

An Accountability System for Higher Education in Minnesota

A framework

July 2006

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I. Introduction

In August 2005, the Minnesota Office of Higher Education (OHE) circulated a Request for Proposals (RFP) seeking contractors who would “assist in developing a plan for an accountability system for higher education in Minnesota.” The goal of the project is:

...to recommend state goals and corresponding indicators for a statewide performance accountability system for Minnesota’s higher education sector. The system recommended will be continuously maintained by the state to provide policy makers with relevant information on the effects of higher education on state residents, students, and the economy for the purpose of state policy improvement.

The National Center for Higher Education Management Systems (NCHEMS) was awarded the contract to conduct the project. This report documents the process followed in the performance of the contract, the findings that emerged from that process, and the recommendations offered by NCHEMS regarding the specifics of an accountability system for higher education in Minnesota.

II. General Specifications and Issues for Indicators

The following specifications are applied to all performance indicators:

- Indicators will be calculated for the state as a whole and, wherever possible, by region.
- Selected indicators appropriate to institutions will be calculated for each institution using institutional data and data drawn from a “service region” comprising counties that make up 80% of undergraduate headcount enrollment.
- Indicators will be calculated to show at least five-year trends wherever possible.
- There will be at least one “Core” indicator for each policy goal. Additional “Supporting” indicators are intended to further amplify progress on each goal and are listed separately. A third set of indicators not directly related to state or institutional performance is provided as “Background” to provide context.
- Benchmarking will be done for all “Core” and for many “Supporting” indicators. The benchmarks used will be the two best-performing states and, where available, the two best-performing countries. A third benchmark will be provided based on the average value of the measure for the ten best-performing states on the New Economy Index—an indicator that reflects the progressiveness of a state’s economy.

III. Summary of Goals for Minnesota's Higher Education Sector

GOAL 1: Improve success of all students, particularly students from groups underrepresented in higher education.

GOAL 2: Create a responsive system that produces graduates at all levels who meet the demands of the economy.

GOAL 3: Increase student learning and improve skill levels of students so they can compete effectively in the global market place.

GOAL 4: Contribute to the development of a state economy that is competitive in the global market through research, workforce training, and other appropriate means.

GOAL 5: Provide access, affordability, and choice for all students.

IV. Recommended Goals and Indicators

GOAL 1: IMPROVE SUCCESS OF ALL STUDENTS, PARTICULARLY STUDENTS FROM GROUPS UNDERREPRESENTED IN HIGHER EDUCATION.

Rationale: Goal 1 emerged as a high priority in recognition of the facts that: a) the population of Minnesota is becoming much more diverse and b) the rapidly growing subgroups of the population are far behind Minnesota and international competitive standards with regard to educational attainment.

Core Indicator 1A. Percent of population age 18-24 enrolled in tertiary education (all levels). (State Only, benchmarked to best-performing countries and average of top ten “New Economy” States.¹)

Rationale: This is the most comprehensive measure of postsecondary participation available for which there are international benchmarks.

Core Indicator 1B. Bachelor’s degrees awarded as a proportion of total undergraduate headcount enrollments at four-year institutions, disaggregated by race/ethnicity. (State and institution, benchmarked to best-performing states and average of top ten New Economy States.)

Rationale: Using this ratio measure avoids the difficulty of confining the indicator to first-time, full-time students that is characteristic of degree completion statistics reported in the IPEDS Graduation Rate Survey (GRS).

Core Indicator 1C. Associate degrees awarded as a proportion of total credit-bearing headcount enrollment at two-year institutions, disaggregated by race/ethnicity. (State and institution, benchmarked to best-performing states and average of top ten New Economy States.)

Rationale: Using this ratio measure avoids the difficulty of confining the indicator to first-time, full-time students that is characteristic of degree completion statistics reported in the IPEDS Graduation Rate Survey (GRS).

Core Indicator 1D. Percentage of adults age 25-34 who have earned Tertiary Type A and B credentials (associate degree and higher). (State only, benchmarked to best-performing countries and average of top ten New Economy States.)

Rationale: This is a direct measure of the stock of human capital in the state, and is the best measure available for which there are international benchmarks.

¹ The New Economy Index measures the extent to which states’ economies are structured and operated in accordance with the characteristics of the emerging world economy—characteristics such as knowledge jobs, globalization, economic dynamism, transformation to a digital economy, and technological innovation capacity. The top 10 in the most recent ranking are Massachusetts, Washington, California, Colorado, Maryland, New Jersey, Connecticut, Virginia, Delaware, and New York.

Supporting and Background Indicators for Goal 1.

Graduate from High School

- *Supporting:* Public high school graduates as a percent of ninth graders enrolled four years earlier, disaggregated by race/ethnicity. State only, benchmarked to best-performing states and average of top ten New Economy States.
- *Background:* High school graduation rates by county or district, disaggregated by race/ethnicity (Minnesota-specific data). State and district, no benchmark.

