College Graduation Rates:

Behind the Numbers

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Table of Contents

Acknowledgments

Executive Summary

During the past decade, state and federal policy makers have pushed for more accountability from colleges and universities. As the importance of a college degree has increased along with the costs to earn one, policy makers are looking at student outcomes as a measure of the quality of postsecondary education institutions. One outcome measure that has received most of the attention is graduation rates.

Since President Obama stated that "by 2020, America will once again have the highest proportion of college graduates in the world," postsecondary graduation rates have taken on increased importance and scrutiny. Because the issue of graduation rates has long been a favorite topic of higher education policy researchers, there is no shortage of reports that detail the disparity in graduation rates by race, income, and institutional type, as well as the limitations of the data most often used to calculate graduation rates.

Unlike other reports on graduation rates, the focus of this report is not on disparities in graduation rates, how to improve graduation rates, or how to fix the way in which graduation rates are calculated. The purpose of this report is to provide a layperson's guide to the most commonly reported graduation rates and the databases used to calculate these rates. More specifically, this report provides policy makers and policy researchers with a history of the databases that are most often used to calculate graduation rates as well as the advantages and disadvantages of each database (this information also can be found in a summary table in the appendices). Additionally this report suggests several factors for policy makers to consider before using graduation rate data from existing databases as a way to assess institutional success. Some of the major observations of this report include the following:

- Graduation rate data are a relatively new phenomenon; the first year these data were collected by the Department of Education was 1996.
- Although none of the existing national databases can provide a graduation rate that accounts for all students, all the databases do provide valuable information that contributes to our understanding of student success.
- Much of the policy conversation on graduation rates has focused on undergraduate education. Very little is known about graduation rates of graduate students.
- Alternative measures, such as a ratio of degrees awarded to total enrollment, are frequently used to evaluate institutional success.
- Most conversations on the six-year graduation rates do not include discussion of the percentage of students still enrolled. It is important to consider the share of students still on track to graduate after the six-year point.

Overall, this report highlights the complexities of measuring what many policy makers view as a simple compliance metric with the existing national databases. Just because the existing databases used to calculate graduation rates were not designed with the current policy demands in mind does not render them useless. The databases referenced in this report provide valuable information on graduation rates; however, as the disadvantages of these databases reveal, users of these data should take care in using them to measure the overall effectiveness of postsecondary education institutions.

Introduction

Graduation rates have increasingly become a key component of the higher education accountability conversation. A 2006 report from the U.S. Secretary of Education's Commission on the Future of Higher Education stated that among the "dramatic" changes that higher education needed was improvement of the "persistent gap between the college attendance and graduation rates of low-income Americans and their more affluent peers."

While then-U.S. Secretary of Education Margaret Spelling's commission was not the first voice of concern about the graduation rates of students at colleges and universities—in particular, disparities in completion by race and income—it helped move the conversation on postsecondary accountability from input measures (e.g., access and enrollment) to output measures (e.g., persistence and graduation rates). Since the commission report was released, articles, reports, blogs, and even some state and federal legislation have called for more institutional accountability and better consumer information on graduation rates. Some examples include the following:

- The American Graduation Initiative, proposed by the Obama administration (but not passed), called for states and colleges to "establish quantifiable targets for improving graduation rates" in order to access available federal funds.
- The 2008 Higher Education Opportunity Act called for wider disclosure of institutional graduation rates for consumer information.
- A 2009 report from the American Enterprise Institute[1] states that graduation rates "convey important information…" and should be "the beginning of a deeper inquiry into college success."
- In 2009, a blogger for the D.C. College Admissions Examiner web site wrote, "One of

Key Terms

According to data from the Baccalaureate and Beyond Longitudinal Study, the average time to degree for a bachelor's degree is six years. Although comparable data are not available for associate degrees, it is widely accepted that the average time to an associate degree is longer than two years. As such, this report does not use the more common nomenclature of *two- and four-year institutions* to describe colleges and universities. In this report, a *baccalaureate institution* refers to an institution that awards bachelor's degrees or higher, and *associate institutions* are those that award associate degrees. Although these labels are similar to those in the Carnegie Classification, they do not have the same meaning.

Graduation rates versus attainment rates
In February 2009, President Obama stated that by 2020, the United States would have the highest educational attainment rate in the world. Since that statement, many reports, presentations, and keynotes have referenced this goal and discussed numerous ways to achieve it. However, some mistakenly use *attainment rates* and *graduation rates* as synonymous terms. *Graduation rates* are a measure of the share of students who enter college and graduate within a certain number of years. Educational *attainment rates* are a measure of the share of the U.S. population that has earned a postsecondary degree. Although graduation rates affect U.S. educational attainment rates, they are two separate measures, calculated in two different ways. This report focuses on postsecondary graduation rates.

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[1] Hess, F., Schneider, M., Kelly, A., & Carey, K. (2009). *Diplomas and dropouts: Which colleges actually graduate their students (and which ones don't)*. Washington, DC: American Enterprise Institute.

the scariest numbers in postsecondary education is the national six-year college graduation rate" and that "graduation rates should be key factors in college selection."[2]

- A 2010 report by Fastweb and Maguire Associates[3] found that among 23 criteria of institutional quality, high school seniors chose graduation rates as the fifth most important indicator of institutional quality, ahead of factors such as graduate school placement, a rigorous core curriculum, existence of an honors program, and college rankings in *U.S. News & World Report* and other college guides.

- Twenty-two states have promised to develop specific plans to improve their college completion rates by participating in the Complete College America Alliance of States.

- The National Governors Association recently announced its Compete to Complete initiative, which focuses on increasing the number of students in the United States who complete college degrees and certificates.

- During the 2010 National Collegiate Athletic Association (NCAA) basketball tournament, U.S. Secretary of Education Arne Duncan not only criticized the graduation rates of student athletes but also suggested that NCAA teams that fail to graduate 40 percent of their players should be ineligible for post-season competition.

It is clear in nearly every conversation about higher education accountability that graduation rates are increasingly viewed as a critical, if not *the* critical, measure of both student and institutional success. However, before policy makers formally make graduation rates a high-stakes measure of institutional accountability, they need to better understand exist-ing graduation rate measures and the databases that provide this increasingly important information.

The purpose of this report, therefore, is threefold. First, it will provide a detailed overview of the various sources of graduation rate data. Second, and more importantly, it will explain the positive and negative aspects of each of these databases (a summary of the overview of databases, showing the positives and negatives of each, can be found in a table in the appendices). Third, it will offer several factors to consider before using graduation rates to determine an institution's level of success. The goal of this report is to help policy makers better understand the challenges inherent in using current graduation rate data to determine or inform federal or state policy decisions regarding postsecondary education institutions.

> Before policy makers formally make graduation rates a high-stakes measure of institutional accountability, they need to better understand existing graduation rate measures.

Two reports from the National Center for Education Statistics (NCES; the Department of Education division that is responsible for collecting information from colleges and universities)[4] based on separate NCES databases relay the complexities of graduation-rate data that confront policy makers. One report, based on the Integrated Postsecondary Education Data System (IPEDS), shows that the six-year graduation rate at baccalaureate institutions for students entering in 1995 to pursue a bachelor's degree was 56.4 percent.[5] A second report, which used the Beginning Postsecondary Student (BPS) study, states that the six-year graduation rate of bachelor's degree–seeking students who enrolled in a baccalaureate institution in 1995 was 65.6 percent.[6]

[2] Griesemer, N. (2009). Graduation rates should be key factors in college selection. Examiner.com. Retrieved from www.examiner.com/college-admissions-in-washington-dc/graduation-rates-should-be-key-factors-college-selection.

[3] Maguire Associates (2010). Students' application choices & college preferences in the 2010 admissions cycle: Results from the 2010 college decision impact survey.

[4] The National Center for Education Statistics (NCES) is the primary federal entity for collecting and analyzing data related to education in the United States and other nations. NCES is located within the U.S. Department of Education and the Institute of Education Sciences.

[5] Knapp, L. G., Kelly-Reid, J. E., and Whitmore, R. W. (2006). *Enrollment in postsecondary institutions, fall 2004; graduation rates, 1998 & 2001 cohorts; and financial statistics, fiscal year 2004* (NCES 2006-155). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics.

[6] Berkner, L., He, S., & Forrest Cataldi, E. (2002). *Descriptive summary of 1995–96 beginning postsecondary students: Six years later* (NCES 2003–151). Washington, DC: U.S. Department of Education, National Center for Education Statistics..

How can two reports from the same federal agency provide two different graduation rates for the same cohort? This report will answer that question by providing a detailed overview of the national databases used to calculate these graduation rates.

The first section of this report provides a brief overview of the history of graduation rates in the United States. The second section gives a detailed overview of the current sources for graduation rate data along with the positive and negative aspects of each. This section also discusses the implications of the pros and cons of each database on policy decisions regarding graduation rates. The final section provides several factors that policy makers should keep in mind when considering the use of graduation rates as a measure for institutional effectiveness.

