

## Beyond Completion: Getting Answers to the Questions Governors Ask to Improve Postsecondary Outcomes

### Executive Summary

As the economy increasingly demands a more educated workforce, states are looking to their colleges and universities to meet that demand for a better educated citizenry. Not only are individuals with postsecondary education likely to be employed, they are also likely to be more engaged in their communities through activities such as voting and volunteering.<sup>1</sup> In 2012, for example, overall unemployment rates for graduates of four-year and two-year colleges were 4.5 percent and 6.2 percent, respectively—far below those for individuals with a high school diploma and without one, 8.3 percent and 12.4 percent, respectively.<sup>2</sup>

But states face fiscal pressures in areas such as health care and pensions that will affect their ability to invest in postsecondary education. The result is that questions pertaining to the effectiveness and efficiency of the resources that states and students direct to postsecondary institutions and systems will be increasingly important for the foreseeable future.

That reality collides with existing state-level accountability systems, which often focus more on inputs (for example, enrollments and the amount of spending for education by states and students) than outcomes (such as completion and employment). Moreover, the data have not been used to guide policy decisions in

areas such as funding. States are making progress, as the examples below suggest, but significant room for improvement is evident, particularly when it comes to gauging the effectiveness and efficiency of the resources directed at postsecondary education.

Governors are asking four fundamental questions about the effectiveness and efficiency of investments in postsecondary educational institutions and systems in their states to develop their policy agendas:

#### Effectiveness

1. *Are our postsecondary students learning the knowledge and skills needed to be successful workers and citizens?*
2. *Do our postsecondary graduates get jobs, and do those jobs pay wages and salaries that can support families?*

#### Efficiency

3. *How does the number of students who graduate from our postsecondary institutions compare with the number of students who enroll?*
4. *What is the return on our state's and our students' investments in postsecondary education in terms of completed degrees and certificates?*

States' postsecondary leaders can provide answers to these four fundamental questions with readily available data using several indicators of the effectiveness

<sup>1</sup> Sandy Baum and Jennifer Ma, *Education Pays: The Benefits of Higher Education for Individuals and Society* (Washington, DC: College Board, 2007), [http://www.collegeboard.com/prod\\_downloads/about/news\\_info/trends/ed\\_pays\\_2007.pdf](http://www.collegeboard.com/prod_downloads/about/news_info/trends/ed_pays_2007.pdf).

<sup>2</sup> Bureau of Labor Statistics, U.S. Department of Labor, "Employment Projections," Table: Earnings and unemployment rates by educational attainment, [http://www.bls.gov/emp/ep\\_chart\\_001.htm](http://www.bls.gov/emp/ep_chart_001.htm); and Bureau of Labor Statistics, U.S. Department of Labor, "Labor Force Statistics from the Current Population Survey," Table 7: Employment status of the civilian noninstitutional population 25 years and over by education attainment, sex, race, and Hispanic or Latino ethnicity, <http://www.bls.gov/cps/cpsaat07.htm>.

and efficiency of postsecondary education investments recommended in this NGA paper.<sup>3</sup> The recommended indicators presented here have been vetted by practitioners, researchers, and policy experts and are currently being used by a number of states, including several that participated in a National Governors Association (NGA) policy academy on strengthening states' systems of accountability for postsecondary education.

Although the recommended indicators are not the only ones that should be considered when evaluating a state's postsecondary education system, they do provide a good top-line view of a system's effectiveness and efficiency. Moreover, they allow for customization to the varying institutional missions of research universities, comprehensive universities and community and technical colleges. Other measures, such as the Common Completion Metrics developed by NGA and Complete College America, offer a more detailed look at student movement toward certificates and degrees.<sup>4</sup>

As governors' focus has shifted from how much states spend on postsecondary education to whether and how state dollars are spent to produce better educated workers and citizens, the limitations of existing state-level accountability systems for postsecondary education are becoming increasingly apparent. To facilitate the development and analysis of postsecondary education policy now and in the coming years, states and their postsecondary education systems must review their analytical capacity and improve their accountability systems. Strong state-level accountability systems for postsecondary education include both broader and more specific measures and ensure that the measures that are used complement and do not conflict with

statewide goals and priorities such as broadening access or improving success rates for at-risk students.

