaii is not satisfying the state needs, the longitudinal analysis probably should be a disruptive force for change.

**The Department of Education and the University of Hawai‘i**

Both educational agencies are only recently embarked on efforts to become more intentional about data governance. Our interviews suggested that progress is being made more slowly than is ideal as the leaders struggle to raise the profile of data governance internally and shift cultures that have been years in the making.

5. **Build clear and unambiguous data governance structures within the various agencies supplying data to the SLDS (Within six months).** Generally, based on what we saw in Hawai‘i, a separate data governance structure needs to be built that uses strengths of existing groups.
HIDOE has already begun this process, but within UH there does not appear to be an existing formal structure with sufficient scope and authority. Any data governance structure should include:

a. **A formal charge given by an officer or high ranking official of HIDOE or UH to the various component groups (Immediate).**

b. **Individuals identified who will be responsible and authorized to make decisions on specific data elements including which individuals can have access to what data and at what level of access (Within six months).** The data steward role being developed in HIDOE could fulfill this role, though what we have in mind are people or organizations with responsibility for raw source data. Within UH there is a policy defining data stewards and data custodians and what they are responsible for. But this policy is in place principally for the protection of personally identifiable information, rather than to intentionally clarify the roles of key individuals to sort through issues of data access and governance.

c. **Individuals identified who will be responsible and authorized to make decisions on which applications can have access to what data and at what level of access (Within six months).** Currently in HIDOE this is accomplished by the Office of Information Technology Services (OITS), and in UH it would be the purview of ITS in collaboration with the designated data element steward (these will likely be a combination of IRO and others). These application stewards must have the authority to make a binding decision to decline access depending on the situation. When the decision is communicated to the application requestor, information must also be given regarding conflict resolution procedures (see e. below). Note that the distinction between the previous item and this one is necessary because previously people would ask for new applications and be refused, but would then proceed to ask for the data elements separately, but the combination of these two groups provides a useful set of checks and balances. It is critical that data stewards for individual data elements give the application stewards notice when requests are made for data to be loaded into potential new technological applications. And, it would be useful to begin publicizing a required review for new applications at some reasonable time from – perhaps six months – prior to going “live” to allow both data stewards and application stewards to adequately review the requests. We were informed that a process for application review and approval was under development at UH and we endorse such an activity, provided that it is integrated into the overall data governance discussion involving IRO and other members of the stakeholder community.

d. **Coordination of a dialogue that captures the sometimes-conflicting needs of transactional data users and data for policy formulation and strategic planning**
(Ongoing). HIDOE has taken steps to begin this dialogue with the appointment of a data governance director, although this distinction could receive more attention so that data users throughout the organization understand the various purposes to which data are put. UH does not have a functioning group in this position currently, although (as we discuss further below), we believe that IRO’s ability to be this group within UH needs to be re-established and enforced.

e. Coordination of ongoing training and facilitated dialogue among data providers and other stakeholders concerning data governance (Ongoing). HIDOE is in the process of developing a data ethics course that they plan to offer to school employees who enter data. Such an approach is costly in time and resources, but is vitally important as a way of cleaning up persistent problems of data quality at the source before they become harder to identify. Delivering such training via webinars, large gatherings, and other efficient approaches would be good options, but in order to get full compliance, the training should be accompanied by clear messages about the importance of data integrity and governance to school principals within HIDOE and academic departments and student services offices at UH.

f. A method for conflict resolution (Within six months). Because decisions by data stewards and application stewards are to be binding, there must be some method for redress or complaint. Therefore, a formal and widely publicized conflict resolution method should be developed where these cases can be referred to the larger data governance committee within UH and/or HIDOE.

g. Open and transparent communication (Ongoing). This should be characterized by careful recordkeeping to address who has been granted access to what data and for what purpose. Better communication should be a clearly defined responsibility of the steward roles as well, and this communication should be both internal within each agency and external to other stakeholders and the SLDS.

h. Finally, a data audit process (Within six months and ongoing). Such an activity would regularly examine how the policies and procedures around data security, collection, and usage are working. To be fully effective, it would also need enforcement authority through which it could help compel adherence to those policies and procedures.