History of National Graduation Rates

Reporting graduation rates to the federal government is a relatively new requirement. Before 1985, no national-level institutional data on college and university graduation rates existed. In 1985, the NCAA began requiring its member schools to report graduation rate data so that the association could compare the academic records and performances of student athletes with the overall student body.[7] These data were not publically available and were released only to NCAA member institutions that reported their data.

In 1988, U.S. Senators Bill Bradley and Edward Kennedy proposed bill S.2498, later referred to as the Student Athlete Right-to-Know Act.[8] (The same bill was introduced in the House by Representative Tom McMillen.) This bill was the first to require higher education institutions that receive Title IV funds to submit an annual report to the Secretary of Education containing information on graduation rates. Specifically, the bill required schools to report the following:

- The number of students at the institution, broken down by race/ethnicity and sex.
- The number of students who received athletics-related student aid, broken down by race/ethnicity and sex in the following sports: basketball, football, baseball, cross-country/track, and all other sports combined.
- The completion or graduation rates for students at the institution who received athletics-related student aid, broken down by race/ethnicity and sex in the following sports: basketball, football, baseball, cross-country/track and all other sports combined.

- The completion or graduation rate for students at the institution, broken down by race/ethnicity and sex.
- The average completion or graduation rate for the four most recent completing or graduating classes of students at the institution who received athletics-related student aid, broken down by race/ethnicity and sex in the following categories: basketball, football, baseball, cross-country/track, and all other sports combined.
- The average completion or graduation rate for the four most recent completing or graduating classes of students at the institution, broken down by race/ethnicity and sex.

> Before 1985, no national-level institutional data on college and university graduation rates existed.

The impetus for this legislation was a concern among Congress that the increasing revenue from college athletics was "so great that the educational mission of the university is too easily forgotten."[9] A 1989 report prepared by the General Accounting Office (GAO)[10] to help inform congressional deliberations about this bill found that the graduation rate for men's basketball and football players at the NCAA's largest member schools (formerly Division I) were lower than the graduation rates for all students.[11] The view of the committee was that "student athletes about to enter college are consumers" and "as such are entitled to relevant and basic information in order to make an informed choice about which college to attend."[12]

On November 9, 1990, Congress passed the Student Right-to-Know and Campus Security Act. Although the original intent of this legislation was to protect the educational interests of student ath-

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[7] U.S. General Accounting Office. (1989). *Student athletes: Most schools meet proposed academic performance reporting requirements.* Washington, DC: Author.

[8] Student Athlete Right-to-Know Act. Report together with Minority Views. One Hundred First Congress. First Session. (1989).

[9] Student Athlete Right-to-Know Act.

[10] General Accounting Office. *Student athletes.*

[11] This report uses data collected by both the NCAA and National Association of Intercollegiate Athletics (NAIA) for their respective member schools.

[12] Student Athlete Right-to-Know Act.

letes, it was believed that this information would be more broadly useful to students making decisions regarding postsecondary education institutions (thus, the removal of "athlete" from the title of the bill). According to NCES, the federal collection of graduation rate data is done specifically to help institutions respond to the requirements of this bill.[13] It should be noted that beginning in 2007, the IPEDS Graduation Rate Survey (GRS) no longer required institutions to report graduation rates for scholarship athletes.[14] Now, this information is collected and reported by the NCAA.

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[13] http://nces.ed.gov/ipeds/about/.

[14] http://nces.ed.gov/ipeds/glossary/?charindex=G.

Data Sources

Although graduation rates have become a major topic during the past decade, only a handful of data sources can be used to calculate graduation rates at a national level. These data sources include:

- Required annual federal surveys of institutions.
- Three types of federal surveys given to a sample population of students:
- A cross-sectional survey (looks at a one-year snapshot).
- A grade cohort longitudinal survey (follows a specific grade of students over time, e.g., 12th graders).
- An event cohort longitudinal survey (tracks an event over time, e.g., beginning college for the first time).
- Data submitted voluntarily by a large number of institutions to a private nonprofit organization.
- Data collected by individual states.

Each of these databases is slightly different in terms of who is included in the cohort to calculate a graduation rate, meaning that depending on which database is used, it is likely to produce a different graduation rate. As the earlier example suggests, the differences can be relatively large. Because of their different methodologies, each database has advantages and disadvantages in calculating national graduation rates.

Because much of the national policy discussion is focused on institutional accountability, it is important to acknowledge that not all the databases discussed in this report are able to generate institution-level graduation rates. However, as this report highlights, the databases that do not provide institution-level data still provide valuable data that can inform policy conversations regarding graduation rates. For organizational clarity, this section is split into two discussions: databases that can provide institution-level data and those that cannot.

Institutional Databases

IPEDS

The Integrated Postsecondary Education Data System (IPEDS) is a set of interrelated surveys conducted annually by the U.S. Department of Education's NCES. Federal law requires that institutions participating in federal student aid programs report data on enrollments, degree completions, graduation rates, faculty and staff, finances, institutional prices, and student financial aid. All information collected through IPEDS is publically available.

The IPEDS system dates back to 1986. Prior to that time, NCES administered two distinct institutional surveys to postsecondary institutions that were not compatible, one of which was the Higher Education General Information Survey (HEGIS), which began in 1966. HEGIS had many of the same survey components as IPEDS. Although most accredited colleges and universities submitted data to HEGIS, participation was not statutorily required. The second survey, the Vocational Education Data System (VEDS), was administered to non-collegiate postsecondary education institutions and collected data primarily from private, for-profit institutions.

IPEDS was designed to obtain comparable data from all sectors of postsecondary education.

A redesign of these two surveys resulted in a single survey system—IPEDS—that was designed to obtain comparable data from all sectors of postsecondary education. Due in part to the growth of Title IV financial aid programs in the late 1980s and early '90s, the 1992 reauthorization of the Higher Education Act required all colleges and universities that receive Title IV funds to submit their data to IPEDS.

IPEDS' Graduation Rate Survey (GRS)

The enactment of the Student Right-to-Know Act (SRK) in 1990 signified the beginning of the federal government's involvement in collecting graduation rates from institutions (Gold & Albert, 2006).[15] The federal regulations guiding SRK require institutions to track a cohort of first-time, full-time, degree- or certificate-seeking students who enter in the fall of a given academic year. Additionally, "an institution that determines its mission includes providing substantial preparation for students to enroll in another eligible institution must prepare the transfer-out rate of its certificate- or degree-seeking, first-time, full-time undergraduate students." Because SRK focuses on the degree completion of student athletes in relation to the non-athlete student population, the legislative language requires this data be collected for both athletes and non-athletes.

The IPEDS GRS survey is the most widely used and cited data source for graduation rates. Because these data are frequently used to inform federal policy decisions, it is critical that policy makers and education researchers are aware of their benefits and limitations. The following is an outline of the pros and cons of using IPEDS GRS.

Advantages

Annual institution-level data collection. IPEDS represents the only federal collection of data on colleges and universities that occurs every year. Annual collection of graduation rates ensures that data are available for year-to-year comparisons of trends that can help inform the policy decisions of higher education leaders and state and federal policy makers.

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[15] Gold, L. & Albert, L. (2006, March). Graduation rates as a measure of college accountability. *American Academic* 2(1), 89–106.

Mandated participation. IPEDS GRS is the only reporting of graduation rates that is federally required by law. Because all institutions that receive Title IV funds participate, the survey captures all institutional sectors of higher education from elite private baccalaureate universities to vocational schools. This broad representation allows researchers and policy makers to compare graduation rates among similar institution types and examine specific variables that contribute to a graduation rate.

Institutional comparisons. IPEDS is the only comprehensive federal database on colleges and universities that allows for institution-level comparisons of graduation rates. Policy makers and researchers can combine these data with other IPEDS data resources, such as

enrollment trends, staffing, instructional expenditures, and other institutional characteristics to develop an analysis of institutional differences in graduation rates.

Ability to disaggregate by race and gender. IPEDS data allow for the disaggregating of graduation rate data by race and ethnicity as well as gender. This is critical to tracking the disparities that exist in degree completion between minorities and whites as well as between men and women.

Disadvantages

Although IPEDS provides a wealth of valuable information on colleges and universities, there are several significant drawbacks to using IPEDS GRS to calculate graduation rates.

