USING NATIONAL BEST PRACTICES TO IMPROVE NEW JERSEY'S MANAGEMENT OF EDUCATION DATA

By Philip E. Mackey, Ph.D.

A Report Commissioned by the Institute on Education Law and Policy
at Rutgers School of Law-Newark
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Executive Summary

Education Data Management in New Jersey and Other States

Accurate, timely, accessible data about operations of the state's public schools are essential for sound education policymaking, including decisions affecting expenditures of billions of dollars and the lives of 1.3 million students. There are significant costs associated with collecting, organizing and disseminating such data. But, as one education data specialist puts it, one-tenth of one percent of the state education budget is a cheap price to pay for good information about how to spend the other 99.9 percent. The arrival of a new administration in Trenton presents opportunities for correcting years of neglect in the state's management of education data and beginning a new era of openness and accountability.

Many knowledgeable observers give the New Jersey Department of Education (NJ DOE) poor marks for its management of education data. Critics include data users outside the department and some NJ DOE staff, who cite severe data management problems, many of which have existed for at least ten years. Today, the department still has no centralized repository – indeed, has no record – of all the data it has available. Departmental sources suggest that, in the absence of a centralized data system, mid-level managers have tended to create their own small-scale, project-specific databases, which may now number in the thousands.

Other states, such as Georgia, Michigan, Ohio and Texas, are far ahead of New Jersey in developing effective information management systems. In two states, reformed systems have been positioned outside the state department of education. A Georgia statute of 2000 authorized Georgia Institute of Technology's State Data and Research Center to collect, maintain and disseminate the state's education data, under the guidance of a steering committee appointed by the governor. In Michigan, a gubernatorial executive order of September 2000 established the Center for Educational Performance and Information, a new, independent state agency, as "the single source for all Michigan educational data."

States that publish quality education data may receive added benefits from such organizations as Just for the Kids (JFTK), which provides a rich array of school comparison information in Texas. If New Jersey instituted a student tracking system, as many other states have done or are doing, JFTK, or an organization like it, could compare schools with similar student populations, in order to find performance gaps, identify high-performing schools and investigate promising practices.

Reforming an education management system is an expensive, multi-year process. **But costs of *not* reforming such systems are arguably far greater. These include DOE and district staff time wasted in collecting, managing and disseminating data that are redundant, unnecessary or inefficiently reported, plus time and dollars wasted – and children miseducated – because policymakers do not have access to data they need to make good decisions about the expenditure of billions of educational dollars.**

NJ DOE has studied what other states have done and has outlined a suitable set of tasks for improving its system: identifying core data elements; surveying districts about how they manage data; identifying appropriate software for DOE and district use; establishing a student tracking system; developing a state database to hold the data; ensuring district compliance with new data collection requirements and protocols; and training district personnel in procedures to insure accuracy. NJ DOE envisions a system that would begin with a student database and would add staff and finance data sets over time.

NJ DOE has developed these plans without consultation with data users, adhering to its traditional attitude that the only important data needs are those of the department and districts. In future planning, NJ DOE should convene an advisory committee representing a broad spectrum of the state's data users. The committee would advise on all activities associated with developing an effective information management system, starting with identification of a core data set.

NJ DOE staff have not had the resources to do the study and planning necessary to determine costs and timelines for their proposed system. But given the history of NJ DOE data management and the inertia of state bureaucracies, the department does not seem likely to reform itself unless the commissioner makes reform a high priority, secures buy-in from senior staff, and allocates additional resources, probably including additional staff, to the task. One estimate is that, with such leadership and support – and a minimum of bureaucratic resistance – NJ DOE could have all the components of a new system in place by the end of 2008.

If New Jersey followed the Georgia and Michigan models, reform would be centered outside the NJ DOE, in a new state agency, an existing state agency, such as the New Jersey Office of Information Technology, or in an academic center, such as the Rutgers Center for Government Services. If adequately staffed and funded, such a new data center might be able to have a new system fully operational by the middle of 2007.

NJ DOE Collection And Dissemination Of Data

Most of NJ DOE's data reports and publications contain flaws that undermine their usefulness. Some other states do a much better job. The NJ DOE (or a new education data management center), in conjunction with a broadly based advisory committee, should consider a wide range of improvements and include necessary data requirements in the department's new core data set. Efficient dissemination should include consolidation and pruning of today's reports, resulting in a single Web-based system that presents useful comparative data, but also empowers users to manipulate data to answer their own questions and produce their own unique reports.

Major Recommendations

1. The NJ DOE should designate a single point of contact for all internal and external data requests, and require all data sources to keep the designated staff member fully informed about available and forthcoming data. NJ DOE should also create an information request page on its Web site for submitting requests. The contact person should prioritize requests and, within those priorities, fill them on a first-come, first-served basis; provision should also be made for recurring needs of education organizations.

2. NJ DOE should create an information management advisory committee, including key NJ DOE staff, school administrators, state policymakers, researchers, representatives of statewide associations and other education data users. The goal of the committee should be to facilitate planning and networking necessary to achieve optimum collection and dissemination of essential data.

3. If New Jersey is to pursue an internal NJ DOE route for improving the data management process, the governor, commissioner of education and legislative leaders should aggressively support NJ DOE efforts to secure necessary legislation and funding, and the commissioner should declare reform a high priority, set a goal to complete it within six years, secure buy-in from senior NJ DOE staff and allocate additional resources, probably including additional staff, to the task.

4. If New Jersey is to pursue an external route for improving the data management process, the governor should appoint a blue-ribbon commission, including legislators, NJ DOE and other experts, business leaders and data users, to review pros and cons of various external education data management sites, choose the best site, shape plans for the new center and estimate costs. The governor should then propose legislation to establish and fund the recommended site as the state's education data center.

5. NJ DOE should strive to provide data necessary for establishment of a Just for the Kids reporting system in the state in an early phase of its education data management improvement process.

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The purpose of this report is to recommend improvements in New Jersey's collection and dissemination of education data, in light of "best practices" in other states. Accurate, timely, accessible data about operations of the state's public schools are essential for sound education policymaking, including decisions affecting expenditures of billions of dollars and the lives of 1.3 million students. The arrival of a new administration in Trenton presents opportunities for correcting years of neglect in the state's management of education data and beginning a new era of openness and accountability.

There are significant costs associated with collecting, organizing and disseminating education data. But, as one education data specialist puts it, one-tenth of one percent of the state education budget is a cheap price to pay for good information about how to spend the other 99.9 percent.

The report consists of two sections. The first section reviews the New Jersey Department of Education's (NJ DOE) management of education data, describes highly regarded information management systems in other states and makes general recommendations about how New Jersey might become more like the leaders in this field. The second section discusses and makes detailed recommendations about specific NJ DOE data products.

I. EDUCATION DATA MANAGEMENT IN NEW JERSEY AND OTHER STATES

EDUCATION DATA MANAGEMENT IN NEW JERSEY

Many knowledgeable observers have long criticized the NJ DOE's management of education data. A March 2001 meeting of researchers, advocates, representatives of local districts and other data users, convened by the Public Education Institute, The Commission on Business Efficiency in the Public Schools, the Education Law Center and Citizens for Better Schools, confirmed the need for reform of current practices. In describing the problem, they agreed that:

- Many New Jersey education data users have experienced difficulty in acquiring NJ DOE data that are vital to their efforts to operate, assist, reform, study or understand public schools. Some vital data are not being collected at all; some data exist, but not in a useable format; and other data exist in a useable format but are not released because of policy considerations.
- Absent an efficient system of education data management, it is difficult to track student performance and school system accountability data that are essential to school improvement.
- Some NJ DOE employees express difficulty in understanding what data the department collects and how to get data from other parts of the organization.

- NJ DOE personnel acknowledge that the NJ DOE collects redundant information from districts, in part because there is no office or committee to screen data needs and data collection instruments.
- Many data users regard the NJ DOE Web site as poorly organized and indexed, making it difficult to find useful information.
- The NJ DOE has no integrated data collection, storage and dissemination policy.
- The NJ DOE seems unable or unwilling to provide data that are required for effective Abbott implementation, such as early childhood education and facilities data.
- The root problem is not a lack of talent or dedication on the part of NJ DOE data management staff, but the resources that NJ DOE devotes to data management as a matter of departmental policy.

As suggested by several of these findings, some well-informed NJ DOE staff are themselves highly critical of the organization's information management system, citing severe data management problems, many of which have existed for at least ten years. Documentary evidence supports these claims. A comprehensive NJ DOE "Information Management Study," conducted in November 1991, cited such problems as:

- lack of long-range planning to identify, coordinate, control and meet the department's data needs;
- lack of knowledge among staff about what data resources are available within the organization;
- duplicate data collections;
- lack of data standards and definitions, which prevents consistency in the reporting and use of data; and
- unrealistic data collection timelines that pose a burden to respondents.

Opinions expressed in an internal NJ DOE memo of 1997 suggest that there had been no overall improvement in the six years following the study:

- data resources available department-wide are unknown;
- no determination can be made regarding the programmatic effectiveness or cost-efficiency of these resources;
- the department lacks a comprehensive and coherent plan to manage its information resources; and
- many of the present data collection requirements appear to be little more than a bureaucratic exercise.

