

**May 2003** 

# COLLEGE COMPLETION

Additional Efforts Could Help Education with Its Completion Goals





Highlights of GAO-03-568, a report to the Ranking Minority Members, Committee on Health, Education, Labor, and Pensions, United States Senate, and Committee on Education and the Workforce, House of Representatives

## Why GAO Did This Study

Because of concerns that not enough students who start college are completing a bachelor's degree, we examined (1) the extent to which students who enroll in a 4year college complete a bachelor's degree and identify the factors that affect completion; (2) what states and 4-year colleges and universities are doing to foster bachelor's degree completion; and (3) what the Department of Education (Education) is doing to foster degree completion.

## What GAO Recommends

As Education moves forward with its plan to hold colleges and universities accountable for their performance in graduating their students, GAO recommends that the Secretary of Education

- consider multiple measures that would help account for the other goals of higher education and differences among colleges and
- take steps to identify and disseminate information about promising practices in the areas of retention and graduation.

Education agreed with GAO's recommendations, but expressed concerns with some aspects of the report. Among other things, Education was concerned with the scope of GAO's review and said that, for example, GAO should have included information on graduation rate trends; however, its suggested data would not be comparable for these purposes.

#### www.gao.gov/cgi-bin/getrpt?GAO-03-568.

To view the full report, including the scope and methodology, click on the link above. For more information, contact Cornelia M. Ashby at (202) 512-8403 or ashbyc@gao.gov.

## COLLEGE COMPLETION

## Additional Efforts Could Help Education With Its Completion Goals

## What GAO Found

More than half of all students who enrolled in a 4-year college completed a bachelor's degree within 6 years. Students were less likely to complete if neither parent had completed a degree, they were black, they worked 20 or more hours per week, or they transferred to another college. Students had a greater likelihood of completing if they were continuously enrolled, attended full-time, or had more rigorous high school curriculum. After controlling for other factors, GAO found that disadvantaged students were no less likely to complete a degree than other students. However, students from disadvantaged backgrounds are less likely to attend college in the first place.



Source: GAO analysis of Department of Education data.

States are beginning to hold colleges accountable for retaining and graduating their students, and Education has been discussing this with the higher education community. Many states are publishing retention and graduation rates for their colleges, and some have tied performance in these areas to funding. According to Education, providing information on colleges' retention and graduation performance can help prospective students make informed decisions. However, the measure used by Education may not fully reflect an institution's performance because institutional goals and missions are not captured in the measure. In its strategic plan, Education has identified goals to reduce gaps in college completion and increase overall completion. It also has some evaluation and dissemination efforts related to retention and completion, however, these efforts do not systematically identify and disseminate promising retention and graduation practices to help states and institutions.

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### Abbreviations

BPS	Beginning Postsecondary Students
GEAR UP	Gaining Early Awareness and Readiness for Undergraduate
	Programs
GRS	Graduation Rate Survey
NPSAS:96	National Postsecondary Student Aid Study

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United States General Accounting Office Washington, DC 20548

May 23, 2003

The Honorable Edward M. Kennedy Ranking Minority Member Committee on Health, Education, Labor, and Pensions United States Senate

The Honorable George Miller Ranking Minority Member Committee on Education and the Workforce House of Representatives

A college degree is a key ingredient for success in the job market. Those with postsecondary degrees on average earn more than those without such degrees and bring important skills to the workplace. Completing college can serve as a means for disadvantaged students<sup>1</sup> to improve their economic and social circumstances. Beyond the societal benefits, the federal government has additional interests in encouraging college completion. Research indicates that those who stay in college and advance toward a degree are less likely to default on a student loan-the federal government provided student borrowers with \$35 billion in new loans in fiscal year 2001.<sup>2</sup> In addition to the investment the federal government makes in higher education, states, parents, and students make substantial investments. To help protect these investments, policymakers have begun to focus on accountability of colleges and universities, especially regarding college completion rates. The Department of Education (Education) has begun to discuss this issue with the higher education community.

<sup>&</sup>lt;sup>1</sup>Disadvantaged students are identified by the socioeconomic diversity index, which is based on three indicators: (1) family income as percentage of 1994 federal poverty level, (2) highest education by either parent, and (3) proportion of students in high school eligible for free/reduced price lunch.

<sup>&</sup>lt;sup>2</sup>These loans were provided through two major federal student loan programs, the Federal Direct Loan Program and the Federal Family Education Loan Program. Under the Direct Loan Program, students or their parents borrow money directly from the federal government through the schools the students attend. Under the Family Education Loan Program, money is borrowed from private lenders such as banks, and the federal government guarantees repayment if the borrowers default.

Because of concerns that not enough students who start college are completing a bachelor's degree, you asked us to determine (1) the extent to which students—including those from lower socioeconomic backgrounds—who enroll in a 4-year college or university complete a bachelor's degree and the factors that affect bachelor's degree completion; (2) what states and 4-year colleges and universities are doing to foster bachelor's degree completion and what is known about the effectiveness of these efforts; and (3) what Education is doing to foster bachelor's degree completion.