GRS cohort. The most discussed issue with the IPEDS GRS data is *who* is included in the cohort. The cohort for calculating graduation rates includes only first-time, full-time, degree-seeking students. *First-time* students are those who have never previously enrolled at a postsecondary education institution. The term *full-time* refers to students who were taking full course loads in the first semester of their first year.[16] This excludes any student who started his or her first semester part time or who transferred from another postsecondary education institution. Additionally, because most of the GRS cohorts are based on fall enrollment, students who enroll mid-semester or in the winter/spring semester are excluded. These students represent 25 percent and 30 percent of community college and for-profit sector first-year enrollments, respectively.[17]

Transfer students are regarded differently in IPEDS depending on the type of institution from which they transfer. Associate degree–granting institutions with the mission to prepare students to transfer to a baccalaureate institution are allowed to count transfers who completed the equivalent of a transfer preparatory program[18] as completers. However, students who

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Recent Extension in Percent of Normal Time

In the 2008 Higher Education Opportunity Act, a significant change to the IPEDS GRS survey occurred when the benchmarks for determining graduation rates were extended. This means that institutions capture graduation rates not only at the mark of 150 percent of normal time, but also at the 200-percent mark. For example, bachelor's-degree completion will be measured after both six and eight years. This will allow the GRS survey to capture more of the students who drop from full time to part time or stop out and take longer than six years to graduate.

The same extension applies to two-year programs at associate degree–granting institutions. Associate-degree completion will be measured after both three and four years. This extension has a significant impact on community colleges because their students are more likely to enroll part time and take longer to finish.

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[16] If a student begins as a full-time student but drops to part time, that student would still be considered part of the GRS cohort.

[17] U.S. Department of Education, National Center for Education Statistics, Beginning Postsecondary Students Study, 2003 (analysis by author).

[18] A *transfer preparatory program* is defined in 34 Code of Federal Regulations (CFR) Student Assistance General Provisions, Section 668.8(b)(1)(ii) as "the successful completion of at least a two-year program that is acceptable for full credit toward a bachelor's degree and qualifies a student for admission into the third year of a bachelor's degree program." The Secretary considers this the equivalent of an associate degree.

attend baccalaureate institutions and transfer to another postsecondary education institution, regardless of whether it is an associate or baccalaureate institution, are not tracked and thus are counted as non-completers for the institution of origin. Consequently, if a student transfers from a baccalaureate institution to any other institution and ultimately graduates, that student cannot be included in the graduation rate of the school from which he or she graduated because the student was not part of that institution's original first-time, full-time GRS cohort.

Following the institution, not the student. Because the purpose of IPEDS is to provide institutional data to the federal government, the IPEDS GRS measures institutional graduation rates, not student graduation rates, which is partly why transfer data are not tracked or reported by baccalaureate colleges and universities. What this means is that IPEDS data provide the graduation rate of students who start and finish at the same institution, not a comprehensive graduation rate of the cohort of students who started at the postsecondary education institution in a given year.

Purpose of GRS. Since its inception, the purpose of the IPEDS GRS has been to fulfill the requirements of the SRK legislation. Its statutory language provides the basis for the GRS methodology. Because scholarship athletes are exclusively full time and are most often first-time students who rarely transfer, it is logical to have a comparison group of non-athletes who represent the same type of student. Today, however, the GRS survey no longer collects data on scholarship athletes and it is increasingly being used as a measure of institutional quality. In order for graduation rates to be an effective measure of institutional quality, they should account for all students who enroll in a college or university and are seeking a degree or certificate.

Despite its statutory origin, it is important to note that the GRS (as well as all IPEDS surveys) are not

> Several aspects of IPEDS GRS data make it imperfect for informing policy decisions related to national graduation rates and institutional effectiveness.

static. NCES uses Technical Review Panels (TRPs)[19] to learn how to make IPEDS data more useful for institutions and policy makers within the limitations of the legislative language governing the data collection. NCES convened a TRP in 2007 to explore ways to revise the GRS, but no action was taken, as the implementation of mandated changes to IPEDS as a result of the Higher Education Opportunity Act of 2008 took precedence over discretionary changes to the GRS. Policy researchers have posited numerous ideas for addressing some of the disadvantages of IPEDS, and among the most discussed is one advanced by Clifford Adelman, a former researcher for the U.S. Department of Education (see page 28). His idea calls for modest adjustments to the current IPEDS model rather than a complete overhaul of the GRS survey.

Inability to disaggregate by income. A major issue in higher education is the disparities in enrollment, persistence, and attainment among low-income students. IPEDS does not collect income data on students and therefore does not have the ability to provide graduation rates by student income.

Implications for Policy Makers

As stated previously, IPEDS is the most frequently used data for national graduation rates. As the only database that captures information annually from every federally funded college and university in the United States, many policy makers and educational researchers view it as the best source of data on postsecondary education institutions. However, as this overview reveals, several aspects of IPEDS GRS data make it imperfect for informing policy decisions related to national graduation rates and institutional effectiveness.

IPEDS GRS was created to provide data on graduation rates for student athletes compared with a similar group of non-scholarship students; in other

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[19] Technical Review Panels (TRPs) are conducted to solicit peer review and feedback on NCES projects. TRPs are made up of about 40 nationally recognized higher education experts, NCES staff, and staff from other federal agencies.

words, the first-time, full-time population. However, according to 2008 IPEDS data, the GRS cohort at baccalaureate institutions accounted for 61 percent of the fall entering class.[20] This means that nearly 40 percent of students entering in the fall at baccalaureate institutions are not included in IPEDS GRS. Because this number does not account for students who enrolled in a semester other than the fall, students in the GRS cohort actually account for significantly less than 61 percent of the total entering class of 2008. Similarly, at associate-degree schools, the 2008 GRS cohort accounted for only 33 percent of their fall enrollment, but this excludes students who did not enter in the fall semester, which is a significant number at community colleges. Overall, of the 22.5 million students who enrolled in postsecondary education in 2008, at least 48 percent were not accounted for in IPEDS GRS.

The share of students who fall outside the current GRS cohort is likely to increase. According to BPS data, in fall 1989, 23.9 percent of students entering postsecondary education began as part-time students (41.9 percent at community colleges). In 2003, the share of first-year students who were part time was 27.3 percent (49.3 percent at community colleges). Similarly, the number of student transfers that are not tracked in IPEDS has increased (i.e., baccalaureate to baccalaureate, associate to associate, and baccalaureate to associate). BPS data reveal that among students who entered college in fall 1995, 10.5 percent had engaged in at least one of these types of transfers within their first three years of school.[21] In fall 2003, 12.1 percent had engaged in such a transfer by their third year of school.[22]

If IPEDS GRS was used to establish a national graduation rate benchmark, at least 48 percent of the students who entered postsecondary education in 2008 would not be included in the cohort. With such a large share of students unaccounted for, IPEDS has limited utility for measuring institutional effectiveness of graduating students.

National Student Clearinghouse

The National Student Clearinghouse, commonly referred to as the Clearinghouse, is a non-federal, independent, nonprofit organization serving the higher education community by housing a central repository of student data on enrollment and degree attainment. Since its inception, the Clearinghouse has served as the reporting agent between participating institutions and student loan industry participants, such as lenders, guaranty agencies, and the Department of Education. The Clearinghouse provides data on student enrollment on behalf of the member institution to the student aid agencies in order to help determine the student's deferment or repayment status.

The Clearinghouse's role as the reporting agent is helpful to colleges and universities that would otherwise have to communicate on a case-by-case basis with the hundreds of lenders and banks that students have used to receive their student loans. In recent years, the Clearinghouse has expanded its higher education services. Along the same lines, the Clearinghouse provides degree verification to employers and background-search firms, and enrollment verification to health insurers and others that provide services based on enrollment status. The Clearinghouse also serves as a liaison among secondary schools and districts and postsecondary education institutions so that school districts can see where their graduates are attending college and keep track of the students' attendance patterns. Member institutions can see if college students who have dropped out have enrolled elsewhere in the country.

> Since its inception, the Clearinghouse has served as the reporting agent between participating institutions and student loan industry participants.

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[20] U.S Department of Education, National Center for Education Statistics. 2008 Integrated Postsecondary Education Data System.

[21] U.S. Department of Education, National Center for Education Statistics, Beginning Postsecondary Students Study, 1996 (analysis by author).

[22] U.S. Department of Education, National Center for Education Statistics, Beginning Postsecondary Students Study, 2003 (analysis by author).

The higher education community values the Clearinghouse's services and the administrative burden that they remove from the institutions' shoulders. This is evidenced by the current membership numbering over 3,300 colleges. The member institutions represent 93 percent of all students enrolled in postsecondary education.

The Clearinghouse was founded in 1993 as the National Student Loan Clearinghouse. It was established in conjunction with several educational and student financial organizations. It started as a pilot study using 34 schools, five guarantors, and 14 lenders. Within two years of its creation, the Clearinghouse captured 25 percent of all postsecondary enrollment and 60 percent of student borrowers. In 1999, the National Student Clearinghouse dropped "Loan" from its name to reflect its new array of services. Around this time, the Department of Education's Direct Loan Program became a Clearinghouse member, expanding the percentage of student borrowers covered by its services. As of 2009, the schools that participated in the Clearinghouse accounted for 93 percent of students enrolled in postsecondary students and the Clearinghouse had more than 100 million records in its database.

> The Clearinghouse presents some unique advantages in calculating graduation rate.