Enter College

- *Supporting:* First-time freshmen directly out of high school as a percent of recent high school graduates, disaggregated by race/ethnicity. State only, benchmarked to national average.
- *Supporting:* First-time freshmen as a percent of 18- to 24-year-olds with only high school attainment, disaggregated by race/ethnicity. State and institution, benchmarked to best-performing states and average of top ten New Economy States.
- *Supporting:* All adults age 25-44 enrolled as undergraduates as a percent of adults age 25-49 with only high school attainment. State and institution, benchmarked to best-performing states and average of top ten New Economy States.
- *Background:* Number of individuals served through employer-sponsored continuing education programs as a percentage of civilian employment. State only, no benchmark.
- *Background:* Percent of adults age 18-44 enrolled in some form of postsecondary education—including non-Title IV degree-granting institutions. State only, benchmarked to best-performing States and average of top ten New Economy States.

Complete a College Program

- *Supporting:* Six-year graduation rates at four-year institutions, disaggregated by race/ethnicity. State and institution, benchmarked to best-performing states and average of top ten New Economy States.
- *Supporting:* Three-year graduation rates at two-year institutions, disaggregated by race/ethnicity. State and institution, benchmarked to best-performing states and average of top ten New Economy States.
- *Supporting:* Success rates at Minnesota community colleges, disaggregated by race/ethnicity. State and institution, no benchmark. (Minnesota-specific data)

Complete + transfer + still enrolled

GOAL 2: CREATE A RESPONSIVE SYSTEM THAT PRODUCES GRADUATES AT ALL LEVELS WHO MEET THE DEMANDS OF THE ECONOMY.

Rationale: Goal 2 emerged out of recognition that Minnesota is producing too few graduates at both the associate and baccalaureate levels and that the share of degrees produced in science and engineering fields is below the national average. Minnesota has relied heavily on in-migration of talent to meet its workforce needs.

Core Indicator 2A. Numbers and percentage increase in numbers of degrees produced (by level)—all fields and STEM fields. (State and institution, benchmarked to best-performing states and average of top ten New Economy States.)

Rationale: Degrees produced is the most straightforward measure of direct contributions of higher education to the Minnesota economy.

Core Indicator 2B. Numbers and percentage increase in numbers of degrees produced in education, disaggregated by race/ethnicity. (State and institution, benchmarked to best-performing states and average of top ten New Economy States.)

Rationale: Degrees produced is the most straightforward measure of direct contributions of higher education to the Minnesota economy. Disaggregation by race/ethnicity is recommended to reflect the need to generate teachers who can serve as effective role models for Minnesota's growing school population of color.

Supporting and Background Indicators

- *Supporting:* Trends in taking and passing teacher licensure tests in math and science. State and institution, benchmarked to best-performing states and average of top ten New Economy States.

GOAL 3: INCREASE STUDENT LEARNING AND IMPROVE SKILL LEVELS OF ALL STUDENTS SO THEY CAN COMPETE EFFECTIVELY IN THE GLOBAL MARKET PLACE.

Rationale: Goal 3 surfaced in recognition of the fact that learning—the acquisition of knowledge and skills—and not just acquisition of degrees will be a major determinant of global competitiveness. The data show that Minnesota high school students are less likely than students in some other states to take advanced math and science courses, and that the U.S. compares poorly in international assessments of math competency. Specific attention to learning outcomes assessed against international standards was recognized as a priority for Minnesota.

Core Indicator 3A. Percent of Minnesota American College Testing Service (ACT) test-takers meeting national readiness benchmarks in reading, writing, and mathematics. (State only, benchmarked to ACT national average.)

Rationale: ACT has established national “college readiness” benchmarks in these three skill areas and ACT scores are readily available. This measure could be discontinued once the proposed PISA test measure is put into place.

Core Indicator 3B. [Proposed for Development]: Results of the PISA Mathematics Assessment. State only, benchmarked to best-performing countries. (Minnesota-specific data not yet available, OECD—would be based on a special study of PISA measures administered to Minnesota students.)

Rationale: It is useful to have an international benchmark on this measure and the PISA Mathematics Assessment can be feasibly administered to a state-level sample at a relatively modest cost. If this measure is available, it is recommended that the ACT-based measure above be moved to the “Supporting” category.

Core Indicator 3C. Percent of college-educated citizens achieving the two highest literacy levels on the National Assessment of Adult Literacy (NAAL). (State only, benchmarked to best-performing states and average of top ten New Economy States.)

Rationale: Performance on the NAAL is a direct measure of performance in skill areas relevant to work and social functioning.

Core Indicator 3D. Reduction in the proportion of population age 25-44 with less than a high school diploma or equivalent (GED). (State only, benchmarked to best-performing states and average of top ten New Economy States.)

Rationale: Data for this measure are readily available and reduction in this population is the objective of state efforts to increase educational attainment levels among young adults.