To determine the extent to which students complete bachelor's degrees and the factors that affect completion, we conducted a logistic regression using data from Education's 1995-1996 Beginning Postsecondary Students study, which tracked over a 6-year period the academic progress and degree completion of individual students beginning with the time they first enrolled in postsecondary study in 1995-1996. We analyzed data for those students who in 1995-1996 were enrolled in a 4-year institution or were enrolled at some other type of institution, but transferred to a 4-year institution at some point during the 6-year period. As a result, our analysis excludes other types of students, such as community college students who did not transfer to a 4-year institution. To identify what states and 4-year colleges and universities are doing to foster bachelor's degree completion, we conducted a survey of state higher education executive officer agencies representing all 50 states, the District of Columbia, and Puerto Rico.<sup>3</sup> We received responses representing 48 of the 52 jurisdictions (92 percent). We also interviewed state officials and administrators at 11 public colleges and universities in Florida, Maryland, Oregon, Texas, and Virginia. We selected these states and institutions based on geographic dispersion and the variety of efforts reported to us by experts and in the survey. To identify what Education is doing to foster bachelor's degree completion, we talked with Education officials and reviewed program and planning documents. A more detailed explanation of our methodology is included in appendix I. We conducted our work between April 2002 and May 2003 in accordance with generally accepted government auditing standards.

<sup>&</sup>lt;sup>3</sup>We used the membership list of the State Higher Education Executive Officers, a nonprofit, national association that represents statewide postsecondary education interests.

Results in Brief	More than half of all students who enroll in a 4-year college or university complete a bachelor's degree within 6 years of beginning postsecondary education. On the basis of our analysis, select background characteristics, work and college attendance patterns, as well as academic preparation and performance are correlated with bachelor's degree completion. Specific factors associated with a lower likelihood of completing a bachelor's degree include coming from a family in which neither parent had earned a bachelor's degree, being black, working 20 or more hours per week, or transferring to another institution. Students were more likely to complete their degree work if they were continuously enrolled during the 6-year period or attended full-time. The likelihood of a student graduating within 6 years also increased as rigor of their high school curriculum, high school grade point average, and first-year college grade point average increased. After controlling for other factors, we found that disadvantaged students were no less likely to complete a bachelor's degree than other students. Notwithstanding this fact, students from disadvantaged backgrounds are less likely to attend college in the first place.
	States and 4-year colleges and universities are employing various methods to foster bachelor's degree completion, but information on the effectiveness of these efforts is limited. Over two-thirds of the states responding to our survey reported having at least one effort in place to foster bachelor's degree completion. Most of these efforts fell into three categories: (1) increasing the number of students entering postsecondary education; (2) helping colleges improve their performance in retaining and graduating students; and (3) helping individual students remain in college and encouraging timely completion for these students. For example, in an attempt to increase the number of students entering college, Kentucky has aligned high school graduation standards with college admissions standards by creating a single high school curriculum for all students. Also, in an effort to help students remain in college, seven states reported efforts to facilitate transfer from one college to another. Officials in Florida told us that establishing policies that help students transfer from community colleges to 4-year institutions was important because the community college system is considered the point of entry for most college students in the state. States reported that almost half of these efforts have been evaluated, but provided few specific evaluation results. As a way to foster bachelor's degree completion, 4-year colleges and universities we visited were engaged in activities designed to improve the learning experience for students by creating smaller learning communities that foster greater connections to the institution, along with strengthening support of students to promote academic success. For example, some

These "living-learning" communities are operated through the residence halls where students live together and take a class together. In some cases, officials attributed increases in retention to their efforts.

Education fosters bachelor's degree completion by making financial aid available to students and providing support services for students who are low-income, come from families in which neither parent has a bachelor's degree, or are disabled. Education administers the federal student aid programs, primarily through grants and loans to help students finance college. In September 2002, we reported that little information is available on the relative effectiveness of federal grants and loans on completion. Education also administers programs that provide support services, such as tutoring, at the pre-college and college levels to help ensure successful outcomes for students who are low-income, come from families in which neither parent has earned a bachelor's degree, or are disabled. Information on the effectiveness of these programs in fostering college completion is still being collected. Through its strategic plan, Education has identified priorities for reducing gaps in college completion among certain student populations and increasing completion overall. Its strategic plan also identifies strengthening the accountability of postsecondary institutions to ensure colleges are graduating their students in a timely manner as a priority. According to Education, providing prospective students with information on graduation and retention rates to help them make informed choices about where to attend college is one way to hold institutions accountable for their performance. Education has some evaluation and dissemination efforts related to retention and completion; however, it does not have a systematic way to identify and share promising practices in these areas with states and colleges that are looking for strategies to help them better retain their students.

In this report, we make recommendations to the Secretary of Education to (1) consider multiple measures in holding institutions accountable for their performance in graduating their students and (2) identify and disseminate promising practices in the areas of retention and graduation.