Calculating a Graduation Rate with Clearinghouse Data

Because Clearinghouse participation transcends normal geographic boundaries and institutional sponsorship designations, Clearinghouse data can be used to calculate a graduation rate in several ways. The data can follow all nationwide enrollments in a particular starting year and see how many students graduated. With StudentTracker, students can easily be tracked as they move among higher education institutions. Using enrollment and degree data, the Clearinghouse also can work backward to cluster students who attended the same institution, and calculate an institutional graduation rate much like IPEDS. Unlike IPEDS, the Clearinghouse can calculate a graduation rate for part-time and transfer students, not just first-time, full-time students.

Advantages

Accurate "real-time" data. The Clearinghouse presents some unique advantages in calculating graduation rate, the biggest of which is the updated nature of the data. Participating institutions send electronic files with enrollment data to the Clearinghouse every 30 to 40 days. The data are in nearly real time and, even accounting for time to analyze the data and complete a formal report, the information will be more current than NCES's IPEDS GRS. Because data submitted to the Clearinghouse also serve a compliance reporting purpose for institutions, the available data are highly accurate.

Accounts for a majority of students. Schools participating in the Clearinghouse account for 93 percent of students enrolled in postsecondary education. Although it is unclear exactly how many of these students are included in the Clearinghouse data, it is widely believed the graduation rates calculated from this population include a majority of enrolled students: part time, full time, transfers, and stop outs. For institutions sharing detailed degree information, the Clearinghouse could provide graduation rates for students seeking graduate degrees who are generally not part of the graduation rate conversation. These rates could be disaggregated by degree type or field of study in order to understand how long it takes graduate students in a particular program to finish their degree.

Flexibility in calculating the graduation rate. Because the Clearinghouse is not limited to the Student Right-to-Know graduation rate methodology, there can be flexibility in how it calculates graduation rates. For example, the Clearinghouse has the tools to calculate individual graduation rates for different cohorts of students. These results could be aggregated to establish a graduation rate for different sectors of higher education such as community colleges or baccalaureate institutions that would include transfers. By not limiting the population of students to those who study full time, it would be possible to establish graduation rates for those who enroll part time. Additionally, the Clearinghouse can accommodate

institutions establishing their own evaluation periods for graduation rates. Institutions can calculate graduation rates at the standard 150 percent of time, or 200 percent of time, but have the freedom to go out as far as necessary to create an encompassing picture of graduates. With the large amount of data that the Clearinghouse stores and can access, it has a unique opportunity to expand the methods for calculating a graduation rate that potentially can be the most accurate and most useful indicator of how specific groups of postsecondary students and institutions are faring.

Disadvantages

Data are not publically reported. One significant drawback to the Clearinghouse data is that they are not available to the public. The private organization is not required to make its database available to the public, including to higher education stakeholders and policy makers. The Clearinghouse maintains a policy that it can release information to the public in an aggregate format as long as the information does not identify a specific student, institution, or institutional system.

Participation is voluntary. Because participation in the Clearinghouse is not federally mandated, institutions can choose whether to participate. If a Clearinghouse-calculated graduation rate were to be used for policy-making purposes, not all schools would be represented. Additionally, schools must subscribe to more than one service in order to calculate a graduation rate. Being a participant of the Clearinghouse's enrollment verification service but not its degree completion verification service does not provide enough data to calculate a graduation rate. Currently, most participating institutions subscribe to both services so that a graduation rate can be calculated, but there is no guarantee that a subscription to both services will remain intact over time, which could impact year-to-year graduation rates.

> If a Clearinghouse-calculated graduation rate were to be used for policy-making purposes, not all schools would be represented.

Limited demographic data. Although the colleges and universities that participate in the Clearinghouse do report demographic data on students (e.g., race/ethnicity, gender, class standing, current major, and so forth), the amount of information is limited. (Similar to IPEDS, no income data is collected.) Additionally, much of the reporting of the demographic data to the Clearinghouse started only within the past three years, and not all institutions report this data.

Incomplete certificate information. Although the Clearinghouse can report data on certificate completion from its participating institutions, not all schools report this information. Therefore, a comprehensive picture of certificate completers is not possible. The Clearinghouse is exploring the possibility of increasing the number of institutions that report data on certificate earners.

Implications for Policy Makers

Among the databases that can generate national postsecondary graduation rates, the Clearinghouse is the most flexible. The Clearinghouse is able to calculate a graduation rate for an entering cohort of students (similar to BPS) as well as an institutional graduation rate (like IPEDS). In other words, the Clearinghouse data can inform policy makers of how the higher education system is doing in graduating students in general, as well how individual institutions fare in graduating students. Additionally, because the Clearinghouse tracks students until they complete their degree program, it is able to provide data on how many students are still enrolled beyond six or eight years. This is important information because it distinguishes students who have dropped out or stopped out from those who have not completed but are still pursuing their degree, information that is not available in IPEDS.

One additional advantage for policy makers is the timeliness of the data. Although IPEDS data tend to lag behind the current year (for example, in summer 2010, the earliest six-year graduation rate data available in IPEDS were for students graduating in 2008), Clearinghouse data are "real time." That

is, data on students graduating in 2010 would be available in 2010.

Although the flexibility and timeliness of the Clearinghouse data make them a valuable tool for policy makers, two major issues supersede that policy value. First, and most importantly, colleges and universities are not required to participate. According to IPEDS in 2008. there were 6,898 postsecondary education institutions that received federal aid. Although the institutions that participate in the Clearinghouse account for 93 percent of all enrolled students, graduation rates can be calculated only for the approximately 2,642 (or 38 percent of colleges and universities) that submit degree completion information. This means that 62 percent of postsecondary education institutions that receive federal funding are not accounted for in Clearinghouse data. The majority of these are less-than-two-year, non–degree-granting institutions with small enrollments. For federal policy makers interested in institution-level graduation rates, however, the lack of participation by so many federally funded institutions would be cause for concern. This is particularly true for non-degree, certificate-granting institutions, which currently are a major focus of Congress and the Department of Education.

Second, although the Clearinghouse does receive data on certificates awarded, it does not receive this information from all institutions. Due in part to President Obama's desire to increase U.S. educational attainment and have every American complete at least one year of college, sub-baccalaureate programs, specifically certificate programs, have become a point of focus for both state and federal policy makers. Although the Clearinghouse is exploring the possibility of capturing certificate completion data from all schools, it currently cannot provide a comprehensive calculation of certificate completion.

State Data Systems

Although the focus of this report is on databases that provide national-level graduation rate data, it is important to acknowledge the potential role that state databases may play in the national graduation rate conversation. The increased call for more accountability of postsecondary education institutions has spawned talk of a federal student record system that would track individual students' educational performance throughout their academic careers. This idea gained prominence in 2006 when it was endorsed by the Secretary of Education's Commission on the Future of Higher Education. Supporters of a so-called national unit record system believe it is the only way to obtain accurate graduation rate data because it would track students regardless of when they start their postsecondary education or where they finish. Critics argue that the reporting requirements would violate student privacy, and that states already collect sufficient information from colleges and universities to calculate graduation rates and other educational outcomes.

In the 2008 Higher Education Opportunity Act (HEOA), Congress included a provision that prohibited the development of a federal student unit record system, thus eliminating the possibility of such a database without a change in the law. However, the HEOA specifically states that there was no federal prohibition on "a state or consortium of states from developing, implementing, or maintaining state-developed databases that track students over time, including student unit record systems."

Because of the reporting requirements for the primary federal elementary-secondary education legislation, No Child Left Behind, most states have at least begun the process of developing state databases to track individual students' progress through state K–12 education systems. In an effort to encourage states to continue developing these databases (and possibly link them to create a national nonfederal database), the Obama administration has established financial incentives for states to develop robust unit record systems that include postsecondary education. The best-known example is Race to the Top, a $4.3 billion competitive grant initiative designed to spur systemic reform and innovative

> The increased call for more accountability of postsecondary education institutions has spawned talk of a federal student record system.

approaches to teaching and learning in America's schools. One of the criteria for qualifying for funding is "fully implementing a statewide longitudinal data system." In addition to Race to the Top, the federal government has provided $506 million since 2005 to the Statewide Longitudinal Data System program at the Institute for Education Sciences to promote the development of state data systems.

In addition to the encouragement from the Obama administration, several foundations and non-profit organizations are assisting states to develop comprehensive unit record systems. A 2010 report by the State Higher Education Executive Officers (SHEEO)[23] took inventory of how many states have student record databases, how many of them link with other data, and how the data are used. The report found that 45 states have unit record systems that cover post-secondary education institutions. A 2007 report funded by Lumina Foundation found that state data-bases account for 81 percent of the total enrollment in U.S. colleges and universities. Among these states, the databases are commonly used to cal-culate postsecondary graduation rates.

