

February 12, 2009

MAXIMIZING MAINE'S EDUCATIONAL INVESTMENTS, OPTIMIZING RESULTS

By Kurt Wise and Alexis Mann

Maine is rapidly approaching a crossroads. In the next two decades a large portion of the state's workforce will reach retirement age even as the number of high school graduates is projected to decrease. This presents significant, long-term challenges for Maine businesses and the overall structure of Maine's economy. In order to thrive, Maine will need to ensure not only that its K-12 students receive the education they require while in school, but as importantly, that adults already out in the workforce can improve their skills and increase Maine's overall levels of educational attainment, providing Maine businesses with a well-trained workforce.

At the same time, state dollars are becoming ever more scarce. Maine's antiquated revenue system no longer keeps pace with our 21st century economy and society. Managing the limited resources that *are* available in ways that produce the best outcomes for individual adult workers, the business community, and the state as a whole will become increasingly important.

To address this set of intertwined challenges – a shrinking workforce coupled with tighter budget constraints – we must give Maine's educators, administrators, and lawmakers the tools they will require to invest public dollars wisely and to maximum effect. One indispensable tool they will need is something called a “uniform data collection and benchmarking” system.

Good decisions require both parts of this equation: complete and accurate information (through “uniform data collection”), and the ability to assess progress towards established goals (termed “benchmarking”). It is only through this process of informed decision making that Maine can develop systems of accountability and program improvement that respond to real-world results.

If Maine is to prosper in the years ahead, it must capture the significant benefits that flow from informed decision making, not only in its K-12 system but applied throughout the postsecondary education and workforce development systems as well. Now is the time to lay the ground work for a data collection and benchmarking system that makes this possible.



To ensure student success and improve workforce outcomes Maine must be able to collect relevant data and assess progress toward established goals

What is uniform data collection and benchmarking?

It is a cumbersome term that describes a simple idea. The simple idea is that in order to make the best possible decisions people need to have good information about where they are and how they arrived at that point. They also need agreement about where they are headed together in the future. Having this kind of overview or “map” allows people to assess whether the course they have been following is helping them progress toward their goals or if instead they need to change direction based on updated information.

This is a good description of what uniform data collection and benchmarking (UDCB) provides to educators, administrators, and lawmakers in the realm of education and workforce development programs. It allows them to know exactly which programs are producing what results, where in the system there are examples of great successes, where additional support might be needed, and which factors could be adjusted in order to promote better outcomes. It also provides the data needed to connect outcomes directly to costs, providing an assessment of the value derived from each investment in education or workforce development. Importantly, it provides both highly detailed information that can be used by administrators and teachers to improve specific programs, as well as big picture data to help state-level planners coordinate investments across institutions to maximize their efficiency and impact for the state as a whole.

In the absence of good information – in other words, when working with the current collection of incomplete, disjointed, and

inaccurate data - decision makers are left in the dark, making “best guesses” based on hopes and hunches. With the state and municipalities in Maine investing over \$3.7 billion in education annually (from kindergarten through college)¹ and millions of dollars more on workforce

statewide system should be able to connect information from the pre-kindergarten years and the K-12 system (collectively called PK-12) to the post-secondary educational systems, including both the 4-year university system and the community colleges. The system also must be able

to understand how the public’s financial investments - and the students’ and adult workers’ investments of money and time – are playing out in terms of better jobs, higher incomes, and a stronger economy.

The kinds of data collected would include basic demographic information (sex, age, ethnicity), educational pathway (schools attended, courses taken, extended absences), educational outcomes data (grades and graduation dates, degrees and/or credentials obtained), and employment outcomes data (occupation(s), wages, periods of unemployment). To allow data to be collected and analyzed efficiently, it is important to establish a common set of definitions and data fields that all institutions use. To maximize the value of this information, it also must be specific and “longitudinal”, following data from individual students through time, from their pre-K experience through high school and postsecondary education, and several years (preferably, as many as four years) out into the workforce. A longitudinal system covering the years described often is referred to as a “PK-20” system.