Today, the department still has no centralized repository – indeed, has no record – of all the data it has available. Department personnel say they don't know who has what information. Departmental sources suggest that, in the absence of a centralized data system, mid-level managers have tended to create their own small-scale, project-specific databases, which now may number in the thousands.

Recommendation: The NJ DOE should designate a single point of contact for all internal and external data requests, and require all data sources to keep the designated staff member fully informed about available and forthcoming data. NJ DOE should also create an information request page on its Web site for submitting requests. The contact person should prioritize requests and, within those priorities, fill them on a first-come, first-served basis; provision should also be made for recurring needs of education organizations.

EDUCATION DATA MANAGEMENT IN OTHER STATES

Clearly, it will take a major, multi-year effort – and a fundamental change of priorities at the NJ DOE – to create the efficient, integrated data management system that the department and New Jersey education data users require and deserve. Fortunately, many other states have developed, or are in the process of developing, systems of the kind we need, so there are many models to explore and many consultants who have experience in helping create effective systems in other states.

Thus, if we ask what a reformed system might look like, the Michigan Education Information System (MEIS) provides an excellent example. Michigan's pre-MEIS situation, as described in a Michigan Department of Education (MDE) document, certainly sounds like New Jersey's present system: access to information was "crude and underdeveloped"; departmental data was kept on "various personal computers, client servers, mainframes, and even in file cabinets"; data was duplicated elsewhere in the department and in other organizations to a degree that was "expensive and very dysfunctional" (www.cepi.state.mi.us/files/meiswarehouse.pdf).

To remedy this situation, the MDE created MEIS in 1996 to gather school data via the Internet, manage them in a secure data warehouse and make them accessible to the educational community. MEIS describes the warehouse concept as:

> a combination of technology, methodology and collaboration that enables better policy-making and other decision-making. It encompasses the management of several data sets, their conversion to informational data, and the timely presentation of that informational data to a policy maker in a format of choice. It allows policy makers to move from guesswork to validation to decision-making regarding student achievement, financial management, curriculum design, and teacher quality issues (www.cepi.state.mi.us/files/meiswarehouse.pdf).

The key to any warehouse is that all fields of data can be related to all other fields and, so, can be manipulated to produce a wide variety of reports. Developing MEIS required Michigan to create a system of unique identifier codes (UICs) for every student in order to link student status data (e.g., UIC, grade level, teacher, school, date of birth, gender, age, race) and student performance data (e.g., UIC, results of statewide assessments, AP results, SAT results). Other links relate these two data sets with the other data sets in the warehouse – building data, professional staff data, financial data, higher education data and external data (e.g., census and US DOE data). The MEIS warehouse is described in detail in Appendix B and at www.cepi.state.mi.us/files/meiswarehouse.pdf.

MDE contracted with a vendor to create an algorithm for assigning a unique, 10-digit identification code to each student (other states have used social security numbers for most students and created alternate UICs for students whose families objected). Using this approach, the computer controls the characteristics and confidentiality of UICs, and neither district nor MDE staff need to know the identifier.*

The Michigan experience shows that moving to a data warehousing system can be a long and complicated process, involving development of common data definitions, identification of fields to be maintained, development of hardware and software systems, extensive training for DOE and district staff, pilot tests and parallel data collection using old and new systems before relying on the new. MEIS, begun in 1996, will not be even partly operational until February 2002, when its student data base component will complete its multi-year phase-in (some Michigan observers thought this process took far too long; see below).

MEIS is only one of many ambitious data management programs that have been initiated by other state departments of education. Ohio's Education Management Information System (EMIS), for example, stresses the capability to generate school-level expenditure reports, but has just begun development of a statewide student identifier system. EMIS, with 202 fields, was initiated by statute in 1989, started collecting data in 1992 and was continuously refined through 1998. Texas' Public Education Information Management System (PEIMS) had its origin in the appointment of a task force in 1984 and began collecting some data sets in 1987-88, adding others in subsequent years. It now contains 152 fields. Florida and Missouri are also in the process of developing single student record systems.

Georgia provides a more recent and quite different model. There, in 1999, a lengthy study by Andersen Consulting analyzed whether the Georgia DOE should "build or buy" student information and fund accounting systems. The consultants' report recommended abandoning the DOE's antiquated DOS-based technology, purchasing new hardware and software and merging data from the two systems in a data warehouse managed by the DOE. While there are many differences between the Georgia and New Jersey situations, the consultant report is valuable in showing how such a transition is implemented (www//techservices.doe.k12.ga.us/technology /techbuildbuy/SISBuildBuy.ppt; see especially pp. 40-42, 47-53).

But when the data management issue became part of omnibus education reform legislation in 2000, there was an important departure from the report's recommendations. The legislation, enacted into law as "The A Plus Education Reform Act of 2000," created an Office of Education Accountability outside of the DOE (on the theory that the DOE could not be an unbiased evaluator of its own performance). It also authorized the State Data and Research Center (SDRC) at Georgia Institute of Technology to develop, operate and maintain the state's student information system, along with a fund accounting system and a salary data system, under the guidance of a steering committee appointed by the governor. In short, when the system begins

* A helpful discussion of systems for assigning unique student identifiers can be found in *Building an Automated Student Record System: A Step-by-Step Guide for Local and State Education Agencies*, National Center for Education Statistics, National Forum on Education Statistics, 2000. Ohio's April 2001 RFP for its new student identifier system is at www.ode.state.oh.us/emis/information/SSID_RFP_wo_supplements.pdf.

operation, in mid-2003, the university-based SDRC will be in charge of collecting data from local school systems and disseminating them to users, who will include the Georgia DOE. Georgia sources report that the DOE opposed this plan, but could not overcome the governor's determination to create an independent accountability system and the sense that the department had failed to establish a workable information management system in the past.

The Georgia model may have influenced Michigan's governor, who carried reform in his state to a new level with his executive order of September 28, 2000, establishing the Center for Educational Performance and Information (http://michigan.gov/cepi/1,1607,7-113-985-3619--,00.html). The Center, known as CEPI, is an independent state agency, funded with an initial $10 million appropriation. Its purpose is to collect, analyze and report educational data for use by policymakers, administrators and parents in assessing the scholastic, financial and operational performance of public schools. In September 2001, a year after its inception, CEPI had 28 employees, including former data management staff of the Michigan DOE, had taken over management of the Michigan Education Information System (MEIS) and was overseeing the operation of Standard and Poor's School Evaluation Services in the state (see footnote, page 12).

The governor's official reason for creating CEPI was to "improve the quality and availability of Michigan educational data." But sources at CEPI suggest that part of his motivation was the sense that the DOE had been too slow in developing MEIS, begun in 1996, but with its first component not scheduled to be operational until February 2002. Today, CEPI is slowly growing as it continues taking over education data management functions of the DOE and other state agencies. CEPI staff anticipates that all five components of MEIS will be in-house and operational by December 2002, when CEPI will become "the single source for all Michigan educational data."[*]

The costs of systems in leading states are not generalizable because they vary with the year of implementation (over time, inflation increases some costs, while computer hardware improvements reduce others) and with the nature of the data management systems they replaced. Texas, acting in the mid-1980s and building on a previous system of some complexity, budgeted $11 million for planning and developing PEIMS and $3 million per year for maintenance. Ohio has spent an estimated $79 million on EMIS between 1989 and 1999. Georgia has appropriated $50 million since mid-2000. Michigan is spending $10 million to establish its independent Center for Educational Performance and Information.

The cost of *not* implementing such a system is not easily quantifiable, but is, no doubt, very large. It includes DOE and local district staff time wasted in:

- gathering and reporting redundant or unnecessary data;
- gathering and reporting necessary data in an inefficient way (one of Michigan's five new core data sets is projected to replace 16-18 data collection forms);
- searching for data that have been reported, but cannot be located; and
- manipulating data that are reported in an inefficient way.

[*] For more information about CEPI, see its Web site at www.cepi.state.mi.us.

More importantly, the cost of inadequate systems includes time and dollars wasted – and children miseducated – because policymakers do not have access to data they need to make good decisions about the expenditure of billions of educational dollars.

HOW CAN NEW JERSEY CLOSE THE GAP?

Clearly there is a wide gap between education data management in New Jersey and in states that are leaders in the field. There are two basic routes for closing that gap. One is for the NJ DOE to reform itself ("internal reform"), and the other is for outside leadership to catalyze change ("external reform"). The chief impediment to internal reform is the inertia of an organization as large and bureaucratic as the NJ DOE. The chief impediments to external reform are the almost unprecedented action of moving a traditional New Jersey departmental function outside of the department and the problem of identifying or creating a suitable outside agency to take on the task.

Internal Reform

The NJ DOE's long-range technology plan of July 1999 shows the department's recent approach to its data management problems, including plans to develop a single student record system. Specific strategies were:

3.4.1 The DOE IT [Information Technology] Strategic Planning and Implementation Team will develop comprehensive recommendations for appropriate scope of consolidation of existing summary-level data collections to unit-level collections of data on students, staff and school financing by April 1, 2000.