6. Formally comprise a standing UH Data Governance Working Group (Immediate). As we recommended in a short memorandum prepared for the October 2010 UH Board of Regents meeting, UH should establish a high-level data governance working group. This group would differ from the previous one in that, at least as conceived, have a relatively narrow
charge. That charge in its essence would be to change the culture around data use at UH from a loose, uncoordinated set of activities to a culture of evidence based on careful and intentional planning. Given the growing importance of evidence in making institutional and state policy, the group should have authority from the highest levels of UH leadership to:

1. raise the profile of the issue among managers throughout the system;
2. purposefully examine how the UH’s operational data systems can meet immediate needs while also providing high-quality data for reporting and research purposes;
3. assign and convene those with responsibility for intentional data governance planning and implementation;
4. review existing paths through which data can be accessed and manipulated and map how various reports and management support tools access data sources;
5. conduct an audit of policies related to data use and reporting to identify any barriers to data integrity, inefficient procedures, and unintended consequences; and
6. establish ground rules; operating principles; a process for approving access to and use of data; and how the process will be enforced, which should also address how conflicts should be resolved.

Already individuals within the system office have recognized the need for this conversation and recently began meeting as an ad hoc working group. Their efforts to start this conversation centrally are on the right track, but the group needs broader representation from stakeholders, particularly from among the campuses, and membership should not be so large as to render the discussion unwieldy and unlikely to lead to change.

7. **Clarify the mission for the UH’s Institutional Research Office (Immediate).** With new leadership preparing to take the reins at IRO, now is an ideal opportunity for clarifying its mission and its relationships with the sector-level (four-year and two-year) and campus-level institutional research functions, ITS, and the SLDS being developed by Hawai‘i P20. We endorse the recommendations made in the February 2010 report by SHEEO that argued for IRO to be empowered as the official provider of policy-relevant research and analysis for the UH system as a whole. In this role, IRO currently bears responsibility for creating the periodic Operational Data Stores and ensuring the quality of the data captured within. At a time of diminished support and personnel changes, it has worked diligently to prepare ODS files that are accurate and timely. But in order to fully meet both UH’s and the SLDS’s needs, IRO needs more formalized authority as well as the supporting human and other resources to coordinate corrections to the data with campus-level offices. Working with system and campus leadership, IRO should also be the entity ultimately responsible for final decisions with regard to mediating and correcting inconsistencies in data definitions between
transactional and policy research use, for maintaining the ODS data dictionary, and for enforcing compliance with those definitions. In these respects, IRO would rightly be prioritizing its analytical role. Such activities would inform institution- and state-level policy, provide useful information to the faculty about teaching effectiveness and student progress, prepare reports for external organizations and the SLDS. In sum, IRO would be responsible for monitoring institutional effectiveness and, in doing so, working with UH's leadership in a continuous process to clearly articulate what institutional effectiveness is and how to measure it.

Additionally, as the central organization, IRO should continue to coordinate regular meetings of the group of community college institutional researchers and those who work as institutional researchers at the four-year campuses. There has been some significant progress in this direction, possibly helped along by the L’Orange report, as IRO has recognized the importance of its function in coordinating institutional research efforts system-wide. As IRO welcomes new leadership, it should continue to prioritize highly this coordinating role by hosting meetings at least quarterly as a critical component in facilitating joint problem-solving as well as improving communication among the offices.

8. While IRO’s chief responsibility would be to provide system-wide research capability and to deliver Hawai’i’s postsecondary education data to the SLDS, there remains a need for operational usage of data that reliance on ODS data cannot fulfill. **IRO should be engaged in discussions bearing on how transactional data are collected and elements are defined in order to ensure the meaningfulness, integrity, and continuity of ODS data drawn from the system’s transactional data systems (Immediate and ongoing).** Recent history suggests that one of the chief obstacles in making business intelligence information a reality across the system has been instability at IRO, combined with conflicting priorities and insufficient initiatives and opportunities for training. Yet it is clear that the lack of coordination is hindering the credibility of IRO among the campuses and may be helping to preserve the habit of local solutions. In this vein, IRO and campus representatives can more clearly articulate their needs for the timely information they need and how they want it to be presented to ITS, which has the technical expertise to deliver on those needs. At the risk of oversimplifying, the campuses are the ultimate “customers” of these transactional data. That should not imply that all campuses get uniquely customized systems or reports, but rather that IRO and ITS should adopt a philosophy of collaboratively assessing the campuses’ shared needs and deliver products that meet them. The delivery of transactional data should not simply be treated as a responsibility to be met by specialists in information technology, but should actively involve those who know what the data mean and how they are employed for reporting and operational use, guidance that IRO and the campuses can provide. Doing so is
likely to make the official data more stable, reliable, and timely, including that which populates the SLDS. IRO’s specific role in this effort remains to be clearly specified during the inclusive data governance development discussion we have described. But at a minimum IRO should be empowered and sufficiently resourced to proactively facilitate the conversation among the campuses about how to get their operational needs met and to work with ITS to accomplish the resulting tasks.