## **Building Capacity to Analyze and Use Data**

In order to effectively pursue the state-level development and analysis of postsecondary policy over the coming years, it is important that states and their postsecondary systems not only review the level of analytical capacity at the state level, but also prune existing accountability systems instead of simply adding more metrics and reports to already overextended systems. To address those issues, governors can:

- Call on state postsecondary leaders, working in cooperation with institutional leaders, to perform an audit of existing accountability measures, reports, and activities, with an eye toward eliminating information that is duplicative, outdated, or not used;
- Emphasize to state postsecondary agency heads that data and analysis are essential for budget and staffing requests, and review their own staffing to ensure that there is sufficient postsecondary expertise; and
- Charge the state systems for postsecondary education and their colleges and universities to begin working with effectiveness and efficiency indicators that will ultimately help identify policy options that apply to the state's current and future realities.

States will continue to face pressure to fund key state services as state budgets tighten. Systems of postsecondary education must be prepared to show how productive colleges and universities are with the resources that they have and look for ways to improve their effectiveness and efficiency. The four fundamental ef-

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<sup>3</sup>For additional information on the data that are needed and how they can be applied to derive these metrics, see Travis Reindl and Ryan Reyna, *Complete to Compete: From Information to Action: Revamping Higher Education Accountability Systems* (Washington, DC: National Governors Association Center for Best Practices, July 2011), <http://www.nga.org/files/live/sites/NGA/files/pdf/1107C2CACTIONGUIDE.PDF>.

<sup>4</sup>Ryan Reyna, *Common College Completion Metrics* (Washington, DC: National Governors Association Center for Best Practices, June 2010), <http://www.nga.org/files/live/sites/NGA/files/pdf/1007COMMONCOLLEGEMETRICS.PDF>.

fectiveness and efficiency questions and the related indicators presented in this paper provide a comprehensive approach that acknowledges the ongoing shift in postsecondary education policy from a focus on inputs to a broader emphasis on outcomes and the relationship between resources and outcomes. Together, they provide governors with a powerful tool for determining which state policies will best enable more students to attend college, gain new knowledge and skills, graduate on time, and get a job upon completion.<sup>5</sup>

## Effectiveness of Postsecondary Education: Questions and Indicators

- *Are our postsecondary students learning the knowledge and skills needed to be successful workers and citizens?*

The most important question about the effectiveness of postsecondary education, though also the hardest to answer, is whether postsecondary students are learning the knowledge and skills needed to be successful workers and citizens. Simply graduating more students without ensuring they have gained the knowledge and skills necessary to compete in the economy and contribute to their communities is a waste of scarce resources and talent.

<p><b>RECOMMENDED INDICATORS</b></p>	<p><i>Indicators prior to completion of postsecondary education:</i></p> <ul style="list-style-type: none"> <li>• <b>LEARNING ASSESSMENT RESULTS</b>—Learning assessment results include results from examinations such as the Collegiate Learning Assessment (CLA), the ETS® Proficiency Profile, ACT’s Collegiate Assessment of Academic Proficiency (CAAP), and locally developed instruments.</li> <li>• <b>PORTFOLIO EVALUATION RESULTS</b>—The Association of American Colleges and Universities has led a national effort to develop rubrics, or standards of performance, for use in evaluating students’ competency in 16 different learning outcome areas as demonstrated in student work products collected by faculty or gathered on student electronic portfolios.</li> </ul> <p><i>Indicators subsequent to completion of postsecondary education:</i></p> <ul style="list-style-type: none"> <li>• <b>ALUMNI AND EMPLOYER SURVEY RESULTS</b>—Alumni and employer survey results provide helpful context for assessment and employment results and can indicate specific areas for improvement.</li> </ul>
<p><b>WHY THE INDICATORS MATTER</b></p>	<p>States need evidence that postsecondary students are accumulating knowledge and skills not merely advancing from one level to the next. Moreover, it is important for states to gauge the quality of learning from different perspectives, such as student performance before and after graduation, as well as shorter and longer term feedback from employers.</p>
<p><b>WHAT TO LOOK FOR</b></p>	<p>The focus in analyzing data on these indicators of the effectiveness of postsecondary education should be on trends and patterns. Are assessment and placement results improving or declining? Among which institutions and/or groups of students? These indicators should be viewed as triggers for more in-depth analyses using measures such as those listed below in “Other Measures to Consider.”</p>

<sup>5</sup> A new framework for calculating a single higher education productivity ratio for an institution or an educational sector was presented in a 2012 [report](#) written by a panel of the National Research Council with support from Lumina Foundation. This framework represents a potential improvement in efforts to gauge how—or whether—different spending and staffing patterns lead to improved productivity in higher education. Although questions about the framework’s complexity and utility stand in the way of widespread use and evaluating the framework is beyond the scope of this issue brief, the new framework’s development and its reliance on many of the same indicators and measures laid out in this issue brief provide additional support for state systems seeking to improve the effectiveness and efficiency of their institutions of higher education.