3.4.2 The DOE IT Leadership Team will form a project team with appropriate business and IT representation by April 1, 2000.

3.4.3 The project team will create a Planning Stage Schedule by June 30, 2000, to include, at a minimum, the following topics:

- Requirements analysis;
- Inventory of existing Local Education Agency (LEA) information systems and their capabilities;
- Feasibility of requiring LEAs to submit standard data record;
- Feasibility of requiring LEAs to submit standard data in standard format;
- Feasibility of requiring LEAs to use information system vendors/products recognized as compatible by DOE;
- Technical alternatives for transmission of standard data records;
- Preliminary architecture requirements determination (transaction volume and frequency, database sizing);
- Preliminary comprehensive cost estimates;
- Preliminary Schedules for the Database Design, Configuration Design, Application Design, Coding, Testing and Implementation Stages.

3.4.4 Following review and approval of the Planning Stage Deliverables and no later than September 31, 2000, the DOE IT Leadership Team will identify funding and internal support.

But this plan, with its focus on technology, failed to address the essential activity of defining the core set of data that NJ DOE is to collect and lacked any mechanism for the kind of cooperative planning with data users that is vital in designing effective information management systems. Historically, the closest the NJ DOE has come to this sort of consultation was the Local Education Agency Data Collection Review and Approval Committee, active in the late 1970s and 1980, but now defunct. The committee, whose members included NJ DOE personnel, local district administrators and spokespersons for teachers, administrators and school boards, functioned as a gatekeeper, evaluating the merit of existing or proposed department and other data collections relative to the burden they imposed on local districts.

Assistant Commissioner Jeffrey Osowski, head of the Division of Information and Management Services, reports that lack of adequate resources prevented NJ DOE from carrying out the long-range plan of 1999. In September 2001, he reported that the department's current plan, based on models in other states, was to develop a system that would begin with a student database and add staff and finance databases over an extended period of time. This plan called for:

- identification of core data elements;
- creation of a data dictionary to define the elements;
- surveying districts about how they now manage student data;
- identifying software that can provide the necessary formats for districts whose present systems are incompatible with new state data collection requirements;
- assignment of unique state-generated IDs to individual students;
- development of the state database that will hold the data;
- ensuring that districts comply with the new requirements; and
- training district personnel in procedures to insure accuracy.

While this plan includes or implies all the right steps, including the long-ignored process of identifying core data elements, Osowski is unable to say what it would cost or how long it would take, issues that the long-range plan of 1999 indicated would be resolved by June 30, 2000. This is because NJ DOE did not get a $1 million appropriation that it sought to study how the system would be put into place. Osowski sees a need for legislation that would mandate the system – giving NJ DOE more leverage with districts – and provide money for NJ DOE costs, plus district hardware and software. He envisions departmental lobbying activities in early 2002, resulting in legislation that would appropriate money in fiscal year 2003.

Osowski says that he welcomes support and input from data users, but rejects the idea of an advisory committee that combines NJ DOE staff and district staff with external users, in part because he believes that such a group would generate an unmanageable number of demands. He prefers a process where external data users determine what they want and convey their desires to the department, but this removes the valuable give and take – and the "buy-in" from participants – that would occur in a broad-based advisory committee. This is part of a long-standing NJ DOE attitude that the only important data needs are those of the department and districts.

If the NJ DOE is serious about its information technology mission to provide the public with "ready access" to useful and accurate information, it needs an advisory committee representing a

broad spectrum of the state's data users. The committee would advise the NJ DOE on all the activities associated with planning and implementing an effective information management system, starting with identification of a core data set. After the new system was in place, the committee would continue to act as a forum for discussion of refinements and new concerns.

Recommendation: NJ DOE should create an information management advisory committee, including key NJ DOE staff, school administrators, state policymakers, researchers, representatives of statewide associations and other education data users. The goal of the committee should be to facilitate planning and networking necessary to achieve optimum collection and dissemination of essential data.

Given the history of NJ DOE data management, the department does not appear capable of achieving internal reform within a reasonable period of time unless the commissioner makes reform a high priority, secures buy-in from senior staff, and allocates additional resources, probably including additional staff, to the task. Even then, the bureaucratic nature of NJ DOE may slow and perhaps defeat the effort.

Timeline for Internal Reform

Assuming that the size and culture of the NJ DOE slows, but does not cripple, the reform, a hypothetical timeline is:

Jan-Apr 2002	Commissioner secures gubernatorial and legislative support for legislation that will authorize and fund a new data management system; declares reform a priority; ensures that senior staff share his concern; and authorizes formation of an information management advisory committee, including key NJ DOE staff, other agency staff, school administrators, state policymakers, researchers, representatives of statewide associations and other education data users
May 2002-June 2003	NJ DOE hires additional staff as necessary; plans (with help from the advisory committee) core data elements, software, hardware, district needs, data warehouse, single student record system, other systems, Web-based reports, training;
June 2003	NJ DOE begins implementation of plan (drafts RFPs, awards contracts, etc.)
June 2005	First component of new system operational
Dec 2008	All components of new system operational

Recommendation: If New Jersey is to pursue an internal NJ DOE route for improving the data management process, the governor, commissioner of education and legislative leaders should aggressively support NJ DOE efforts to secure necessary legislation and funding, and the commissioner should declare reform a high priority, set a goal to complete it within

six years, secure buy-in from senior NJ DOE staff and allocate additional resources, probably including additional staff, to the task.

External Reform

The Georgia and Michigan experiences, described above, suggest other models for reform. In Georgia, the governor led a campaign to locate the principal education accountability function outside the department of education, a change that included moving education information management to the State Data and Research Center (SDRC) at the Georgia Institute of Technology. What are the prospects for a similar system in New Jersey?

It is certainly possible that a New Jersey governor could make the same strategic decision as Georgia officials, that, in view of the importance and costs of public education, the department that manages the system is ill-suited to gauge its own accountability. Indeed, the NJ DOE, like the Georgia DOE, has encouraged such a move by its past record in information management and by such managerial "lapses" as failing to establish systems to track or evaluate compliance with court mandates involving Abbott districts.

It is also true that there is a precedent in New Jersey for a university-based center that houses and provides government data. The New Jersey Courts Publishing Project at Rutgers University School of Law – Camden has collected and disseminated opinions and other documents for the New Jersey Administrative Office of Courts since 1997 and has since added materials from the New Jersey Office of Administrative Law. This is a case of managers of government offices deciding that an academic center can provide information more efficiently than they can (coincidentally, the only department that continues to distribute its own administrative law opinions is NJ DOE). Of course, there is a vast difference between the static text files involved in legal opinions and the dynamic data files involved with education.[*]

But what existing New Jersey organization could collect, manage and disseminate education data, as the SDRC does in the Georgia model? There is no New Jersey equivalent of the SDRC, a large, well-established data and research organization, with a long record of managing state data (e.g., SDRC is the official census data center for Georgia). Georgians say that it was "the obvious location" for a Georgia education data warehouse located outside the department of education.

The Rutgers Center for Government Services (RCGS) in New Brunswick may be the closest New Jersey approximation, but its goals are much more limited:

- to develop materials useful as background information on New Jersey state and local government;
- to suggest and evaluate ways to improve the performance of state and local government;
- to update the representative structure of state and local government; and

[*] Information about the New Jersey Courts Publishing Project was provided by John Joergesen, Reference Librarian, Rutgers School of Law-Camden (856/225-6460).

- to develop study materials useful in continuing education programs for state and local government personnel.

RCGS frequently undertakes projects at the request of the legislative and executive branches of state government and various study commissions. Its publications include the annual *Legislative District Data Book,* the biennial *New Jersey's Public Schools* reports and a series of reports on implementing whole school reform in New Jersey. But the organization has never managed a project involving the technology planning and heavy "number-crunching" that an education data warehouse entails, and it lacks the staff expertise for such an undertaking.

A possible non-academic alternative is the Department of the Treasury's Office of Information Technology (OIT), which describes itself as an information technology consultant firm. OIT's mission is "to enable excellence in New Jersey state government through effective use of information technologies" and to "provide vision, leadership, and technical support for the state's use of information technology to help reduce the cost of government and improve service to citizens and businesses." OIT's Web site (www.state.nj.us/oit) reports that the organization:

- provides an appropriate technical infrastructure for governmental information processing and electronic communications, including networks, shared computing platforms and foundation software;
- supplies skilled technical assistance to other agencies in planning, designing and developing information systems and access tools to meet their business needs;
- establishes plans, policies and standards that promote government-wide efficiency and synergy in the use of information technologies; and
- ensures that the state's IT investments take advantage of cost-effective advances in technology and methodology.

OIT's public-private governance may make it attractive as an information management center. Its governing board is comprised of the state's chief information officer (who works in the Governor's Office) as chairman, the state treasurer or a designee, two voting members from state government executive branch agencies and three voting members who are employed by or are board members of New Jersey businesses.