Also of note is the Common Data Standards (CDS) Initiative, funded jointly by the U.S. Department of Education (which is funding the development of the standards) and the Bill and Melinda Gates Foundation (which is funding the communica-tion and adoption of the standards, along with SHEEO and the Council of Chief State School Superintendents). The purpose of the CDS is to develop a model of data standards for K–12 and postsecondary education. One of the more spe-cific CDS goals is to identify a list of key K–12-to-postsecondary variables (including graduation rates) and "agree upon standard definitions, code sets, business rules, and technical specifications for those variables to increase data interoperability, portability, and comparability across states, districts, and higher education organizations."

> Several foundations and nonprofit organizations are assisting states to develop comprehensive unit record systems.

Advantages

Accurate state-level graduation rates. Because state-level data are collected at the student level (like the NCES sample surveys and the Clearinghouse), more comprehensive graduation rates can be calculated. Additionally, because an increasing number of state databases are following students' activities beyond graduation, state databases are not limited to a five- or six-year graduation rate and can calculate gradu-ation rates based on what makes the most sense for their states.

Context for students. In addition to being able to cal-culate accurate graduation rates at the student and institutional levels (at least for public institutions), state data systems can provide impor-tant contextual information on stu-dents to better understand graduation rates. For example, among the data elements the DQC considers essen-tial to developing a comprehensive longitudinal data system are eco-nomic status; and transcript data that includes items such as rigor of K–12 curricula, standardized test data, and teacher prepa-ration data. These data will provide a better sense of the many pre-collegiate factors that can affect whether a student will complete his or her degree.

Disadvantages

Limited coverage of private nonprofit and for-profit institutions. While state data systems can provide a wealth of information on public institutions, they typically have very little information on private insti-tutions. An increasing number of private institutions are moving toward participating in state databases; however, they may not participate in all aspects of the database. For example, enrollment data may include only state residents who receive state finan-cial aid. Although this is less of an issue for states

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[23] Garcia, T., L'Orange, H., (2010). *Strong foundations: The state of postsecondary data systems.* Boulder, CO: State Higher Education Executive Officers.

such as Wyoming, where private institutions account for slightly more than 30 percent of colleges and universities in the state, in states such as Massachusetts (where 80 percent of postsecondary education institutions are private), this would be problematic.

Tracking students out of state. Nationally, 12 percent of students attend college out of state (National Postsecondary Student Aid Study [NPSAS], 2008). Only eight of the 45 states with a unit record system have the ability to track students across state lines (Garcia and L'Orange, 2010). According to residency and migration data from IPEDS, states ranging in size of student population from Alaska and Connecticut to California and Texas have more out-of-state students enrolled among their first-year classes than in-state residents. This includes students who may have started their postsecondary education in state but then transferred to college or university out of state. Without the ability to link to databases in other states, students who enroll in postsecondary education out of state would be lost in a state data system.

> Very few states have similar-enough data systems to compare student outcomes.

Good state-level data, but hard to aggregate to a national level. Because few states have yet to link their data with other states, there currently is no way to aggregate data from the current state databases into a national graduation rate. Part of the challenge in linking state databases is establishing consistent definitions for data elements across all states. Without common data definitions, it will be impossible to compare graduation rates among states. Organizations like the DQC are working with states to help create these standard definitions.

Implications for Policy Makers

For state policy makers, comprehensive state unit–record data systems are more valuable than any existing national database. Being able to track students' educational activities from kindergarten into the workforce allows for more targeted policy decisions around increasing state graduation rates. At the federal level, however, state data systems currently have little to no value.

Despite the numerous initiatives and organizations hard at work to develop common data standards and definitions across all 50 states, very few states have similar-enough data systems to compare student outcomes. Until common data standards are developed among states, it will be difficult for states to have comprehensive data on students who leave their boundaries for any portion of their education. Additionally, private institutions, particularly in the for-profit sector, have been slow to participate in the state data systems. Inclusion of the private sector is essential for a comprehensive database of students' educational experiences.

If at some point all 50 states develop common data definitions and standards that allow for national comparisons, these systems could be valuable tools to better understand where federal resources are best allocated to improve both postsecondary education graduation rates as well as U.S. educational attainment.

Non-institutional Databases

Beginning Postsecondary Students (BPS) Study

The Beginning Postsecondary Student (BPS) Study is another survey from NCES that follows a cohort of students who enroll in postsecondary education for the first time. The study collects data on student persistence in college, transitions to the workforce, demographic characteristics, and changes over time in the students' goals, marital status, income, and debt.[24] Because BPS follows students over a six-year period, it can be used to calculate a graduation rate that is nationally representative of college students. In addition to graduation rates, BPS data can answer questions such as why students leave school, how financial aid influences persistence and completion, and what percentages of students complete various degree programs.

> Because BPS follows students over a six-year period, it can be used to calculate a graduation rate that is nationally representative of college students.

BPS is a sample survey, meaning that it captures a sample of entering undergraduate students that are demonstrative of the national student body. BPS draws its initial cohorts from NPSAS, which uses a large, nationally representative sample of postsecondary students and institutions to examine how students pay for college. For the most recent BPS (2004), 19,000 students were included in the sample. BPS conducts follow-up interviews two and five years after the students' entrance into college.

With the establishment of IPEDS, a national source of information on enrollments and completions in postsecondary education existed. However, during the mid-1980s, as Title IV financial aid programs were expanding along with a concern about how students were financing their postsecondary education, it was clear that IPEDS could not provide the information on participation in financial aid programs that the Department of Education needed. After much deliberation between the Office of Management and Budget and NCES, it was concluded that the only way to obtain reasonable data in these areas would be to survey students enrolled in postsecondary education. This led to the development of NPSAS in 1984, the cross-sectional survey from which the BPS cohort is derived. However, it became clear from the first wave of NPSAS that students in postsecondary education were not solely individuals who made the immediate transition from high school to college, but were a much more heterogeneous group.

As a result, it became obvious that NCES longitudinal studies of high school cohorts were not sufficient to study such topics as persistence and completion in postsecondary education. Because NPSAS sampled students at all levels of postsecondary education—from freshmen to graduate and first-professional students—it was the natural vehicle for identifying a sample of first-time beginning postsecondary students who could be followed as they persisted and completed postsecondary education and went into the workforce or graduate school. This led to the development of BPS. Although students are not obligated to participate in NPSAS, NCES is required by law to conduct NPSAS and disseminate the findings at least every four years.

Advantages

Follows the student, not the institution. The main advantage of using BPS to calculate a graduation rate is that it follows the student, not the institu-

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[24] See the BPS web site at http://nces.ed.gov/surveys/bps/about.asp.

tion. Therefore, the survey will track a sample of all types of students who enter college in a given year: part-time students, students who transfer as well as students who stop out, and those who co-enroll. By following the student, BPS measures the rate at which students graduate as opposed to the rate at which institutions graduate students.

BPS also accounts for those students who have not yet attained a degree but are still enrolled. According to the 1996 BPS, 14 percent of degree-seeking students were still enrolled after six years. Accounting for students who are still enrolled is valuable because their persistence indicates that those students are still making progress toward completing a degree.

Provides contextual information for graduation rates. The BPS student participants were surveyed over the web, by phone, and in some cases in person. These research methods yield personal, self-reported data that IPEDS and other surveys cannot capture. For example, among some of the information contained in BPS is race/ethnicity, gender, and income data, as well as frequency of stop outs and transfers, current employment situations, remedial courses taken, and educational goals. This makes BPS a dataset that not only allows the calculation of a graduation and persistence rate, but also provides researchers with contextual data that allows for predicting graduation rates for populations like minority and low-income students. These data are extremely valuable, particularly when using persistence and degree completion as a measure of institutional quality. Having contextual data on factors that affect a student's ability to complete a degree program allows institutions to create programming to address the issues most commonly associated with students dropping or stopping out.

> BPS can be a valuable tool for policy makers because, unlike IPEDS, it measures how successful students are at completing a degree.

Disadvantages

Age and frequency of the data. A complex longitudinal study such as BPS brings with it an inherent complexity, primarily the time that it takes to track students and make the data readily available to the public. Because BPS starts a new cohort every seven to eight years, the lapse between cohorts can be a considerable amount of time. This means that it takes longer to understand the trends in graduation rates, and once trends can be developed, there remains a question of relevance. For example, the cohort that started college in 2004 was interviewed in 2006 and again in 2009. Results from the 2009 collection may not be released until 2011. If a higher education professional or policy maker in 2010 wanted to know the most up-to-date graduation rate using BPS, he would have to go back to a previous cohort who entered college in 1996 and whose last interview was in 2001, thus providing a graduation rate that is nearly a decade old and not necessarily reflective of today's higher education student demographics, enrollment, and completion patterns. The dated nature of these data is largely a function of most longitudinal studies. Because longitudinal studies "mature" over time, conditions present at the start of the study could change, making the data less relevant.