<p><b>EXAMPLES OF STATE USES OF THE INDICATORS</b></p>	<ul style="list-style-type: none"> <li>• <i>Funding.</i> <a href="#">Missouri's</a> outcomes-based funding formula for secondary institution includes performance on general education and major-level assessments as an institutional performance metric.</li> <li>• <i>Public accountability.</i> <a href="#">Massachusetts</a> is developing a plan for measuring learning outcomes for postsecondary education that combines several metrics to create composite indicators of student learning.</li> <li>• <i>Academic policy.</i> Students at <a href="#">South Dakota's</a> public universities are required to pass an assessment of basic skills before moving from general education to major-level courses.</li> </ul>
<p><b>OTHER MEASURES TO CONSIDER</b></p>	<ul style="list-style-type: none"> <li>• <b>INSTITUTION-LEVEL QUALITY AUDIT</b>—An institution-level quality audit complements top-line data by identifying the presence or absence of practices that successfully promote learning (such as learning communities or first-year learning seminars).<sup>6</sup></li> <li>• <b>LICENSURE/CERTIFICATION RATE</b>—Licensure and certification rates offer another form of labor market feedback regarding readiness to enter specific occupations and professions.</li> <li>• <b>ACCEPTANCE RATE FOR GRADUATE STUDIES</b>—This measure rounds out the student outcome data, especially for more selective colleges and universities.</li> </ul>

- *Do our postsecondary graduates get jobs, and do those jobs pay wages and salaries that can support families?*

Postsecondary education has the potential to contribute to states' economic development through the preparation of individuals for jobs and careers. As a result, it is important that states have reliable and regularly updated information on labor market outcomes (i.e., job placement rates and earnings) for the graduates of their education and training programs.

<p><b>RECOMMENDED INDICATORS</b></p>	<ul style="list-style-type: none"> <li>• <b>JOB PLACEMENT RATES FOR POSTSECONDARY GRADUATES</b> (1, 3, 5, 10+ years out from completion of postsecondary education)</li> <li>• <b>EARNINGS FOR POSTSECONDARY GRADUATES</b> (1, 3, 5, 10+ years out from completion of postsecondary education)</li> </ul>
<p><b>WHY THE INDICATORS MATTER</b></p>	<p>Getting a job, though not the only measure of success in postsecondary education, is a key outcome for economic security and full participation in society. Trend data make it clear that without a credential of labor market value, an individual's ability to earn a decent living and contribute to their community is becoming increasingly difficult.</p>
<p><b>WHAT TO LOOK FOR</b></p>	<p>Because employment and earnings for many graduates improve significantly in the years following graduation, it is important to look at salary and placement data over time. States should also make efforts to track graduates' economic outcomes across state lines as some institutions supply both regional and national labor markets. Finally, it is important to exercise caution when looking at data regarding job placement in a graduate's field of study. Connections are harder to make beyond science, technology, engineering, and math (STEM) fields, where many graduates may be successfully employed "out of field."</p>
<p><b>EXAMPLES OF STATE USES OF THE INDICATORS</b></p>	<ul style="list-style-type: none"> <li>• Public accountability. States such as <a href="#">Connecticut</a> and <a href="#">Nevada</a> now require postsecondary institutions to disclose employment data of recent graduates to the public as a measure in their postsecondary accountability systems.</li> <li>• Funding. Performance funding in <a href="#">Missouri</a> is partially based on outcomes and includes placement of recent graduates as a performance metric for the state's technical college. <a href="#">Tennessee's</a> outcomes-based formula for funding community colleges also contains job placement as a performance measure.</li> </ul>

<sup>6</sup> Jayne E. Brownell and Lynn E. Swaner, *Five High-Impact Practices: Research on Learning Outcomes, Completion, and Quality* (Washington DC: Association of American Colleges and Universities, November 2010); and Colleen Moore and Nancy Shulock, *Student Progress toward Degree Completion: Lessons from the Research Literature* (Sacramento CA: California State University of Sacramento, Institute for Higher Education Leadership & Policy, 2009), [http://www.csus.edu/ihelp/PDFs/R\\_Student\\_Progress\\_Toward\\_Degree\\_Completion.pdf](http://www.csus.edu/ihelp/PDFs/R_Student_Progress_Toward_Degree_Completion.pdf).

## Efficiency of Postsecondary Education: Questions and Indicators

- *How does the number of our students who graduate from our postsecondary institutions compare with the number of students who enroll?*

The number of students who enroll in postsecondary education is a bedrock performance measure of colleges' and universities' success in improving students' access to such education. Another bedrock performance measure is the number of postsecondary students who complete their degree or certificate program. Comparing these two key measures in relation to each yields an indicator of the efficiency of postsecondary education.