Clearly OIT has the technological expertise and capacity to undertake the education information management function, but, though it manages projects for many state agencies, it does so only under their direction. It has never taken over direction of a project from a state agency. But if a governor can create a wholly new education accountability agency, as in Michigan, he or she could presumably assign a wholly new function to an existing state agency like OIT. In this case, the new component of OIT would probably hire at least some of the current NJ DOE information management staff to facilitate continuity and gain education-related expertise.

A different variation of the Michigan model could make the accountability center a new component of the Rutgers Center for Government Services (RCGS) or of some other existing academic center at a New Jersey college or university. This, like the OIT scenario, avoids having to establish a completely new administrative structure. It also has the advantage of isolating the center from direct state government control. RCGS, for example, though part of the

state university, has certainly proved its independence with recent publications critical of NJ DOE's management of whole school reform implementation in Abbott districts.

Finally, New Jersey could adopt the precise model employed in Michigan, establishing an entirely new unit of state government as the single source for all educational data. A new agency would have less bureaucratic baggage than OIT and might offer the best opportunity for rapid implementation of a new system. On the other hand, it would be a creature of the governor and might be subject to pressures to shape the system to serve political ends.

Timeline for External Reform

One hypothetical timeline for external reform is:

Jan-Apr 2002	Governor appoints a blue-ribbon commission, including legislators, NJ DOE and other experts, business representatives and data users, to review pros and cons of various external education data management sites, choose best site, shape plans for the new data center and estimate costs
May 2002	Governor proposes legislation creating new data center and appoints an advisory committee, including NJ DOE staff, other state agency staff, local district staff, business representatives and data users
July-Dec 2002	New center organizes, hires staff, plans core data elements, software, hardware, district needs, data warehouse, single student record system, other systems, Web-based reports, training
Jan 2003	Data center begins implementation of plan (drafts RFPs, awards contracts, etc.)
Oct 2004	First component of new system operational
June 2007	All components of new system operational

Recommendation: If New Jersey is to pursue an external route for improving the data management process, the governor should appoint a blue-ribbon commission, including legislators, NJ DOE and other experts, business leaders and data users, to review pros and cons of various external education data management sites, choose the best site, shape plans for the new center and estimate costs. The governor should then propose legislation to establish and fund the recommended site as the state's education data center.

A Valuable Add-On: Just for the Kids

The benefits of systems like those in place or under development in Michigan, Georgia, Ohio, Texas and other states are obvious – essential data readily available in formats that enable users, from policymakers to parents, to create a wide range of reports to support decision-making. An added benefit has been that availability of quality data has inspired some organizations to

produce whole new ranges of value-added reports for their states. The best example is the activities of Just for the Kids (JFTK), which provides Texans with a rich array of information that goes far beyond the highly regarded reporting of the Texas DOE.

JFTK, a non-profit research organization, was founded in Austin, Texas, in 1995. The organization now provides student achievement information on Texas public elementary and middle schools and is developing a high school service. In recent years, it has begun to provide similar services in other states, in cooperation with the Education Commission of the States, the Gates Foundation and business consortia in Georgia and Tennessee. JFTK:

- uses student-level data to compare schools with similar student populations in order to find performance gaps, identify high-performing schools and investigate promising practices;
- uses longitudinal data (i.e., tracking a student from grade to grade, from school to school and eventually from high school to college) to look at academic growth of continuously enrolled students;
- posts all of its reports on its Web site, free of charge; and
- trains local district leadership teams how to use JFTK data in improvement activities.

More information about JFTK is available at www.just4kids.org.*

JFTK can operate only in states that have the ability to link student records. In early 2001, there were 11 such states – Arkansas, Connecticut, Florida, Hawaii, Louisiana, Massachusetts, Minnesota, Mississippi, New Mexico, Tennessee, Texas and West Virginia – but Michigan, Georgia, Ohio, Washington, Rhode Island and others were moving in that direction. Of New Jersey's potential for participation, JFTK reports that:

> collecting student-level enrollment information from school districts and using district-supplied information to create a consistent student ID would enable New Jersey to replicate the JFTK data picture for elementary and middle schools. To

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* Two other organizations that offer expanded education data to states or districts do not require new state information management systems, but neither do they offer the unique benefits of JFTK.

> Standard and Poor's School Evaluation Services (SES) provide very extensive data for each district in states that contract with the company. Michigan reports, which cost the state $11 million per year, are already on-line at www.ses.standardandpoors.com (Pennsylvania is the only other state that had contracted with the company by December 2001). SES reports recombine already-available data from state and federal governments to examine student results, spending, return on resources, the learning environment, finances and demographics. The on-line reports allow users to compare local districts with state, county and "peer" district averages.
>
> "Results Cards," developed by the Education Leaders Council and Standards Work, Inc., are billed as "a revolutionary new means for helping states, districts, and schools monitor and report the effect of reform policies on student success over time." Results Cards focus on outputs of learning and indicators of school progress that are tied to improvements in student achievement, allowing "accurate comparisons about progress from state to state." The first reports, for states and districts that have purchased the service, were scheduled for release in fall 2001. For further information, see www.standardswork.org.

replicate the high school picture currently under development, New Jersey would also need to collect student-level course completion data from the districts.

The New Jersey corporate community has expressed great interest in establishing a JFTK reporting system in the state and has encouraged NJ DOE to facilitate this process.

Recommendation: NJ DOE should strive to provide data necessary for establishment of a Just for the Kids reporting system in the state in an early phase of its education data management improvement process.

CONCLUSION: MANAGEMENT OF EDUCATION DATA

Other states are far ahead of New Jersey in the efficient collection, storage and dissemination of education data. Beneficiaries include not just their departments of education and school systems, but all users of education data, including legislators and other policy makers, researchers, reformers, reporters, parents and taxpayers. New Jerseyans deserve a system as good as the best in the country. To get it, the state's political leaders must champion reform and establish the means to carry it out either inside or outside the department of education.

II: NJ DOE COLLECTION AND DISSEMINATION OF DATA

DATA COLLECTION

NJ DOE collects virtually all of the data it gets from local districts in 19 required, annual, data collection activities (other data collections, like the annual educational technology survey, are "unofficial" and voluntary).* The department's 2001 data collection schedule shows the medium, release date, due date and responsible NJ DOE staff member for each.

Data Collection	Medium		Release	Due	NJ DOE Contact
	Distribution	Return			
Special Ed End of Year	DOENet	DOENet	6/1/01	6/29/01	Mari Molenaar
Special Ed End of Year (Charters)	Diskette	Diskette	6/1/01	6/29/01	Mari Molenaar
School Register	DOENet	DOENet	6/15/01	6/29/01	Heather Leary
School Register (Charters)	Diskette	Diskette	6/15/01	6/29/01	Heather Leary
Report Card (Charters)	Diskette	Diskette	6/26/01	7/16/01	David Joseph
Finance Survey	Internet	Internet	7/25/01	9/15/01	Garry Everson
Audit Summary	Diskette/Internet	Diskette	8/15/01	11/5/01	Heather Leary
Report Card	DOENet/Internet	DOENet	9/3/01	9/28/01	David Joseph
Pupil Transportation	Diskette	Diskette	9/4/01	10/31/01	Linda Wells
Limited English Proficient (LEP)	Internet	Internet	9/17/01	11/16/01	Rachel Sinai
Violence and Vandalism Reporting	Internet	Internet	9/20/01	6/30/02	Tom Collins
School-Based Budget	DOENet/Internet	District Budget	TBD	TBD	Beth Brooks
Application For State School Aid (ASSA)	DOENet/Internet	DOENet	9/28/01	10/31/01	Raymond Hofelder
Debt Service	DOENet/Internet	DOENet	10/1/01	11/2/01	Andrew Hendry
Non-Public	Paper	Paper	10/1/01	1/31/02	John Lally
Fall Survey	DOENet/Internet	DOENet	10/12/01	10/21/01	David Joseph
Certified Staff	Diskette	DOENet	10/19/10	12/14/01	David Joseph
Report Card Verification	DOENet/Internet	DOENet	10/26/01	11/2/01	David Joseph
Special Ed Annual Data Report	Internet	Internet	11/15/01	12/15/01	Mari Molenaar

The most advanced and user-friendly medium is the Internet, followed by diskettes and the department's DOENet (a DOS-based application that requires special software and is "difficult

* NJ DOE staff are unable to produce a list of all the department's federal and state data collection obligations.

to use," according to one NJ DOE staff member responsible for collecting data). One data collection activity, the survey of non-public schools, still uses paper.

DISSEMINATION OF DATA

NJ DOE's chief means of disseminating data are School Report Cards (school level), Comparative Spending Guides (district level), *Vital Education Statistics* (state and county level), State Summary Reports of ESPA, GEPA and HSPT results (state and school level), assessment results reports sent to local school districts (student level), special education reports (state and district level) and State Aid Summary Reports (district level).

Report Cards

The NJ DOE has released school or school district Report Cards for over ten years; recent editions have been more or less uniform from year to year and have been released to the public in December or January. The Report Card released in January 2001, for example, contained data from the school year ending June 2000 and, for most entries, for three or four years preceding.