Supporting and Background Indicators

- *Supporting:* Percentage of first-time college students requiring remediation in reading, writing, and math disaggregated by race/ethnicity. State and Public Institutions, no benchmark. (Minnesota-specific data)
- *Background:* NAEP scores, disaggregated by race/ethnicity. State Only, benchmarked to Best-Performing States and average of top ten New Economy States. (8th grade available, 11th grade preferred)

- *Background:* Average performance of high school students on MCA-11 assessments in reading (10th grade) and math (11th grade), disaggregated by county and by race/ethnicity. State only, no benchmark. (Minnesota-specific data)
- *Background:* Percentage of high school graduates completing rigorous math and science coursework. State only, benchmarked to best-performing states and average of top ten New Economy States.

GOAL 4: CONTRIBUTE TO THE DEVELOPMENT OF A STATE ECONOMY THAT IS COMPETITIVE IN THE GLOBAL MARKET THROUGH RESEARCH, WORK-FORCE TRAINING, AND OTHER APPROPRIATE MEANS.

Rationale: Throughout the term of the project, the importance of research and its contribution to the continuing growth and evolution of Minnesota’s economy were recognized. The fact that the U.S. is spending less on research and development than several emerging competitors—and that Minnesota is less competitive for R&D funding than many other states—led participants to flag growth of research as a priority area. Of particular concern was the fact that Minnesota’s research capacity is concentrated in one area, the medical sciences. In all other areas, Minnesota’s per capita R&D expenditures fall below national average.

Core Indicator 4A. Minnesota’s rank in national share of academic research in key fields (including Mayo). (State only, benchmarked to best-performing states and average of top ten New Economy States.)

Rationale: The state’s competitiveness in garnering research support relative to other states is the most appropriate measure of research productivity in the eyes of Minnesota research university representatives. Expressing this as a rank directly builds a benchmark into the measure.

Core Indicator 4B. Total expenditures on research and development as a proportion of Gross State Product (GSP). (State only, benchmarked to best-performing states and average of top ten New Economy States.)

Rationale: Although not currently available, this measure captures a crucial dimension of adult postsecondary education for the state in an area directly related to employment.

Core Indicator 4C. [Proposed for Development]: Responses to a community survey—employers, school district, city and county leaders—concerning level of involvement of higher education administrators, faculty, and students. (State only, no benchmarks.)

Rationale: Although not currently available, the measure is the only way to capture direct contributions of Minnesota higher education to citizens and communities. As public service, this provides an important counterpart to research in the missions of the state’s non-research universities.

Supporting and Background Indicators

- *Supporting:* R&D expenditures per capita in key fields. State only, benchmarked to best-performing states and average of top ten New Economy States.
- *Background:* Percent of workforce employed in high-tech industries. State Only, benchmarked to Best-Performing States and average of top ten New Economy States.
- *Background:* GSP per Employed Population. State only, benchmarked to best-performing states and average of top ten New Economy States.
- *Background:* Rankings on the State New Economy Index. State only, benchmarked to best-performing states.
- *Background:* Percent of jobs paying a “living wage” (150% of poverty level or above). State Only, benchmarked to Best-Performing States and average of top ten New Economy States.

- *Background:* Percent of population below poverty. State only, benchmarked to best-performing states and average of top ten New Economy States. (U.S. Decennial Census, ACS)
- *Background:* Infant Mortality per 1,000 live births. State only, benchmarked to best-performing States and average of top ten New Economy States.
- *Background:* Trends in rankings on state health index. State only, benchmarked to best-performing states and average of top ten New Economy States. (United Heath Foundation)
- *Background:* Percent of population on welfare (with Public Assistance Income). State only, benchmarked to best-performing states and average of top ten New Economy States. (U.S. Decennial Census)
- *Background:* Percent of persons 18 years old and over voting in the last presidential election. State only, benchmarked to best-performing states and average of top ten New Economy States. (CPS)
- *Background:* Percent declaring charitable gifts for those itemizing federal income tax deductions. State only, benchmarked to best-performing states and average of top ten New Economy States.

GOAL 5: PROVIDE ACCESS, AFFORDABILITY, AND CHOICE FOR ALL STUDENTS.

Rationale: The consideration of affordability, for students attending all sectors of higher education, arose out of discussions at the regional meetings and was ratified by the larger Advisory Group. The cost burden affecting lowest income students was a particular concern as was the fact that there is little variation between the costs of attending public two- and four-year institutions.

Core Indicator 5A. Net Cost of Attendance relative to median income and to income of the lowest income quintile. (State only, benchmarked to best-performing states and average of top ten New Economy States for public community colleges, public comprehensive universities, public research universities, and independent institutions.)

Rationale: This measure reflects basic affordability, which is a key for access, taking into account student aid and other policy mechanisms to promote access. It also reflects choice because all sectors of higher education are represented.

Core Indicator 5B. [Proposed for Development]: Percent of high school graduates at each income quintile participating in Minnesota higher education by sector. State Only, no benchmarks (the objective would be to track improvement in access over time).

Rationale: This is the most comprehensive measure of access available and the development of a method to obtain these data is highly recommended. If this can be done, the indicator of “affordability” above could be moved to the “Supporting” category.

Supporting and Background Indicators

- *Background:* Average loan amount students borrow each year as a percentage of median earnings of bachelors degree graduates age 21-29. State only, benchmarked to Best-Performing States and average of top ten New Economy States.

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