<b>RECOMMENDED INDICATOR</b>	<ul style="list-style-type: none"> <li>• <b>ANNUAL NUMBER OF POSTSECONDARY DEGREES AND ONE-YEAR AND LONGER CERTIFICATES AWARDED PER 100 FULL-TIME EQUIVALENT POSTSECONDARY STUDENTS ENROLLED</b></li> </ul>
<b>WHY THE INDICATOR MATTERS</b>	<p>The economy's demand for a more educated workforce, combined with limited state resources, raises the stakes for getting students into and through certificate and degree programs as efficiently as possible. This indicator tracks student completions in relation to access to postsecondary education, and sets the stage for discussions about where there may be leaks and bottlenecks in the state's postsecondary pipeline.</p>
<b>WHAT TO LOOK FOR</b>	<p>Ideal performance on this indicator would have be having all students who enroll in postsecondary institutions complete their degree or certificate on time. At four-year postsecondary institutions, the ideal would be 25 completions per 100 full-time equivalent (FTE) enrollments, since one-quarter of all students enrolled would ideally finish a bachelor's program each year (current national performance is 20.8 completions per 100 FTE students). At two-year postsecondary institutions, the ideal would be 50 completions per 100 FTE enrollments (current national performance is 14.5 completions per 100 FTE students).<sup>7</sup> The fact that a significant number of students at two-year institutions transfer to other institutions before completion lowers two-year institutions' performance on this indicator.</p> <p>Because significant year-to-year change in this indicator is unlikely, states should watch for change in this indicator over time. Positive change in this indicator may result from a desired improvement in completion. On the other hand, such change may result from a decrease in overall enrollment that allows institutions to concentrate resources on fewer students or from new policies that lead to a greater selectivity in student admissions, both of which may have the unintended consequence of limiting access to postsecondary education. An increase in the time taken to complete might also result from an increase in enrollment of students who traditionally need more time and greater support in order to complete. To get a full picture, states should track this indicator alongside changes in postsecondary enrollment and completion rates and disaggregated by key student characteristics, as well as transfer and retention rates.</p>
<b>EXAMPLES OF STATE USES OF THE INDICATOR</b>	<ul style="list-style-type: none"> <li>• <i>Institutional performance contracts.</i> In <a href="#">Colorado</a>, newly formed agreements between the state and the public colleges and universities feature a menu of performance metrics, including benchmarking an institution's performance on undergraduate credentials per 100 students enrolled to be within the top 25 percent of peer institutions across the nation.</li> <li>• <i>Funding.</i> <a href="#">Nevada's</a> outcomes-based funding model includes this indicator as a metric for allocating performance pool funds. In <a href="#">Tennessee</a>, the outcomes-based funding formula for public four-year institutions includes this indicator as a required performance measure.</li> <li>• <i>Public agenda setting.</i> <a href="#">Connecticut's</a> newly adopted public policy framework for higher education includes this indicator as one of its student success indicators.</li> </ul>

<sup>7</sup>National Center for Higher Education Management Systems (NCHEMS), NCHEMS *National Information Center for Higher Education Policy-making and Analysis* (website), <http://www.higheredinfo.org>.

<b>OTHER MEASURES TO CONSIDER</b>	<ul style="list-style-type: none"> <li>• <b>STUDENT ENROLLMENT</b>—Enrollment serves as a measure of student access to postsecondary education and should be disaggregated by type of student.</li> <li>• <b>STUDENT RETENTION RATE</b>—This measure accounts for attrition within the postsecondary education system; falling retention rates are a leading indication that performance on the recommended indicator is declining.</li> <li>• <b>STUDENT TRANSFER RATE</b>—The student transfer rate provides additional context on the performance of two-year institutions on the recommended indicator, since transfer is an important part of their mission, but is not typically reported as a completion.</li> <li>• <b>TIME TO CREDENTIAL</b>—This measure gauges the pace of student progress through the postsecondary education system. Reductions in this measure may help improve performance on the recommended indicator.</li> </ul>
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- *What is the return on our state’s and our students’ investments in postsecondary education in terms of completed degrees and certificates?*

States and students invest more than \$130 billion per year in public colleges and universities, with students providing an increasing share of that investment.<sup>8</sup> As primary investors, both states and students should have information about key outcomes, especially completion, in relation to their investment.