Elementary School Version. The elementary school version of the Report Card contains school-level data in these categories:

Facts About Our School

- Enrollment – the number of students "on-roll" in October for each grade (including pre-K, half-day kindergarten and full-day kindergarten, if applicable), plus the total special education enrollment
- Language Diversity – the percentage of students by first language spoken at home for the top seven languages, in order of frequency, and all other languages combined
- Student Attendance Rate – the average percent of students present each day
- Average Class Size – the average number of students assigned to a homeroom (excluding students with disabilities)
- Student Mobility Rate – the sum of the students who entered or exited the school after October, divided by the October school enrollment
- Student Suspensions – the number of students who received in-school or out-of-school suspensions during the school year, as a percent of total school enrollment in October
- Student Expulsions – the number of students who were expelled during the school year, as a percent of total school enrollment in October
- Student/Faculty Ratio – the reported October school enrollment divided by the combined Full-Time Equivalents of classroom teachers and educational support personnel (guidance counselors, librarians, etc,)
- Faculty Attendance Rate – the average daily attendance rates of classroom teachers and educational support personnel
- Student/Administrator Ratio – the reported October school enrollment divided by the Full-Time Equivalents of administrators

- Administrator and Faculty Academic Degrees – the percentages of administrators, classroom teachers and educational support personnel with Bachelors, Masters and Doctoral degrees
- Length of School Day – the amount of time students are present on a normal day, not including time for extracurricular activities and athletics
- Instructional Time – the amount of time students are engaged in instructional activities on a normal day
- Student/Computer Ratio – the reported October school enrollment divided by the number of multi-media computers accessible to students for instruction
- Internet Connectivity – the number of room locations that have been outfitted with an Internet connection as a percentage of the total number of each type of location

Statewide Assessment Results

- Elementary School Proficiency Assessment (ESPA) Results – the numbers and percentages of general education students, special education students, Limited English Proficient students and all students scoring at the "Advanced Proficient," "Proficient" and "Partially Proficient" levels on each subject
- Grade Eight Proficiency Assessment (GEPA) Results – the numbers and percentages of general education students, special education students, Limited English Proficient students and all students scoring at the "Advanced Proficient," "Proficient" and "Partially Proficient" levels on each subject (this indicator may appear on an elementary or secondary school report card depending on the grade pattern of the school)

Secondary School Version. Secondary level Report Cards contain all of these indicators, except ESPA results, and, depending on the grade plan of the school, GEPA results. One indicator has a completely different definition in the secondary school milieu. Here, average class size is the average number of students assigned to an English class in the school (excluding students with disabilities). Secondary level report cards also add these indicators:

Facts About Our School

- Dropout Rate – the number of students in Grades 9-12 who dropped out of school during the period July to June, divided by the October enrollment in Grades 9-12

Statewide Assessment Results

- High School Proficiency Test (HSPT) Results – the numbers and percentages of students passing each of the three sections of the test in their junior year
- High School Proficiency Assessment (HSPA) Results – the numbers and percentages of students passing each of the test sections in their junior year (not included until 2001-02)
- HSPT Class Summary Information – the cumulative numbers and percentages of students passing all three sections of the test during their junior and senior years
- Scholastic Assessment Test (SAT) Results – the numbers and percentages of students taking the test, the average score on each section and the scores at the 25th, 50th and 75th percentile for each section

- Advanced Placement Results – the numbers of students in each AP class, the numbers taking each AP test and the numbers scoring 1, 2, 3, 4 and 5 on each test

Facts About Our Graduates

- Class of 2000 Enrollment History – for the most recent graduating class, the number of students enrolled in October of their freshman, sophomore, junior and senior years
- Graduation Data – the number of students graduating by August as a percentage of the Grade 12 enrollment the previous October
- Graduation Type – the percentage of graduating students satisfying the state testing requirements by passing the HSPT, by completing the Special Review Assessment (SRA) process, completing the Limited-English Proficient SRA process and graduating exempt from taking the HSPT
- Post-Graduation Plans – the percentages of graduating students who planned to attend a four-year college, a two-year college, some other college or some other post-secondary school or to enlist in the military, seek full-time employment or be unemployed

In addition, both elementary and secondary school versions of the Report Card contain five years of district-level financial data in these categories:

- Administrative and Faculty Personnel – the number of administrators, schools, students per administrator and faculty per administrator
- Median Salary and Years of Experience of Administrative and Faculty Personnel – self-explanatory
- Teacher Salaries and Benefits – teacher salaries and benefits as a percentage of total comparative costs per pupil and the percentage change from the previous year
- Administrative Salaries and Benefits – administrative salaries and benefits as a percentage of total comparative costs per pupil and the percentage change from the previous year
- Revenues – percents of total revenues from the local tax levy, state aid, federal aid and other sources
- Per Pupil Expenditures – per pupil expenditures for key line items in the district's budget (based on the district's original budgets for the most recent two years and on actual expenditures for the three previous years), "total comparative cost per pupil" and "total cost per pupil" (total cost per pupil uses additional line items in the numerator – such as tuition expenditures, transportation, equipment and facilities/acquisition costs – and additional students – those sent out of district – in the denominator)

NJ DOE staff anticipate several major changes in forthcoming Report Cards. The 2001 edition, to be distributed in February 2002, will report statewide assessment data disaggregated by gender, race/ethnicity and migrant status. The 2001 Report Card will also use a new software package that NJ DOE staff say will enable on-line users to manipulate data in a far more sophisticated way and permit a wide range of useful comparisons. The 2002 Report Card, available in early 2003, will attempt to control for student mobility by reporting statewide assessment scores for students in the district for long and short periods of time (this is one of the requirements for reports such as those produced by Just for the Kids).

What Additional Data Should the Report Card Contain?

An April 2001 publication, *Individual School Report Cards: Empowering Parents and Communities to Hold Schools Accountable,* from the Center for Community Change in Washington, DC, analyzes all of the country's state report cards and makes sound recommendations about improvements. The study reports that 37 states have school report cards, and more are in the process of developing them. Of the 37, however, only about ten regularly offer data other than student assessment results. *Individual School Report Cards* recommends that report cards include:

- Assessment scores (fully disaggregated by gender, race/ethnicity, Limited English Proficient status, migrant status, students with disabilities compared with students without disabilities and economically disadvantaged students compared with non-economically disadvantaged students)
- Information about the quality of the school's teaching staff (as measured by average years of experience, levels of degree attainment and measures of out-of-field teaching)
- Four-year graduation rates
- Average class size by grade
- Disaggregated information on student suspensions and expulsions
- Indicators of overcrowding
- Notification of whether the school has been identified as low-performing under Section 1116 of Title I, which requires districts to identify "schools in need of improvement" and to involve parents and school officials in developing a revised plan of action to help the school meet its goals

How does the New Jersey Report Card measure up in providing these data?

Disaggregated Assessment Results. The New Jersey Report Card has not reported any of the recommended disaggregated data, though NJ DOE says the 2001 edition, to be distributed in February 2002, will contain assessment data by race/ethnicity, gender and migrant status. At least five other states' report cards already report disaggregated assessment data.

Recommendation: New Jersey Report Cards should include school-level assessment results disaggregated by gender, race/ethnicity, Limited English Proficient status, students with disabilities compared with students without disabilities and economically disadvantaged students compared with non-economically disadvantaged students. They should compare this data with averages for the district (for ESPA and GEPA only), DFG and state.

Teacher Quality Indicators. The New Jersey Report Card reports on the relatively unimportant average years of experience and degree attainment, but does not report on the critical issue of "out-of-field" teaching assignments, usually defined as instructors who are teaching subjects in which they have neither an academic major nor minor. The 1993-94 U.S. DOE Schools and Staffing Survey (SASS) shows that this was a common practice in New Jersey and the nation at the time, especially in high-poverty schools. Results from the 1999-00 SASS are due to be released in early 2002, but this report will offer only a statewide figure based on a sample, not

the school-level data that would arouse parental attention and hasten improvement. Four state report cards currently report data about out-of-field teaching.

Recommendation: New Jersey Report Cards should include the percentage of classes taught by teachers who have a major or minor in their subjects and compare school data with averages for the district, DFG and state.

Four-Year Graduation Rates. The New Jersey Report Card reports dropout data in three ways, none of them very helpful. It reports the "dropout rate" for grades 9-12 for each of the last five years and compares this figure to the state average. It reports a graduating class "enrollment history," showing the number of class members who were enrolled in October in grades 9, 10, 11 and 12, but without indicating the percentage change or any explanation of the change (and, of course, disregarding any further changes between October and June of the senior year). And it reports, in a section called "Graduation Data," the number of students graduating by August as a percentage of the grade 12 enrollment the prior October, with a note that this "is not a four-year 'graduation rate' for this class." The end product is confusion and failure to convey the enormity of the dropout problem in some districts. A Newark high school Report Card, for example, shows overall dropout rates for the past five years of 5.0, 6.4, 6.6, 7.0 and 9.6 percent; shows, in its enrollment history, that the graduating class contained 409 students in grade 9, but only 215 by October of Grade 12; and shows in its "Graduation Data" section that only 63.3 percent of enrolled seniors the prior October had graduated by the following August. Of 409 students enrolled in grade 9, it would appear that 136, or one-third, graduated four years later. Shrinking populations and students enrollments can make graduation rates seem worse than they are, but not in this school, where the overall enrollment grew by almost 200 students during the four years in question.