Among the common concerns raised about such systems is whether they are capable of safeguarding the privacy of the individual student/worker. This is an important and entirely valid question. The answer, unequivocally, is yes. These systems can be designed to guarantee individual privacy. Several states already operate such systems and have done so for decades now without breach of privacy. Moreover, states including Maine already collect and maintain much of this data on individuals, often by federal mandate. And in fact, federal regulations dictating privacy

Maine’s education and workforce challenges

The data suggest that Maine faces significant challenges and real opportunities:

- In Maine, 89% of individuals over the age of 25 have a high school diploma, but only 26% go on to earn a bachelor’s degree.²
- In the Northeast, 86% of adults over the age of 25 have a high school diploma, but 31% of these individuals continue on to earn a bachelors degree or higher.³
- Mainers who graduate from high school earn on average \$4,000 more a year than those who do not graduate.⁴
- Individuals who have a bachelor’s degree earn \$16,500 more than those without a high school diploma, and \$12,500 more than individuals who have their diploma.⁵
- Only 53% of freshman students enrolled in Maine’s community college system return for a second year, while less than three-quarters of freshmen at 4-yr colleges return as sophomores.⁶
- Since the early 1990s, Maine increased the proportion of students completing certificates and degrees relative to the number enrolled by only 4% - in contrast to a nationwide increase of 24% - making Maine among the lowest-performing states in terms of improvement on this measure.⁷
- Currently only 4.4% of 25-49 year olds in Maine are enrolled in some type of postsecondary education compared to top ranked states that experience close to 9% participation.⁸

It is worth noting that even this gross-level data must be drawn from disparate, national sources. Because Maine currently lacks a UDCB system, Maine decision makers do not have access to more timely, fine-grained, state-specific data.

development, it is reasonable to expect that decision makers at all levels have access to complete, accurate, and timely information - along with a set of shared goals - to help guide their planning.

What kinds of data are collected and who collects it?

In order to deliver all of its potential value, over time a good

to link this data to workforce development programs and programs in adult basic education. Finally, the data from all these various parts of Maine’s educational systems must be connected to Maine’s workforce data, including occupation, wage, and unemployment records. Only by using a comprehensive approach like this is it possible

guarantees already apply to (and are observed by) the many public entities that collect this data currently. A variety of carefully designed administrative structures, access protocols, and technological/software features can be used to eliminate the possibility of accidentally divulging private information.

It also is important to note that the value of compiling data at the level of the individual is *not* because state analysts, administrators, or lawmakers are interested in knowing a particular person's academic or work history.⁹ Instead, their interest is entirely impersonal. Individual, longitudinal data can be sifted and re-aggregated in order to answer specific questions.

For example, Washington used their data system to conduct the "tipping point study" which helped identify problems with students moving from adult basic and developmental education into postsecondary credit classes.¹⁰ This study resulted in modifications to adult developmental education programs and also fostered modifications to the state data system itself. Washington now collects data on more specific outcomes ("momentum points") that have enabled Washington to further improve student transitions and success.¹¹

The problem for Maine is not one of guaranteeing appropriate levels of individual privacy; that is a matter of proper system design and the solutions are well-understood. Instead, the real obstacle for Maine is that the data sets that currently do exist are "siloed" within different parts of the educational system or reside in different government departments and thus are not connected. The different data sets, moreover, do not necessarily share common definitions or

data fields, and in some cases institutions or public entities do not yet collect important pieces of data.

These data inconsistencies and the overall *fragmentation* of the state's student/worker datasets and data-collecting entities make it impossible to provide the kind of fine-grained analysis that can be achieved only by using a fully integrated UDCB system. To reap the benefits of such a system it will be necessary for Maine stakeholders to come together and agree on broad features of system design and implementation.

Florida: The Gold Standard

Florida is among the states with the oldest, most comprehensive, and most successful UDCB systems. Considered the "gold standard", it is a good model to examine.

In response to legislative efforts to improve educational effectiveness (started in the late 1960s), Florida pioneered the move toward assessment and accountability. Over the course of the last four decades, Florida has expanded the range, interconnectedness, and functionality of its data collection and benchmarking

to maintain the data warehouse. Using social security numbers as the "unique student identifier" to link data from these many sources, state researchers work with the data behind the warehouse's firewall, providing analyses upon request to legislators and researchers. They also maintain K-12 data, making approved data available to school districts and teachers, as well as filing federally required reports on behalf of the districts. The system enjoys strong support from diverse stakeholders and is credited with producing valuable and timely analysis to Florida's educational systems, the Florida legislature, and the broader policy community.

Where does Maine currently stand and where are we headed?

Maine already has joined other forward-thinking states in beginning to implement important parts of a UDCB system. Initial funding for Maine's system was secured through a \$3.5 million federal grant to the Maine Department of Education (DOE) with a matching investment from the state. The first phase of the program focuses on creating a uniform system for collecting individual data throughout the state's K-12 system. This process is well along. Now, however, many people believe the necessary steps must be taken to connect this K-12 system to postsecondary education and workforce development data, and to employment and wage records.