No state or institutional data. Because BPS is a student-focused sample survey, it does not provide institution-level data. It provides data on students only at an aggregate level, such as data on students at particular types of institutions. Additionally, it does not provide state-level data. This is due to a relatively small sample size that does not allow for state-level comparisons. NCES has explored the possibility of expanding the sample to allow for state-level analysis, but has deemed it too cost prohibitive.

Implications for Policy Makers

BPS can be a valuable tool for policy makers because, unlike IPEDS, it measures how successful students are at completing a degree (within six

years) regardless of how many institutions they attend. As the example cited earlier in the report reveals, the IPEDS institutional graduation rate for students entering a baccalaureate institution in 1995 was 56 percent, while the BPS student graduation rate for the same cohort was 66 percent. This disparity suggests that although institution-level data may be important for accountability purposes, policy makers should not lose sight of how students are faring in the system of higher education as a whole.

Because BPS studies launch only once every eight years, policy makers and researchers often lack current BPS data. With sources like IPEDS available on an annual basis, BPS, despite the rich detail it provides, is used much less frequently to inform policy decisions. However, the gap between BPS data collections should not be a deterrent for policy makers. Graduation rates, whether measuring an institution or following a student, do not change much even during a five- to seven-year period. IPEDS shows the six-year graduation rate of baccalaureate schools for students completing in fall 1997 as 54.3 percent. The graduation rate for students five years later in the 2002 cohort was 55.9 percent. Likewise, BPS shows the five-year graduation rate for students graduating from a baccalaureate institution in 1994 as 51 percent, compared with a graduation rate of 53 percent for a similar group of students in 2001. These data suggest that despite the gap in data collection for BPS, it can still be a useful resource for policy makers.

National School-to-College Longitudinal Studies

Other longitudinal surveys from NCES include the National Longitudinal Survey (NLS), High School and Beyond (HS&B), National Education Longitudinal Study (NELS), Education Longitudinal Study (ELS), and High School Longitudinal Study (HSLS) surveys. These surveys are grouped together because of their similarities in following cohorts of K–12 students through their postsecondary and workforce transitions after high school. The cohorts for these studies are nationally representative samples of eighth grade

and high school students. These databases differ from BPS in that in addition to calculating a traditional graduation rate, they also can also be used to examine what percentage of high school graduates in a given year have earned a college degree a certain number of years after high school graduation.

The NLS survey was conducted in 1972 and followed high school seniors for 14 years until 1986. A similar survey, NELS started a cohort in 1988 and followed eighth grade students for 12 years, until 2000. Both the NLS and NELS cohorts surveyed not only the students, but also the students' teachers, parents, and school administrators to provide an accurate picture of the students. Postsecondary transcript data were collected for those students who attended a postsecondary education institution. In the middle of NLS and NELS was the HS&B study. HS&B was launched in 1980 and followed high school seniors and sophomores for seven and 12 years, respectively, not only to document postsecondary education attainment, but also to gain insight on family formation and career and work outcomes.

> Both the NLS and NELS cohorts surveyed not only the students, but also the students' teachers, parents, and school administrators.

The ELS survey is more recent than NELS, and was launched in 2001 with a cohort of high school sophomores. It is scheduled to run through at least 2012 and as late as 2016 or 2018, depending upon funding. The ELS survey is designed to answer more policy-based questions than NELS. ELS seeks to answer questions of school attributes associated with student achievement, factors that influence high school dropouts, and the transition from high school to postsecondary education or the workforce disaggregated by race, ethnicity, gender, and socioeconomic status. ELS will also examine home educational support systems, school and classroom characteristics, postsecondary education choice, and high school outcomes. Like NLS, HS&B, and NELS, the ELS survey will be able to calculate a graduation rate through the use of transcript data.

The most recent secondary education survey is the HSLS. This survey began with its first cohort of

nationally representative ninth graders in 2009 and will follow up with the group in 2012 when the sample reaches 11th grade. After students graduate high school, they will be interviewed in 2015 to survey their opinions about their postsecondary experiences, and again in 2021 to learn their opinions about their adulthood decisions and careers. HSLS has focused its survey questions on three particular research areas: (1) math and science course-taking patterns in high school, and STEM participation in college; (2) the student experience in secondary education; and (3) postsecondary education decisions made by students and parents. In addition to surveying students, HSLS also will survey students' parents, school administrators, math and science teachers, and school counselors. Transcript data will be used to track postsecondary participation and graduation rates.

Advantages

Uses transcript data. The strategy of using transcript data to calculate a graduation rate for the cohort is advantageous for some of the same reasons inherent to the BPS: Transcripts follow the student and will capture any transfers between institutions and any periods of varying enrollment, whether full time, part time, or a period of stopping out.

Provides pre-postsecondary data. Although BPS does provide some information on a select number of high school experiences, the school-to-college studies provide much more detailed information on the educational and social experiences of students prior to postsecondary enrollment. In particular, NELS:88 followed students for 12 years beginning when they were in eighth grade. This type of data allows researchers to better understand the many pre-college factors that affect student enrollment, persistence, and degree completion at the postsecondary level.

Disadvantages

NELS is extremely dated, ELS and HSLS are not available yet. The disadvantage of NLS, HS&B, and NELS for graduation rates is clear: The data are simply too old to use for shaping today's policies around graduation rates. They can provide graduation rates only for cohorts ending in 1984, 1993, and 2000. New graduation rates from the other surveys cannot be calculated for a number of years, leaving a large gap between what was known about graduation rates in 2000 and what we want to know about today's college student. ELS would provide the most up-to-date graduation rate data, but the survey is still underway and will not calculate a graduation rate for its cohort until the third follow up in 2012 (scheduled to be released to the public one year later). HSLS will not provide a college graduation rate until several years after the second follow up in 2015.

Longitudinal surveys such as BPS, NLS, HS&B, NELS, ELS, and HSLS use inclusive and accurate methods for calculating a graduation rate. The downside is that the age of the data is compromised when the method is most accurate. Following students is an expensive and time-consuming process. Not only do researchers have to wait for the passing of time, but they also need time to run their analyses and to study the results at the end of the survey. Again, this creates large gaps in time when the most current graduation rate data are too old, and knowing the upcoming rates is still years away.

> The disadvantage of NLS, HS&B, and NELS for graduation rates is clear: The data are simply too old to use for shaping today's policies.

Age (not event) cohort. Unlike BPS, which uses a cohort built around students entering postsecondary education for the first time in a given year (or an event cohort), the school-to-college studies are based on an age cohort. That is, the cohort is built around students who are in a specific grade and thus are all around the same age. Such a cohort would not account for the increasing number of college students who are not recent high school graduates.

Implications for Policy Makers

The school-to-college longitudinal studies contain the most comprehensive and informative data on the pre-college characteristics and experiences of traditional-aged college students. Although college graduation rates are a relevant measure of institutional success, the factors that influence a student's ability to complete a college degree successfully are not limited to those that occur during his or her postsecondary education. To improve postsecondary degree completion, a better understanding of prior educational, familial, and social experiences is necessary.

Unfortunately, studies such as the school-to-college longitudinal studies are complex and costly. As a result, they are not done frequently. The most recent graduation rate data currently available from these studies are nearly a decade old. And while graduation rates may not change much during a 10-year period as discussed earlier, the pre-college factors that affect those graduation rates may change. Although this is an extremely rich source of data on the many factors that affect postsecondary outcomes, because of the age of some of the data, many of the variables have an extremely short shelf life. They also exclude the large and important population of adult learners who do not proceed directly from high school to college. As a result, policy makers may find relying on these data to inform policy decisions to be problematic.

Discussion

As stated previously, graduation rates are increasingly becoming a significant part of the accountability conversation on postsecondary education institutions. As this report reveals, there are numerous databases from which to calculate national graduation rates; however, as this report also highlights, no single database can calculate annual, comprehensive graduation rates for all institutions and/or students enrolled in postsecondary education. In fact, the database used most frequently to calculate graduation rates, IPEDS GRS, not only does not calculate a student-focused graduation rate, but also calculates institutional graduation rates that exclude at least 48 percent of enrolled students.

As a result, IPEDS GRS is frequently criticized as an incomplete source of data. In fact, the Spellings Commission, in commenting on higher education's ability to capture reliable graduation rate data, cited the current crop of databases as "limited and inadequate." While this characterization of IPEDS GRS and the other databases detailed in this publication are shared by many in the higher education community, it is important to realize that many of these databases, particularly IPEDS GRS, do exactly what they were designed to do. For IPEDS GRS, that purpose was to provide the graduation rates for a population of students that can be compared behaviorally with scholarship athletes.

Although the current crop of databases used to calculate graduation rates were not designed with current policy demands in mind and vary in their ability to account for the changing enrollment patterns and demographics of students, this does not render them useless. As this report details, each of these databases provides valuable information on graduation rates. However, as the disadvantages of these databases indicate, these data should be used carefully as a measure of the overall productivity of postsecondary education institutions. For example,

using one of them individually to measure an institution's graduation rate against an established national benchmark may not accurately portray the quality or effectiveness of the institution.