Calculation of accurate and consistent dropout rates is notoriously difficult, and states have adopted many different means of computing and reporting data. Many states issue report cards with no more useful information than New Jersey's. A few, however, do a much better job, among them Ohio, which calculates a four-year graduation rate for each district, disaggregates it by gender and race/ethnicity (though not by gender within race/ethnicity) and compares all figures with state averages.

Note: Some observers point out that it is difficult to get accurate dropout or graduation rate data from local districts, especially those with the worst problems, and that the process will become even more difficult if states use such data for "high stakes" decisions, such as whether to designate a school "low performing" or otherwise punish it. Texas has addressed this problem head-on in legislation enacted in May 2001, which requires districts to have their dropout rates audited annually by a certified public accountant and provides for training CPA's how to conduct such audits.

Recommendation: New Jersey Report Cards should include a four-year graduation rate (the number of graduates divided by the graduating class's grade 9 enrollment, with adjustments in accordance with federal standards), disaggregated to show separate rates for males and females of each racial/ethnic group, and comparing school data with averages for the district, DFG and state.

Class Size. New Jersey Report Cards provide very limited data about class size, an important indicator, especially in schools serving large numbers of disadvantaged children. The elementary school version reports the average number of students assigned to a homeroom, and the secondary school version, the average number assigned to an English class. Neither differentiates among grades (research suggests that small class size is particularly important in early grades). Ten states have report cards that provide some data on class size; five of these report class size by grade or subject. Connecticut, for example, reports class size in kindergarten Grade 2 and Grade 3 for elementary schools and in Algebra I, Biology I, Grade 10 English and American History for secondary schools, comparing each to socioeconomic group and state averages.

Recommendation: Report Cards should include class size data by grade for elementary schools and by subject for secondary schools; they should also compare school data with averages for the district, DFG and state.

Disaggregated information on student suspensions and expulsions. The New Jersey Report Card provides simple percentages of students suspended and expelled for each of five years compared with state averages. More useful would be figures disaggregated by gender and race/ethnicity and compared to district and DFG, as well as state averages. No state Report Card presents all this information at present, but Ohio reports disaggregated data on suspensions, with state comparisons.

Recommendation: Report Cards or the NJ DOE Web site should include student suspension and expulsion data disaggregated by gender, race/ethnicity and grade; they should also compare school data with averages for the district, DFG and state.

Overcrowding. The New Jersey Report Card contains no information about overcrowding – or about any aspect of facilities – despite a 1997 needs assessment that found that schools in Abbott districts were operating 18 percent above capacity. Overcrowding and other impediments imposed by poor facilities are vitally important and easily understandable to parents. Yet only two states – Hawaii and Connecticut – include information about the capacity or condition of schools in their report cards (Delaware includes the year the school was built, the year of last remodeling, the number of classrooms and whether the building is air conditioned).

Recommendation: Report Cards should (1) include data reflecting educational adequacy of school facilities (such as square footage of classrooms, libraries, cafeterias, science labs, etc., as a percentage of state standards); (2) compare school data with averages for the district, DFG and state; and (3) indicate plans for each school (such as demolition, new construction, remodeling, total renovation) according to the district's long range facilities plan.

Notification of Low-Performing Status. Current federal education law requires districts receiving Title I funds to identify "schools in need of improvement" and, for districts failing to improve, a series of corrective steps, culminating in state corrective action. Nine states indicate the status of such schools in their Report Cards. Ohio goes further by labeling every school in

the state as "effective," "continuous improvement," "academic watch" or "academic emergency." New Jersey Report Cards contain no data about schools identified as in need of improvement nor about their progress in reducing the performance gap.

Recommendation: Report Cards should include data about schools identified as "in need of improvement," including the status of corrective actions.

Other useful, potential additions to Report Cards, all of which can be accomplished without new data collections, include:

- Percentage of students in federally funded food programs – the percentage of students who participate in federally funded breakfast and free or reduced price lunch programs is a good indicator of poverty in elementary and middle schools and would be useful in comparing data reported in the Report Card. Rhode Island is one of the states that include this figure in their report cards, though it does not provide comparison data that would put it in context.

  Recommendation: Report Cards should show the percentage of students in federal food programs for the school, district, DFG and state.

- Children in pre-school programs – Report Cards provide no information about the progress of early childhood education in the 120 districts that receive Early Childhood Program Aid from the state.

  Recommendation: Report Cards should report the total number of eligible children and the numbers currently enrolled in full- and half-day programs, by provider (public school, community child care programs and Head Start).

- Students per counselor – many parents want to know about the availability of counselors in their children's schools; this can easily be reported in a table showing students per guidance counselor.

  Recommendation: Report Cards should include a table showing students per guidance counselor for the school, district, DFG and state.

- Whole-School Reform Model – NJ DOE requires all Abbott elementary schools to implement some model of whole-school reform, but does not mention the subject in its Report Cards.

  Recommendation: Report Cards should include information about which whole-school reform model is being implemented in each Abbott elementary school.

- An advisory note about teacher years of experience and advanced degrees – parents and taxpayers who do not understand the impact of years of experience and advanced degrees on teacher salaries sometimes become unduly concerned that their school has a higher or lower average salary than the state or a neighboring district; a note should dissuade them from making such comparisons.

Recommendation: Report Cards should include a prominent note in the "Median Salary and Years of Experience" and "Teacher Salaries and Benefits" tables stating that experience and advanced degrees are important determinants of teacher salaries.

- Beginning teacher's salary – a district's salary level for beginning teachers is an important indicator of its ability to attract talented, new teachers.

  Recommendation: Report Cards should include the beginning teacher salary for the district, DFG within region (to control for geographic differences) and state.

Another useful indicator would require new data collection. It is the percentage of students promoted to the next higher grade, disaggregated by gender within each racial/ethnic group and comparing school data with averages for the district, DFG and state. Ohio reports most of this data for the fourth and sixth grades, while Connecticut reports the percentage of students retained in grade, compared to socioeconomic group and state averages.

Recommendation: Report Cards should include school-level data on the percentage of students promoted to the next higher grade, disaggregated by gender within each racial/ethnic group and compared to district, DFG and state averages.

What Report Card Data Can be Omitted or Reduced?

On the other hand, some data now reported can be omitted or revised:

- Revise Statewide Assessment Results – reporting results for "all students," in addition to general education, special education and limited English proficient students, is confusing to users who compare the "all student" figures with schools and districts enrolling different percentages of special education or limited English proficient students; the all student category should be dropped
- Drop or Revise SAT Results – it is a questionable practice to include SAT results as part of a report card on school performance, since the Education Testing Service "strongly discourages" using them to compare schools or districts, calling the practice "not valid"; if SAT scores are retained, Report Cards should at least warn users about the problem of comparing averages of schools and districts where different percentages of students took the test
- Revise AP Results – the current practice of reporting the number of students scoring at all five levels is overly detailed and provides no basis for comparison; reporting percentages of students scoring 3 or above solves both problems
- Omit Class of 2000 Enrollment History – this indicator will be superceded if a new graduation rate indicator is added, as suggested above
- Omit Graduation Data – this indicator will be superceded if a new graduation rate indicator is added, as suggested above
- Revise Graduation Type – reporting graduation data on "all students" is misleading because it compares a school with other schools enrolling different percentages of special education

or limited English proficient students; separate graduation data should be reported for general education, special education and limited English proficient students

- Omit Post-Graduation Plans – this indicator, based on staff reports of student intentions, is notoriously unreliable in at least some districts and should be dropped until a more reliable measure can be developed
- Omit Past-Year Data (only if necessary to make room for additional data) – including five years of data may be helpful in some circumstances, but uses a lot of space that might better be devoted to new and better indicators; the exemplary Ohio Report Card presents data for only one year (though report cards for previous years are readily available), which allows display of as many as 22 indicators, with state and similar district comparisons, on one well-designed page

Recommendation: The Report Card should drop or revise the above indicators.

It would also be possible for New Jersey to post a Web-based Report Card that contained more data than the print version, with notices in the print version referring users to on-line resources. Several states already follow this practice.

Recommendation: NJ DOE should consider publishing less important or more complicated report card data on the Web only, with appropriate notices in printed Report Cards.

What Comparison Group Data Should the Report Card Provide?

A report card that provided only local district data would be essentially useless because users would have no basis by which to evaluate the data presented. Comparing local to statewide data is an improvement, but is often not very helpful because the state average includes districts with extreme variations in populations served and community resources. For most indicators, a more suitable comparison group is the District Factor Group (DFG), an indicator of socioeconomic status of residents in each district. Factors in the DFG include income, educational attainment of adults, poverty level and occupations. DFGs range from A, the lowest socioeconomic districts, to J, the highest (vocational/technical schools are in a separate group).

For example, to report that a high school has a dropout rate of 2.5 percent provides no basis for determining whether this is cause for celebration or alarm. Reporting that the state rate is 3.5 percent may suggest that the school is doing well. But a DFG average of 1.5 percent suggests that the school is not performing as well as other schools with the same kinds of students.