<b>RECOMMENDED INDICATORS</b>	<ul style="list-style-type: none"> <li>• <b>COMPLETIONS OF POSTSECONDARY DEGREES AND ONE-YEAR AND LONGER CERTIFICATES PER \$100,000 OF STATE APPROPRIATIONS</b></li> <li>• <b>COMPLETIONS OF POSTSECONDARY DEGREES AND ONE-YEAR AND LONGER CERTIFICATES PER \$100,000 IN STUDENT DEBT</b></li> </ul>
<b>WHY THE INDICATORS MATTER</b>	State funding constraints and increasing reliance on tuition are increasing pressure on colleges and universities to get the most out of every dollar they receive from taxpayers and students. For that reason, it is important for governors to have an indicator that connects payments to public colleges and universities by the state and students with outcomes (completed certificates and degrees).
<b>WHAT TO LOOK FOR</b>	<p>Because these indicators are not likely to vary significantly from year to year, governors should look for patterns over multiple years. Improvement will occur because of increasing completion, declining payments or student debt, or a combination of the two.</p> <p>Without accounting for transfers to other academic institutions, current national performance on this indicator these indicators for public two-year institutions stands at 1.79 completions per \$100,000; for public research universities it is 1.74 completions per \$100,000; and for public comprehensive universities, it is 2.40 completions per \$100,000.<sup>9</sup></p>
<b>EXAMPLES OF STATE USES OF THE INDICATORS</b>	<ul style="list-style-type: none"> <li>• <i>Institutional performance contracts.</i> In <a href="#">Colorado</a>, agreements recently executed with the state’s colleges and universities include degrees awarded per \$100,000 in total operating revenues as part of a menu of required performance measures.</li> <li>• <i>Funding.</i> <a href="#">Missouri’s</a> outcomes-based performance funding includes completed credit hours per \$100,000 of state appropriations as a performance metric for select community colleges.</li> <li>• <i>Public agenda setting.</i> <a href="#">Connecticut’s</a> newly adopted public policy framework for higher education includes a variant of this indicator (state/local appropriations per completion) as one of its affordability and sustainability indicators.</li> </ul>

<sup>8</sup> State Higher Education Executive Officers, *State Higher Education Finance*, FY 2012 (Boulder, CO: March 2013), <http://www.sheeo.org/sites/default/files/publications/SHEF%20FY%2012-20130322rev.pdf>.

<sup>9</sup> National Center for Higher Education Management Systems (NCHEMS), NCHEMS *National Information Center for Higher Education Policy-making and Analysis (website)*, <http://www.higheredinfo.org>.

OTHER  
MEASURES  
TO CONSIDER

- **COMPLETIONS PER \$100,000 IN INSTITUTIONAL COSTS ONLY FOR TEACHING STUDENTS, EXCLUDING ALL OTHER EXPENDITURES** (Education and Related spending costs)—Because Education and Related spending is essentially a reflection of institutional/system decision-making, this metric is most useful in campus/system management settings.

## Important Cautions for Calculating and Using Performance Indicators

Three important caveats should be heeded by state and postsecondary education leaders when selecting and using performance indicators to gauge the effectiveness and efficiency of resources devoted to postsecondary education in producing better educated workers and citizens:

- ***Make sure that postsecondary performance indicators align with and do not conflict with the state's goals or policy priorities.*** States can boost attainment and efficiency in postsecondary education in a number of ways, but some approaches may work at cross-purposes with a state's goals and priorities. As an example, one way for colleges and universities to increase their postsecondary degree attainment rates might be to limit the admissions of less prepared students; yet this approach might conflict with the state's policy objective of serving more low-income or first-generation students. To reduce the likelihood of creating perverse incentives that would cause institutions to serve fewer students, especially at-risk students, it is important to do the following: (a) break down indicators by type of institution and student to ensure that improvements in one area are not occurring at the expense of another; and (b) look at related indicators to help determine the cause or effect of a particular trend.
- ***Use a combination of common and mission-specific performance indicators for postsecondary institutions and systems.*** Research universities, comprehensive universities, and community and technical colleges serve different types of students and have different products, stakeholders, and funding streams. For that reason, accountability systems for postsecondary institutions should include a combination of common and mission-specific indicators. For common indicators, such as those recommended here, it is important to calibrate performance expectations according to the mission or type of institution.
- ***Focus on trends in postsecondary performance indicators instead of single-year changes in performance.*** Indicators of the effectiveness and efficiency of postsecondary institutions and systems such as those recommended in this paper provide the most useful insight when analyzed over time. Such indicators typically do not change dramatically from year to year, and significant year-to-year change in performance could be caused by unusual circumstances such as natural disasters, the arrival or departure of a major employer, or significant swings in the local, state, or national economy.

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