9. *Include the HIDOE student identifier as a variable captured in the UH’s student information system (Within a year).* Doing so will aid in matching records between the sectors. We recommend that UH explore the available options for incorporating data into its student record system by way of electronic transcript exchange. There are a number of ways in which educational transcripts may be transferred electronically, and including the HIDOE identifier in the UH student record system should be a simple matter of capturing it. In the absence of such an exchange, however, the UH should request the HIDOE identifier from students at application or from their high school of record. Capturing the identifier does not necessarily mean that it should become the one the UH uses for its own operational purposes; yet it should be included as a field to facilitate matching.

10. *Provide the HIDOE student identifier to nonpublic educational providers and early childhood educators (Within two years).* The P-3 initiative is a fruitful opportunity to expand the role of data in providing information about student experiences in early childhood. One obvious way to do that is to make it possible for early childhood providers to acquire HIDOE identifiers to assign to their students. Those identifiers would make matching students back to their pre-Kindergarten experience much easier and more exact. Similarly, HIDOE could issue identifiers to nonpublic schools who would be interested in carrying that information in their students’ educational records. This would help track students who move between public and nonpublic schools, a feature that would be especially helpful given the large number of students – including many Native Hawaiians – who attend nonpublic schools in the state.

**Labor Market Information**

Longitudinally-linked data on workforce participation is not a major focus of this report, but its value to an SLDS is hard to underestimate. Wage records, particularly through the UI database maintained by the DLIR, provide administrative information on the labor force participation of those who participated in or completed educational programs. Even though the UI wage records are fairly consistent across states and only capture a handful of relatively straightforward elements, their integration in the SLDS deserves some attention.
11. *Ensure the quality of UI wage record matches (Within a year)*. The DLIR is reluctant to correct all its UI wage records that potentially contain errors due to the burden that it would create. But for use in policy-relevant analysis, it is important to take all reasonable steps to ensure that the data are as accurate as possible. Since DLIR already compares the records of those individuals who take part in social security programs with the Social Security Administration, we recommend that it send all its records through that process to identify others that appear to have problems. When it finds them, DLIR should develop a way to systematically identify and communicate with those employers who consistently submit lower-quality data, in an attempt to improve those data.

12. *Explore the possibility of collecting occupational codes in the UI database (Within two years)*. While Hawai`i’s UI wage records capture industry codes, our national economy is evolving toward a more service-based focus where industry is less important than occupation. In a service economy, individuals and occupations are more mobile among industries and the fastest-growing occupations require higher levels of educational attainment. Furthermore, the most appropriate connection for policy makers to be concerned about is between educational program and occupation, less so the connection between educational program and industry. Recognizing how costly it is to mount a new data collection, we nevertheless recommend that Hawai`i consider following the lead of other states such as Alaska in capturing occupational codes in its UI wage records system. Such information will add significantly to the value of the workforce information provided by the SLDS once it is fully realized.

13. *Incorporate data from the FEDES system and the Department of Defense (Within two years)*. Hawai`i’s UI wage records, which do not contain information about employment in the federal government or military, cover a smaller proportion of the total labor force when compared with many other states. We recommend that, as it works to incorporate workforce information into its SLDS, Hawai`i P20 should eventually access the Federal Employment Data Exchange System (FEDES) and engage the Department of Defense in order to fill out the information it is capturing on the state’s labor force. But since so many military personnel and federal civilian employees find themselves in Hawai`i due to military deployment policy, action on this recommendation can wait until the full SLDS infrastructure is functioning relatively well.

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1 Senate Concurrent Resolution 146, 25th Legislature, 2009.
2 Act 41
3 L’Orange, H.P. *A Review of System-Wide Reporting at the University of Hawaii*. March 2009.
With the most recent security breach scheduled to be publicly disclosed at the UH trustees meeting occurring just after the completion of our site visit, WICHE and NCHEMS drafted a memo for the system’s leadership recommending that they establish the ad hoc group with a formal charge and an expanded membership as one concrete step it could take toward decreasing the likelihood of future security breaches.


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