The present New Jersey Report Cards compare some indicators to state averages for elementary or secondary schools and others to state and DFG averages for elementary or secondary schools. A few indicators have no comparison group:

- No Comparison – Enrollment, Language Diversity, Administrator and Faculty Academic Degrees, AP Results, Class of 2000 Enrollment History, Post Graduation Plans
- Comparison to State Average for Elementary or Secondary Schools – Student Attendance Rate, Average Class Size, Student Mobility Rate, Student Suspensions, Student Expulsions, Student/Faculty Ratio, Faculty Attendance rate, Student Administrator Ratio, Length of School Day, Instructional Time, Student Computer Ratio, Internet Connectivity

- Comparison to District, State and DFG Averages for Elementary or Secondary Schools – ESPA and GEPA (and the forthcoming HSPA) Results
- District Data in Comparison to State Averages for Elementary or Secondary Schools – Administrative and Faculty Personnel, Median Salary and Years of Experience of Administrative and Faculty Personnel, Teacher Salaries and Benefits, Administrative Salaries and Benefits, Revenues and Per Pupil Expenditures
- Comparison to State and DFG Averages for Secondary Schools – HSPT Results, SAT Results, Graduation Data, Graduation Type

The examples of other state's report cards – and sheer common sense – suggest that these comparisons would be helpful to users of the New Jersey Report card:

- Comparisons with district, DFG and state – Administrator and Faculty Academic Degrees, Length of School Day, Instructional Time, AP Results (percentage of test-takers scoring 3 or above), Administrative and Faculty Personnel, Median Salary and Years of Experience of Administrative and Faculty Personnel, Teacher Salaries and Benefits, Administrative Salaries and Benefits, Revenues and Per Pupil Expenditures
- Comparisons with district, DFG and state – Language Diversity, Student Attendance Rate, Average Class Size, Student Mobility Rate, Student Suspensions, Student Expulsions, Student/Faculty Ratio, Faculty Attendance rate, Student Administrator Ratio, Student Computer Ratio, Internet Connectivity

Recommendation: Print versions of Report Cards should include the comparisons above (for the Web version of the report card, see the next section).

How Should the Report Card Be Distributed/Published?

Across America, most state report cards are posted on state education agencies' Web sites and printed for distribution to parents. In some cases, the printed and Web versions of the report cards are identical; in others, the Web version contains information that the printed version does not.

In New Jersey, the NJ DOE requires districts to distribute printed copies of Report Cards to parents and posts an identical version on its Web site. Non-parents are likely to learn about Report Cards in newspapers (some of which devote pages or whole sections to basic data from the reports) or by seeing copies or displays in libraries. Anyone may request copies from their local schools. New Jersey's distribution of printed copies appears to be satisfactory.

The Web version of the Report Card, however, leaves much to be desired. Users are offered an opportunity either to download the entire report card for all 2,300 schools in the state or to view a school report a few indicators at a time, but nothing in between. If they choose the latter course, it takes many minutes to view a single school's Report Card and over 100 keystrokes to print it out. No district, DFG or state summary reports are available, though NJ DOE staff indicate that the 2001 Report Card will permit users to compare schools to any other schools or groups they desire.

Other states have on-line report cards that are far more sophisticated, informative and user-friendly than New Jersey's. A comparison of the New Jersey and Ohio report cards is instructive. In terms of appearance, the New Jersey Report Card looks like it was designed to accommodate the computer that produced it, while the Ohio Report Card looks like it was designed to accommodate the educators and parents who will use it. The Ohio Report Card allows users to view or print a complete, eight-page school or district report with a few keystrokes, provides a separate report by gender and race/ethnicity and offers an interactive report card that allows users to produce customized reports with their choice of indicators, districts, schools and years. Ohio also offers report cards for groups of districts, like all those in a county or legislative district, all urban districts or the eight largest cities in the state. Note: Ohio's development of report cards was characterized by careful planning and a sophisticated evaluation component, including a market penetration study comparing distribution methods, a parent satisfaction survey and a district satisfaction survey.

Recommendation: The Web version of the report card should include all of the comparisons offered by the Ohio Report Card and should give users the opportunity to compare their school or district to (1) the average and best of a set of similar schools or districts; and (2) any set of districts they choose.

Comparative Spending Guide

In March of each year, the NJ DOE releases its Comparative Spending Guide, which repeats some of the District Financial Data on the Report Card, but uses actual, instead of budgeted, costs for the preceding year. The 2001 edition, for example, reports, for each line item, the actual cost for 1997-98 and 1998-99; the budgeted cost for 1999-00; the district's rank among all districts in the same enrollment group (K-6, 9-12, etc.) for the same three years; and the amount of the line item as a percentage of total cost per pupil for the same three years. Line items reported are:

- Total Cost Per Pupil
- Total Classroom Instruction
- Classroom Salaries and Benefits
- Classroom Supplies/Textbooks
- Classroom Purchased Services/Other Costs
- Total Support Services
- Salaries and Benefits for Support Services
- Total Administration
- Administration Salaries and Benefits
- Total Operations and Maintenance of Plant
- Salaries and Benefits for Operations and Maintenance of Plant
- Board Contributions to the Food Service Program
- Extracurricular Costs
- Personal Services - Employee Benefits
- Total Equipment Cost

The last two line items are the only ones not addressed in Report Cards.

In addition to line items, the Comparative Spending Guide includes indicators, which are either unique to this publication or provide more current data than Report Cards (including rankings):

- Ratio of Students to Teachers and Median Salary – this indicator disaggregates "Faculty" data provided in the Report Card to show data about classroom teachers
- Ratio of Students to Special Service and Median Salary – this indicator disaggregates "Faculty" data provided in the Report Card to show data about support services personnel (certificated personnel, such as librarians, nurses and child study team members)
- Ratio of Students to Administrative Personnel and Median Salary – calculates a ratio and median salary, as does the Report Card, but uses data from the NJ DOE Fall Survey which yields more current and more accurate figures in some cases
- Ratio of Faculty to Administrative Personnel – shows the ratio of faculty (both instructional and support services personnel) to administrators
- Comparison of Budgeted General Fund Balance vs. Actual (Used) or Generated – this indicator, unlike anything in the Report Card, shows the actual amount of general fund balance, or surplus, used or generated during the year
- Unreserved General Fund Balances in Excess of 6% – this indicator, unlike anything in the Report Card, shows the amount of general fund balance, or surplus, in excess of six percent of the general fund budget for the pre-budget year; New Jersey law requires districts to designate such funds (or $75,000, whichever is greater) toward tax relief

Finally, the Comparative Spending Guide includes this "Summary of Vital Statistics,"

- Per Pupil Comparative Cost (99-00)
- Revenue, State
- Revenue, Local %
- Revenue, Federal %
- Revenue, Tuition %
- Revenue, Free Balance %
- Revenue, Other %
- Student to Teacher Ratio
- **Student Special Service Ratio**
- Student to Administrator Ratio
- **Percent Special Education Students**

Items in bold are not addressed in Report Cards.

The Comparative Spending Guide appears to have been conceived, in part, as a tool for local district policymakers as they prepare their next year's budget, but it falls short in this capacity on several counts. First, it appears too late in the school year to influence the budget submitted to the voters in April. Second, it provides little useful information on which budget decisions could be made. Its fundamental flaw is that it presents financial data by district operating type (K-6, K-

8, K-12, etc.), a necessary consideration given differing per pupil costs within types (K-6 is the least, and 9-12 the most, expensive), but not by DFG, an essential indicator of district needs.

If the "Per Pupil Expenditures" section of the Report Cards, with its comparisons of district to state line item amounts, provides little useful information to users, the Comparative Spending Guide, with its rankings, provides no more. A concerned taxpayer might find from the Report Card, for example, that his district budgeted $1,081 per pupil for administrative salaries and benefits in 2000-01, much higher than the state average of $764. Turning to the Comparative Spending Guide for clarification, he would learn only that the $1,081 represents 9.9 percent of the total cost per pupil (a calculation he could have made using data in the Report Card) and that the district ranked 51st from the lowest among 66 districts in this regard.

The utility of the Comparative Spending Guide, in fact, consists primarily in longitudinal data. Using the same concerned taxpayer as an example, the Report Card would tell him only that the $1,081 administrative salary and benefit figure had grown from $909 in 1999-00, $889 in 1998-99, $856 in 1997-98 and $824 in 1996-97. The Comparative Spending Guide adds the single useful piece of information that the district is not merely reflecting a statewide trend, since its ranking for this line item has risen from 45th lowest in 1998-99 to 47th in 1999-00 and to 51st in 2000-01.

On the other hand, the Comparative Spending Guide provides some data that is not in the Report Card, and provides another year of actual, rather than budgeted, data. And its rankings within operating type are superior comparisons to Report Card averages of all elementary or secondary schools, since K-8s have higher per pupil costs than K-6s and 9-12s have higher costs than 7-12s.