As stated at the beginning of the report, our purpose is not to recommend ways to fix the existing databases or to suggest how to develop a new one-stop, comprehensive source of data for graduation rates. However, as policy makers continue their efforts to measure the quality of postsecondary education institutions, we offer the following suggestions of factors to consider before using graduation rates as a high-stakes accountability metric.

> No single database can calculate annual, comprehensive graduation rates for all institutions and/or students enrolled in postsecondary education.

Institutional Diversity

While institutional missions are reported to IPEDS, no other database provides this contextual information. Conversely, sample surveys such as BPS and the national school-to-college longitudinal studies are the only databases that provide student background information (e.g., parents' education, family income, and high school GPA). Unfortunately, these data are not available at the institutional level. Student outcomes, particularly graduation rates, should be viewed within the context of institutional mission and student demographics. According to IPEDS, in 2008, 54 percent of baccalaureate schools (or 1,481 institutions) admitted at least half of the students that applied for admission. These less-selective institutions frequently have a mission to serve low-income and other educationally disadvantaged populations. Consequently, they are less likely to have graduation rates comparable to more-selective institutions that enroll students with better academic preparation. Creating one national graduation benchmark for all institutions (or even one for each sector) not only places less selective

schools at a significant disadvantage but also may force many of them to modify their open admission policies.

Account for Students Still on Track to Graduate

In most discussions of college completions, graduation rates are treated as a dichotomous measure. That is, if a school has a graduation rate of 64 percent, the implication is that 36 percent dropped out. This is, of course, not true. Because most graduation rates are calculated within a six-year window, there are students who are still enrolled but have not graduated within the six-year timeframe. According to the 2003 BPS, among degree-seeking students at baccalaureate institutions, 14 percent were still enrolled after six years. With an increasing number of students taking longer to graduate (NELS data indicate the average time to degree is nearly six years), it is important to not only look at what percent of students graduate in a six- (or eight-) year period, but also account for what percent of students are still on track to complete a degree program.

Alternative Measures to Graduation Rates

There has been an increasing amount of attention given to alternatives to graduation rates as measures of institutional success. One of the more popular alternatives is the ratio of degrees and certificates produced per 100 students enrolled. While not a cohort measure of graduation rates, the degree-to-enrollment ratio (DER) can answer an important question: As postsecondary education enrollments have increased, have these enrollments translated into commensurate growth in degrees conferred? Unlike graduation rates, the DER provides valuable information on both enrollment trends as well as completion trends. This measure is gaining popularity as it has been used in the American Council on Education's *Minorities in Higher Education Status Report*[25] as well as the Delta Cost Project's *Trends in College Spending*.[26]

Expand the Focus Beyond Undergraduate Education

One of the reasons for the federal government's increased calls for more institutional accountability is the increasing amount of federal dollars going to postsecondary education. Interestingly, the accountability conversation has focused almost exclusively on undergraduate education. Although a significant amount of federal dollars are spent on graduate education, there is currently no federal database that allows for the calculation of a cohort-based graduation rate for graduate education.

[25] Ryu, M. (2008). *Minorities in higher education 2008: Twenty-third status report.* Washington, DC: American Council on Education.

[26] Desrochers, D., Lenihan, C., & Wellman, J. (2010). *Trends in college spending 1998–2008: Where does the money come from? Where does it go? What does it buy?* Washington, DC: Delta Cost Project.

Conclusion

The aforementioned suggestions represent factors that would be present in the perfect database for calculating graduation rates. Unfortunately, that database does not exist. Because of the importance of these factors to truly assessing the effectiveness of an institution at graduating its students, using any of the databases mentioned in this report individually may paint an incomplete picture of institutional quality. Conversely, because all these factors are present in at least one of the existing national databases, using them together can provide a more complete understanding of the effectiveness of postsecondary education institutions at retaining and graduating students.

This report has illustrated the complexities of measuring what many policy makers view as a simple compliance metric of institutional accountability with the existing national databases. While these databases are not intended to and cannot fully meet the pressing policy demand for institutional accountability measures, they are useful in helping inform policy decisions.

Appendices

Graduation Rate Databases

Survey or database	Sponsor	Purpose	Year launched	Required/voluntary
Integrated Postsecondary Education Data Survey (IPEDS) Graduation Rate Survey (GRS)	National Center for Education Statistics (NCES)	IPEDS GRS is the only reporting of postsecondary graduation rates that is required by federal law. Data from all Title IV colleges and universities are collected annually to calculate a six-year and eight-year graduation rate for baccalaureate institutions and a three-year and four-year rate for associate institutions. Cohorts established in the fall six years or three years earlier (depending on institution type) are tracked and completions are counted at the two time periods.	1997	Institutions are required by law to participate
Beginning Postsecondary Students (BPS) Study	National Center for Education Statistics (NCES)	BPS follows a sample of beginning postsecondary students over six years to collect data on student persistence, transitions in the workforce, demographic characteristics, changes in the students goals, income from working and education-related debt, and attendance patterns.	1990	Student participation is voluntary
National Longitudinal Study (NLS), High School and Beyond (HS&B), National Education Longitudinal Study (NELS), Education Longitudinal Study (ELS), and High School Longitudinal Study (HSLS)	National Center for Education Statistics (NCES)	All of the High School–to–College Longitudinal Studies follow a group of young students through their middle/high school, postsecondary, and workforce experiences. Most of these surveys collect data not only from the individual student, but also from teachers, parents, and administrators. These studies use transcript data to calculate a graduation rate.	1972, 1980, 1988, 2002, 2009	Student participation is voluntary
Clearinghouse Databases	National Student Clearinghouse	The Clearinghouse serves the higher education community by providing reporting services to higher education institutions and employers. These services include student loan information, enrollment and degree verification, student tracking, and others. Participating institutions send Clearinghouse their student data and transcript information for processing and storage.	1993	Institutional participation is voluntary
State Data Systems	Individual States	States track their students in order to answer questions about educational quality and policies in their state. States build large databases of information that often spans from K-12 to postsecondary enrollment.	Varies by state	May be required by state's public institutions

Graduation Rate Databases

Survey or database	What graduation rate questions can you answer with this survey or database?	Unit of analysis of a graduation rate
Integrated Postsecondary Education Data Survey (IPEDS) Graduation Rate Survey (GRS)	How many first-time, full-time students completed a degree or certificate within 150 percent and 200 percent of normal time? How do graduation rates vary on a number of demographic characteristics such as race/ethnicity and gender?	Institutional and state rate
Beginning Postsecondary Students (BPS) Study	What proportion of postsecondary students graduated with their degree in six years, regardless of attendance and transfer status? How do graduation rates vary on a number of demographic characteristics such as race/ethnicity, gender, and income? How many students transferred to another institution? What percentage of students who transferred graduate from the second institution attended? Why did students in the sample leave their postsecondary institution without a degree? How many students have not completed a degree yet, but are still enrolled?	National rate
National Longitudinal Study (NLS), High School and Beyond (HS&B), National Education Longitudinal Study (NELS), Education Longitudinal Study (ELS), and High School Longitudinal Study (HSLS)	What proportion of high school students who went on to postsecondary education graduate within a given period of time? How much time did different student groups (by demographics, attendance patterns, transfer status) take to complete their degrees?	National rate
Clearinghouse Databases	How many students in the United States graduate with their undergraduate or graduate degree within an unspecified number of years? How many students transfer and graduate from the second institution attended? How do graduation rates vary on a number of demographic characteristics such as race/ethnicity and gender? How long do part-time students take to graduate? How do various institutional types, sectors, and controls compare in their ability with graduate students?	Institutional, state, and national rate
State Data Systems	How many students in the state complete their degree in an unspecified number of years? How have certain state policies impacted degree completion? How do institutions inside the state vary in their degree production? How many students transfer between institutions in the state? How many students (disaggregated by demographics) graduate in the state each year?	Institutional and state rate