Significant challenges to establishing a functional PK-20 system remain. Most immediate among these is the need for agreement on and adoption of a "unique student identifier" (essentially a personal identification number) that

When data can be collected centrally and linked to employment records, Maine will be better able to understand how educational programs affect workforce preparedness and worker's earnings.

The foundation of a successful design will be developing protocols for and organizational cultures that support appropriate data sharing. Precisely how data will be collected, stored, and analyzed; where it will be housed and who will be responsible for its maintenance and integrity; and among which departments and public entities data and analyses will be shared is a central piece of the discussion. As with the Washington example, examining the experiences from other states may be a particularly useful place to search for ideas. Under any circumstances, it is clear that some means of connecting public investments to individual outcomes would be a remarkably useful tool for planners at all levels of Maine's education and workforce systems.

system, ultimately creating (in 2002) a single repository to house this information, the Florida Education Data Warehouse.¹² This warehouse is a key feature of the system, maintaining student records from kindergarten through high school and then eight years beyond. Data include demographic information, transcript information, and degrees and credentials received. The warehouse connects this information to job placement and wage data using federal Unemployment Insurance records (a federal employment database).

In order to ensure individual privacy, as well as the accuracy and completeness of the datasets, an independent State Office of Accountability, Research and Measurement, was established

Maine's current system design and future challenges

- Maine is now implementing a strong K-12 data collection system.
- Once students exit K-12, however, there is no consistent way to track future education or employment progress.
- Maine's community colleges and universities have limited ability to exchange data with each other or with K-12 administrators.
- There currently is no way to link students' educational histories to their employment outcomes.
- This will become possible if the state adopts a unique identifier to travel seamlessly with each student from pre-kindergarten through postsecondary education and out into the workforce.
- Other states have successfully used social security numbers to do this (the simplest approach) while fully protecting individual privacy.

permits institutions to collect and centralize data at the individual student level - creating connections across institutions. *It is essential that legislators and administrators establish some form of unique student identifier that will connect PK-20 education and workforce records while preserving individual privacy.* The best and simplest option requires use of social

security numbers as Florida and other states have done.

Another essential element will be the design and implementation of something akin to the Florida Educational Data Warehouse. Maine ultimately will need a state entity capable of centralizing, maintaining, and analyzing all of this information in a fully "firewalled" environment.

Most importantly, however, in order to move beyond our current, limited K-12 data system, it will be necessary to build consensus among the state's many stakeholders including local school districts, teachers and administrators, the community college and university systems, government agencies, businesses, legislators, and the general public. We all stand to gain from better information and a common vision of what we want from our educational systems and how we can best invest state dollars to achieve those goals. Other states have addressed this challenge successfully and if Maine hopes to prosper in the 21st century, we must as well.

About the Authors

Kurt Wise is the State Fiscal Analyst at the Maine Center for Economic Policy.

Alexis Mann is an intern at MECEP currently pursuing a graduate degree in public policy.

Special thanks to Brandon Roberts and Deborah Povich of the Working Poor Families Project (WPFP) for their close reading and many helpful comments on

this paper. Thanks also to the WPFP for its ongoing support which makes this work possible.

Endnotes

- 1 Maine Center for Economic Policy, "Maine Revenue and Spending Primer 2008"
- 2 US Census, 2006 American Community Survey
- 3 Ibid
- 4 Ibid
- 5 Ibid
- 6 The National Center for Public Policy and Higher Education, "Measuring Up: The National Report Card on Higher Education", 2008
- 7 Ibid
- 8 Ibid
- 9 It is, however, the case that local K-12 school systems use individual-level data to follow the progress of *specific* students, conferring with that child's parents and creating individualized study plans to improve that child's outcomes. This is NOT what individual-level data is used for at the state-level, where the focus instead is on programs, institutions, and systems rather than any specific person.
- 10 Prince, David et al, "Building Pathways to Success for Low-Skills Adults", April 2005
- 11 Washington State Board for Community and Technical Colleges, "Research Report No. 07-1", Oct. 2007
- 12 Data Quality Campaign, "Florida Case Study", August 2006. Available along with other useful reports at: www.dataqualitycampaign.org

Stay informed: Sign up for the Maine Center for Economic Policy's e-newsletter and alerts at www.mecep.org

Printed on 100% post consumer recycled paper, process chlorine free (PCF)

www.mecep.org

Tel: 207-622-7381
Fax: 207-622-0239

66 Winthrop Street
2nd Floor
P.O. Box 437
Augusta, ME 04332



Change Service Requested

NON-PROFIT ORG.
U.S. POSTAGE
PAID
AUGUSTA, ME
PERMIT NO. 140