Generally speaking, the Comparative Spending Guide is a primitive version of what could be a highly useful report for education policymakers and the public. The New Jersey School Boards Association (NJSBA) came closer to the ideal with its Cost of Education Index, which it published annually for almost 20 years (until two years ago, when it could no longer count on the NJ DOE to provide it with necessary audited budget data in a timely manner). The Cost of Education Index presented more, and more useful, comparisons – state, county, DFG, Enrollment Group and Grade Plan averages – and printed them on a single page. The NJSBA also offered school districts a customized Index with averages and rankings for any set of districts. Web-based resources now give districts instant access to both types of reports in some states.

Recommendation: NJ DOE should develop and implement a Web-based tool for comparing per pupil line item costs with pre-selected and customized sets of districts.

Vital Education Statistics

Vital Education Statistics (VES) is an annual report of partial results from the department's annual Fall Survey and Certificated Staff Report, NJ DOE's largest collections of data from school districts. In recent years its production has been more sporadic, probably because of staff cutbacks and emphasis on Report Cards, a much more important and useful report. The most recent edition, that of 1999-2000, reports data collected in October 1999.

In introductory information and 57 tables, VES reports:

- District and School Information – school districts, schools and charter schools by counties, enrollments and types; summary of school openings and closings; enrollments in Title I, federal food programs, pre-kindergarten and kindergarten
- Student Enrollment Information – enrollments by county, grade, racial/ethnic origin and sex; charter school enrollments by county and grade
- Student Dropout Information – dropouts by county, grade, sex and racial/ethnic origin; cumulative dropouts for the four-year period 1995-96 to 1998-99
- High School Graduate Information – post-graduate plans of graduates by county and racial/ethnic origin; graduates by county and racial/ethnic origin; graduation rates by county and school year
- Certificated Staff Information – certificated staff by county, type, full- or part-time status, assignment to elementary or secondary schools, sex, academic degree, racial/ethnic origin, age, years of experience, salary levels and mean salaries; teachers by major assignment; beginning and re-entering teachers by county and major assignment; teacher separations by county and major assignment; student to administrator and teacher ratios by county and year
- Non-Certificated Staff Information – non-certificated staff by county and assignment
- Non-Public School Information – non-public schools by county, type and enrollment; enrollments in Title I and federal food programs
- Selected Education Statistics – basic data on enrollments, dropouts, graduates, staff and non-public schools for the past ten years

More than any other NJ DOE data product, VES demonstrates the disconnect between what the department provides and what users need. The fundamental disaggregation for all the VES data is by county, for example, for no better reason than that is the way it has always been done. There can be very few data users in the state who care whether one county has more charter schools, more dropouts, older teachers or higher administrator salaries than another. If the purpose of data is to support decision-making, it would make far more sense to present data by DFG or to show separate figures for Abbott districts (a reader of the VES would never know of the existence of DFGs or Abbott districts). VES would be most useful if it were available on-line in an interactive format that would allow users to compare their district with a neighboring district, DFG averages or with any set of districts they chose. Users could then compare the number of black or Hispanic teachers, the percentage of minority dropouts or the average salary of principals in their district to those in other similar districts.

Recommendation: NJ DOE should publish timely editions of a revised *Vital Education Statistics* that replaces county data with data organized by state, DFG and Abbott districts. The department should make results of the Fall Survey and Certificated Staff Report available on-line in a format allowing users to compare their districts with pre-set and customized comparison groups.

Statewide Assessment Reports

General Reports. For every administration of a statewide assessment – ESPA, GEPA and HSPT – the NJ DOE produces a *State Summary Report*. The ESPA report, for example, includes tables showing mean scores and the number and percentage of students scoring at each of three levels (partially proficient, proficient and advanced proficient) on each of three sections (language arts/literacy, mathematics and science), and on the test as a whole. Results are reported for:

- general education, special education, limited English proficient and all students;
- students in all districts, special needs districts, non-special needs districts and charter schools; and
- students in each DFG.

In addition to this state-level data, State Summary reports also provide results for every school.

In 2001, for the first time, NJ DOE released supplements to the ESPA and GEPA State Summaries providing state-level results disaggregated by race/ethnicity, gender and migrant status. The department plans to report this data on the school level beginning in 2002.

State Summary reports are designed for policymakers, education professionals and researchers, and they provide useful state-level data for these audiences. NJ DOE's new policy of reporting results disaggregated by race/ethnicity, gender and migrant status remedies the only serious deficiency in this area.

Reports to Local Districts. NJ DOE provides districts with various hard copy reports of test results, but none is conducive to thorough analysis of scores by school, cluster (subtopic areas like life science, problem solving skills, etc.) and student demographics. Some school administrators spend days extracting information from the department's reports and keying it into a local database to obtain useful summary statistics. Others purchase data disks from NCS Pearson, the state's vendor (at costs of approximately $150 to $250 per test), but find them poorly designed in terms of providing useful data to support decision- making. Many others give up in the face of these hurdles and simply do not use state assessment data in their plans for program improvement.

It is telling that this critical problem was solved recently, not by NJ DOE staff, but by an outside organization, the New Jersey Statewide Systemic Initiative (NJ SSI), whose data specialist created a Data Toolkit to facilitate local district analysis of ESPA and GEPA results. The Toolkit works by importing data from the vendor's disks into Excel files, converting raw scores to percentage-correct figures and creating a wide array of charts and tables to facilitate detailed analysis. NJ SSI's interest is in mathematics and science test results, but the Toolkit allows analysis of language arts test data as well.

Recommendation: NJ DOE should renegotiate its contract with its testing vendor to provide districts with statewide assessment data in electronic formats conducive to analysis for decision-making.

Special Education Reports

NJ DOE collects and reports data about programs for pupils with disabilities through its Office of Special Education Programs, which produces an annual statistical report. The report includes statewide trends in:

- Classification Rates
- Placement of Pupils with Educational Disabilities
- Classification Rates by Race and Gender
- Related Services
- Special Education Staffing
- Initial Evaluations, New Classifications and Re-evaluations
- Pupils with Educational Disabilities Exiting Education

It also includes local district reports of:

- Special Education Demographics
- Individual Classification Rates
- Percent of Pupils with Disabilities by Placement
- Number of Pupils Identified for Evaluation, Newly Classified or Re-evaluated
- Child Study Team and Speech-Language Specialist Ratios

The annual special education statistical report contains useful state-level data, and its combination of tables, graphics and text make it relatively easy to interpret. In contrast to *Vital Education Statistics*, it contains only four tables organized by county and makes at least some use of the DFG grouping (showing, for example, that DFG DE consistently has the highest child study team classification rate). The local district data was not particularly useful in the printed form of the report because it provided no opportunity to compare districts. The new Web version of the 1998, 1999 and 2000 reports makes comparison somewhat easier because it presents all data in Microsoft Excel files, which users can download and manipulate at will. Only one report contains a field (DFG) to facilitate this process, however. Local data would be much easier to compare if every table contained fields for DFG and operating type (K-6, K-8, K-12, etc.).

Recommendation: The NJ DOE should present special education data in an interactive Web-based format allowing users to compare their districts with pre-set and customized comparison groups; until then, it should add comparison group fields to its Excel files available on the Web.

State Aid Summary Reports

NJ DOE's Division of Finance issues the annual State Aid Summary Reports, the current version of which lists actual 2000-01 and projected 2001-02 state aid, excluding debt service, on an entitlement and a cash basis, for every district, plus county and state totals. Aid figures are reported in nine major categories (core curriculum aid, transportation aid, etc.) and totaled. The reports also include the actual and percentage increase or decrease from the prior year and the projected percentage change in enrollment. The Web version of these reports provides a

convenience to users by allowing them to download Microsoft Excel spreadsheets containing district or county and state data. This feature gives users the opportunity to manipulate data to meet their needs. State Aid Summary Reports do not appear to require any substantial changes.

CONCLUSION: DATA COLLECTION AND DISSEMINATION

Change should be pursued systemically, not one recommendation or one report at a time. The NJ DOE (or a new education data management center), in conjunction with a broadly based advisory committee, should consider all of these – and other – data collection and dissemination recommendations in defining a core data set for the state. The state's data users need to be prepared for a "grand compromise," in which they gain efficient collection and dissemination of all core data, but sacrifice some of their more parochial data needs. Efficient dissemination should include consolidation and pruning of today's reports, resulting in a single Web-based system that presents useful comparative data, but also empowers users to manipulate data to answer their own questions and produce their own unique reports.

APPENDIX A

Web Sites Offering Additional Information or Examples

For information about state education data management systems:

Georgia	http://www.gadata.org/aspire/
Michigan	http://michigan.gov/cepi
	http://www.cepi.state.mi.us/files/meiswarehouse.pdf
Ohio	http://www.ode.state.oh.us/emis/
Texas:	http://www.tea.state.tx.us/peims/

For examples of excellent state provision of education data, including state report cards:

Ohio	http://www.ode.state.oh.us/reportcard/
Texas	http://www.tea.state.tx.us/peims/data.html

For New Jersey's provision of education data, including state report cards:

http://www.state.nj.us/njded/data/

For information about Just For the Kids:

http://www.just4kids.org/