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Developing Process Indicators to Improve Educational Governance

Lessons for Education from Health Care

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**Statement of Brian Stecher¹
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**Before the Little Hoover Commission
Public Hearing on Educational Governance
State of California**

June 23, 2005

Thank you for the opportunity to discuss the value of process indicators—i.e., measures of the services the education system is actually providing—for improving educational governance. My remarks are based in part on a study of quality improvement efforts in the health care sector, which was submitted as a supplementary document (Stecher, 2005).

The case in favor of process indicators can be summarized in terms of three propositions. First, information about system performance is critical for effective educational governance. Those charged with setting education policy (the Legislature) as well as those responsible for overseeing educational programs (the Superintendent of Public Instruction and the Department of Education) cannot be effective without ongoing, valid information about the health of the system they govern. This seems self-evident to me, and I will not devote any more time to making the case.

The second proposition is that the information currently available to govern the educational system is inadequate, particularly for the increasingly important task of promoting school improvement. The information that is currently available to judge the quality of the educational system is primarily of two types: information about inputs—including such things as building safety, library holdings, and teacher certification—and information about outcomes—including such things as student achievement, graduation

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rates, and college attendance. Information about inputs is used primarily for the purpose of accreditation; information about outcomes for the purpose of accountability. Neither is sufficient to meet current needs for improving the performance of our educational system.

An analogy to health care helps to illustrate the deficiencies of input and outcome indicators. Like schools, hospitals are accredited on the bases of “structural” features, i.e., the bricks and mortar, equipment and personnel of health delivery systems (Donnebedian, 1990). Such input-based accreditation is important for insuring minimum standards of care. For example, it is difficult to deliver adequate emergency care without an x-ray machine, a trained x-ray technician, and an adequate supply of film (or a modern digital x-ray machine). However, this type of accreditation does not push improvements beyond the basic level. While accreditation is a necessary condition for good care, research has shown that it is not sufficient to insure that high quality care is received. The same is true of education. It might be impossible for students to conduct research projects if the library lacks necessary resources; however, having those resources does not guarantee that students will be asked to conduct such research or will be shown how to do it.

The health care system also produces outcome data on the health of patients, much as the educational system produces outcome data on the achievement of students. Outcome-based accountability represents an advance over accreditation because it focuses people’s attention on the core goals of health care—patient well-being. Outcome data have been used extensively to judge the quality of health care providers. For example, for many years mortality rates after coronary artery bypass graft surgery have been published in New York and Pennsylvania. The publication of these data has led to improvements in care in many facilities, as well as changes in patient choices. Similarly, achievement data have been the primary yardstick for judging school quality for many years, and many believe they are sufficient to insure that outcomes improve over time. This approach to educational improvement has been called “steering by results,” a phrase that captures the idea that outcomes should be the focal point for educational planning (California Department of Education, 1998).

However, health care providers quickly discovered the limitations of outcome data. When comparing outcomes it is difficult to account for differences that patients bring with them when they seek care. For example, some hospitals treat patients who are older, sicker, or

have more complicating conditions than other hospitals. These hospitals may provide equally good care, but achieve poorer outcomes. Conversely, some patients can receive poor care and still get well. Thus, mortality rates alone are not good indicators of the quality of care.

A similar problem exists in terms of educational outcomes; it may be unfair to judge schools on the bases of student achievement alone. Data on achievement do not provide information about whether the school is providing effective instruction. The Academic Performance Index (API) says as much about students' backgrounds as it says about school quality. Although API growth provides a more valid indication of school effectiveness than API rank, API rankings make the headlines. The Adequate Yearly Progress (AYP) targets set under No Child Left Behind are similarly blind to differences in students and the challenges faced by schools. (As an aside, a system based on individually linked, longitudinal data, which used value-added methods to estimate school effects would be preferable, but would still have shortcomings.)

Outcome-based indicators have another, equally important, shortcoming; they provide little or no guidance for improvement. The fact that one hospital has a higher mortality rate than another gives the hospital administrator little help in improving their services. Is there a failure in training, in surgical procedures, in coordination among staff, in post-operative care? Information about patient outcomes is not very helpful in focusing quality improvement efforts. This is also the case in education. Low-performing schools have to undertake school improvement efforts, but achievement data provide few clues about what is deficient or how to improve it. It is difficult to steer through turbulent seas and rocky waters with only your final destination as a guide. Process indicators would alert policymakers as well as administrators and staff, to specific deficiencies that could be ameliorated through new policy and/or better local enactment.

My third proposition is that process indicators address the two limitations of outcome indicators. That is, process indicators provide a better picture of the quality of services and better information for program improvement. For example, recent research has uncovered surprising deficiencies in our health care system (McGlynn, et al., 2003). Almost half of the time, patients are not receiving the care they should based on professionally accepted guidelines for best practices. The report showed that the percentage of patients with particular symptoms who received the tests that were appropriate and the medication that was appropriate given the test results was far below

previous assumptions. Process measures, like these, also appear to have great promise for improving health care quality, and current quality improvement efforts in health care build on process indicators.

Health care has been able to make the transition to process indicators because of the extensive body of work that health researchers and physicians have done to develop clinical practice guidelines that codify knowledge about best practices (IOM, 1990). These guidelines summarize current state of knowledge for treating hundreds of conditions, and they are used to develop direct indicators of the quality of the health care provided to patients (McGlynn and Brook, 2001).

The health care experience offers a road map for developing a process-based quality improvement system for education. Moreover, the current emphasis on scientifically based practice in education lends support to such a development effort. Although it will take considerable research and development to build such a system for education, this is a potentially powerful tool for educational leaders, and California should move to incorporate more process measures in its data system.

The effort could begin immediately with intermediate process indicators. For example, the American College Testing (ACT) program recently reported that that few middle school students were getting the academic counseling they needed to select the right college preparatory courses (Wimberly and Noeth, 2005). The delivery of academic counseling in middle schools could be measured, summarized, and reported to policymakers. Similarly, we could collect information on early literacy instruction and identify the extent to which students were participating in the kinds of reading and writing activities found to be effective.

There are many challenges to be overcome to develop such a system, and a complete process indicator system for education will not be created overnight. The health care quality improvement system we now have reflects 50 years of research and development. Nevertheless, there is every reason to believe that process quality measures for education can be created with appropriate commitment and support. More to the point, some process measures can be added to our current educational data systems without 50 years of additional research. As the American Productivity and Quality Center notes, “Outcomes can not be changed without changes in processes” (APQC, 2004). Information about processes could enhance educational governance and policymaking.

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