Graduation Rate Databases

Survey or database	Who is included in the database?	Who is included in the graduation rate cohort?	Who is excluded?	Cohorts for which you can (or will be able to) calculate a graduation rate
Integrated Postsecondary Education Data Survey (IPEDS) Graduation Rate Survey (GRS)	All Title IV–funded postsecondary institutions	First-time, full-time, degree-seeking students entering in the fall semester	Part-time students, those who were previously enrolled at any institution, students who start anytime other than fall semester, and students who transfer are excluded.	Even though the GRS survey was not launched until 1997, four-year institutions started counting their first cohort in fall of 1996. Associate institutions started their first cohort in 1999.
Beginning Postsecondary Students (BPS) Study	Nationally representative sample of undergraduate students from all sectors of postsecondary institutions	Any first-time student included in the sample who entered postsecondary education during the survey year	No type of student is excluded in the sample.	Cohorts starting in 1990, 1996, and 2004
National Longitudinal Study (NLS), High School and Beyond (HS&B), National Education Longitudinal Study (NELS), Education Longitudinal Study (ELS), and High School Longitudinal Study (HSLS)	Nationally representative sample of middle and high school students who enrolled in all sectors of postsecondary institutions	Any middle or high school student included in the sample during the survey year who went on to postsecondary education	No type of student is excluded in the sample.	Cohorts starting in 1972–NLS, 1980–HS&B, 1988–NELS, 2002–ELS, and 2009–HSLS
Clearinghouse Databases	All students at participating institutions	All students seeking any degree (including graduate degrees) regardless of attendance status or number of transfers	Students seeking a certificate are the only types of students that are excluded from the graduate rate calculation.	Enrollment and degree verification services started in 2002 and can calculate a graduation rate annually for any given cohort of interest.
State Data Systems	Postsecondary students within a particular state, primarily students at public institutions	All students within a particular state attending a public institution (In some states, a portion of students attending private institutions have been included.)	In most states, students who attend private (not-for-profit and for-profit) institutions are excluded.	State-by-state basis

Graduation Rate Databases

Survey or database	Advantages of the survey/database	Disadvantages of the survey/database
Integrated Postsecondary Education Data Survey (IPEDS) Graduation Rate Survey (GRS)	Annual data collection, mandated institutional participation for Title IV schools, allows for institutional comparisons, data are publicly available, provides four-year graduation rate for associate schools and an eight-year graduation rate for baccalaureate schools.	Cohort of only first-time, full-time students leaves out students who transfer, part-time students, and students who do not start school in the fall semester. Does not collect data on student income. Designed to satisfy the requirements of Student Right-to-Know regulations and was not necessarily meant to be a comprehensive measure of institutional graduation rates.
Beginning Postsecondary Students (BPS) Study	Follows the student, not the institution, so capturing transfers, and various attendance patterns is possible. Provides contextual information for graduation rates, including student finances, and can report students who have not graduated within the time period but are still enrolled.	The frequency of a graduation rate and the age of the data is a concern because the survey is conducted every seven to eight years. This leaves long gaps of time where there is no current graduation rate. Because this study is on students, information on institutions or states is not collected.
National Longitudinal Study (NLS), High School and Beyond (HS&B), National Education Longitudinal Study (NELS), Education Longitudinal Study (ELS), and High School Longitudinal Study (HSLS)	Provides pre-postsecondary data on students who later go on to postsecondary education. Gives contextual information for graduation rates, including student finances. Follows the student and uses transcript data to capture attendance patterns and transfers.	The age and frequency of the data are a concern because these surveys have been conducted between eight and 14 years apart and leave long gaps of time where there is no current data. While other studies use an event cohort to group students with similar experiences, the high school–to–college studies create cohorts based on age/grade which can limit the analysis of postsecondary enrollment patterns.
Clearinghouse Databases	Provides "real-time" data that are updated several times throughout the academic year. Participating institutions account for 93 percent of student enrollment. Tracks all types of students regardless of age, transfer, or level of degree. Flexibility in calculating a rate and could disaggregate the data into many types of rates. The record captures student-, institutional-, and state-level data.	Data not publicly reported and are not available for use by higher education stakeholders, policy makers, and researchers. Institutions' participation is voluntary. Unlike all of the other data sources, Clearinghouse does not include students seeking a certificate.
State Data Systems	Forty states already have a data system in place. Many of these data systems can give more accurate state-level graduation rates than the national databases. State-data systems follow the student and can account for transfers and varying attendance patterns within the state. States can calculate a graduation rate based on what makes sense for the individual state.	State-data systems cannot guarantee participation from for-profit institutions or private institutions in the state. Data from these sectors are limited and vary across time. Currently, most states have not linked systems, leaving them unable to track students who leave the state. States need common data definitions to be able to aggregate their data to a national level.

Making Graduation Rates Matter[27]

By Clifford Adelman

Education Secretary Margaret Spellings recently wrote a letter to the editor of *The Detroit News* in defense of her higher education commission's proposal for a national "student unit record" system to track all college entrants to produce a more accurate picture of degree completion. "Currently," she said, "we can tell you anything about first-time, full-time college students who have never transferred—about half of the nation's undergraduates." It took a long time to bring Education Department officials to a public acknowledgment of what its staff always knew: that the so-called "Congressional Methodology" of our national college graduation rate survey doesn't pass the laugh test. If the Secretary's Commission on the Future of Higher Education made one truly compelling recommendation, it was for a fuller and better accounting through student unit records.

But it was well known that the establishment of a national student unit record system was a non-starter in Congress due to false worries about privacy and data security. So one wonders why the department hasn't simply proposed a serious revision of the process and formula for determining graduation rates. Having edited and analyzed most of the department's postsecondary data sets, may I offer an honest and doable formula?

There are four bins of graduates in this formula, and they account for just about everyone the Secretary justly wants us to count. They count your daughter's friends who start out as part-time students—who are not counted now. They count your 31-year-old brother-in-law who starts in the winter term—who is not counted now. They count active-duty military whose first college courses are delivered by the University of Maryland's University College at overseas locations—who are not counted now. They count your nephew who transferred from Oklahoma State University to the University of

Rhode Island when he became interested in marine biology—and who is not counted now. And so forth. How do you do it, dear Congress, when you reauthorize the Higher Education Amendments this year?

First, define an "academic calendar year" as July 1 through the following June 30, and use this as a reference period, instead of the fall term only. Second, define the tracking cohort as all who enter a school (college, community college, or trade school) as first-time students at any point during that period, and who enroll for six or more semester-equivalent credits in their first term (thus excluding incidental students).

Automatically, institutions would be tracking students who enter in winter and spring terms and those who enter part time. Your brother-in-law, along with other nontraditional students, is now in the denominator along with your daughter. Ask our colleges to divide this group between dependent traditional-age beginners (under age 24) and independent student beginners (age 24 and up), and to report their graduation rates separately. After all, your daughter and your brother-in-law live on different planets, in case you haven't noticed. You now have two bins.

Third, establish another bin for all students who enter a school as formal transfers. The criteria for entering that bin are (a) a transcript from the sending institution and (b) a signed statement of transfer by the student (both of which are usually part of the application protocol). These criteria exclude the nomads who are just passing through town.

At the present moment, community colleges get credit for students who transfer, but the four-year colleges to which they transfer get no credit when these transfer students earn a bachelor's degree, as 60 percent of traditional-age community college transfers do. At the present moment, 20 percent of the bachelor's degree recipients who start in a four-

year school earn the degree from a different four-year school. That we aren't counting any of these transfers-in now is a travesty—and makes it appear that the U.S. has a much lower attainment rate than, in fact, we do. All this hand-wringing about international comparisons that puts us on the short end of the stick just might take a different tone.

Fourth, ask our postsecondary institutions to report all students in each of the three bins who graduate at two intervals: for associate degree–granting institutions, at four years and six years; for bachelor's degree–granting institutions at six years and nine years. For institutions awarding less than associate degrees, a single two-year graduation rate will suffice. Transfers-in are more difficult, because they enter an institution with different amounts of credits, but we can put them all on the same reporting schedule as community colleges, i.e., four and six years.

These intervals will account for nontraditional students (including both active-duty military and veterans) who move through the system more slowly due to part-time terms and stop-out periods, but ultimately give due credit to the students for persisting. These intervals will also present a more accurate picture of what institutions enrolling large numbers of nontraditional students, e.g., the University of Texas at Brownsville, DePaul University in Chicago, and hundreds of community colleges, actually do for a living.

Colleges, community colleges, and trade schools have all the information necessary to produce this more complete account of graduation rates now. They have no excuse not to provide it. With June 30 census dates for both establishing the tracking cohort and counting degrees awarded, the algorithms are easy to write, and data systems can produce the core

reports within a maximum of two months. It's important to note that the tracking cohort report does not replace the standard fall term enrollment report, the purposes of which are very different.

But there is one more step necessary to judge institutions' contribution to the academic attainment of the students who start out with them.

So, in rewriting the graduation rate formula in the coming reauthorization of the Higher Education Amendments, Congress should also ask all institutions to make a good faith effort to find the students who left their school and enrolled elsewhere to determine whether these students, too, graduated. The National Student Clearinghouse will help in many of these cases, the Consortium for Student Retention Data Exchange will help in others, state higher education system offices will help in still others, and we might even get the interstate compacts (e.g., the Western Interstate Commission on Higher Education) into the act. Require our postsecondary institutions to report the students they find in a fourth bin. They will not be taking credit for credentials, but will be acknowledged as contributing to student progress.

No, this is not as full an account as we would get under a student unit record system, but it would be darned close—and all it takes is rewriting of a bad formula.

After 27 years of research for the U.S. Department of Education, Clifford Adelman recently left to be a senior associate at the Institute for Higher Education Policy. His last monograph for the department was The Toolbox Revisited: Paths to Degree Completion from High School Through College *(2006).*