In written comments on a draft of this report, Education agreed with our recommendations, but expressed concerns with some aspects of the report. Among other things, Education had concerns with the scope of our review and commented that, for example, we should have provided information on trends in graduation rates; however, the studies it suggested we use are not comparable and should not be used for these purposes. Education also provided technical comments, which we incorporated where appropriate.

## Background

Many factors affect why some students graduate from college and our review would not be complete without first considering the extent to which students with different characteristics advance to higher levels of education. Many students will complete their education without ever having enrolled in college. Figure 1 shows some of the differences in educational participation and attainment for a group of students who were followed over a 12-year period starting in the eighth grade.

## Figure 1: Educational Attainment of Students Who Were in the Eighth Grade in 1988, 12 Years Later, by Income, Race/Ethnicity



Source: Department of Education.

Note: GAO analysis of Education's National Educational Longitudinal Study of 1988.

We reported in February 2002 that low-income, black, and Hispanic students complete high school at lower rates than other students.<sup>4</sup> Students from these groups who graduate from high school also enroll in college at lower rates than their peers, even though the overall rate at which students enter college directly from high school has been increasing. According to research, factors such as family income and parents' educational attainment influence students' expectations about college. Low-income students and students from families in which neither parent has earned a bachelor's degree were less likely to expect to finish college and ultimately enrolled at lower rates than other students. Academic preparation was also cited as a factor affecting postsecondary enrollment. Low-income, black, and Hispanic high school graduates were less likely to be well prepared academically to attend a 4-year college. Even among those who were qualified for college, however, low-income and Hispanic students were less likely to take college entrance examinations and apply for admission, two necessary steps for enrolling in a 4-year institution.

There are a variety of postsecondary options for students after high school. Over 15 million students were enrolled in some type of higher education in the fall of 2000. Most students were enrolled in degreegranting 2-year or 4-year institutions.<sup>5</sup> After considering their academic qualifications, students can choose to apply to institutions with varying levels of selectivity. Community colleges, for example, provide postsecondary opportunities for students who might not have the qualifications to start at most 4-year institutions. Additionally, students may wish to choose an institution based on its mission. For example, Minority Serving Institutions are recognized by statute, in part, for their mission to educate minority students.

The institutions students attend have differing graduation rates. Institutional graduation rates may vary based upon such factors as the mission, selectivity, and type of institution. For example, institutions that focus on providing postsecondary opportunities to disadvantaged

<sup>&</sup>lt;sup>4</sup>U.S. General Accounting Office, *School Dropouts: Education Could Play a Stronger Role in Identifying and Disseminating Promising Prevention Strategies*, GAO-02-240 (Washington, D.C.: Feb. 1, 2002).

<sup>&</sup>lt;sup>5</sup>About 2 percent of students were enrolled at nondegree-granting, Title IV-eligible, postsecondary institutions. These included vocational and technical programs designed to prepare students for specific careers.

students-addressing Education's goal of increasing participation in higher education—may have lower graduation rates than institutions that do not serve many disadvantaged students. To ensure that students and their parents have some information about how colleges are performing with respect to graduating their students, Congress passed the Campus Security and Student Right-to-Know Act.<sup>6</sup> This act, as amended, requires that institutions participating in any student financial assistance program under Title IV of the Higher Education Act of 1965 disclose to current and prospective students information about the graduation rates of first-time, full-time undergraduate students. The law requires that institutions report the percentage of students who graduate or complete within 150 percent of the normal program completion time. This would mean that 4-year institutions would track groups of entering students over a 6-year period. and 2-year institutions would track groups of entering students over a 3-year period. While information collected as part of this act is the principal federal measure available to hold institutions accountable for their performance in graduating their students, there are currently no federal sanctions or incentives associated with college graduation rates. As part of discussions with the higher education community, Education has held panel discussions with student-aid experts, state officials, and business leaders, among other participants, about improving accountability.

Four-year institutions calculate their graduation rate by determining the proportion of first-time, full-time students who enroll in a given year and have graduated from the same institution within a 6-year period.<sup>7</sup> Students who have not graduated from the institution where they first enrolled by the end of the 6-year period are classified as not having finished a degree, even if they transferred and completed a degree at another institution. Data from Education's 1995-96 Beginning Postsecondary Students (BPS) study—a longitudinal study<sup>8</sup> which followed the retention and degree completion of students from the time they enrolled in any postsecondary

<sup>&</sup>lt;sup>6</sup>Pub. L. No. 101-542, Nov. 8, 1990.

<sup>&</sup>lt;sup>7</sup>For the purpose of calculating a graduation rate, an institution may exclude from the original cohort students who have left school to serve in the military; to serve on official church missions; to serve with a foreign aid service of the federal government, such as the Peace Corps; are totally and permanently disabled; or are deceased.

<sup>&</sup>lt;sup>8</sup>The first BPS study tracked the educational attainment of a group of students who first enrolled in postsecondary education in 1989-90. The next scheduled BPS study will follow students who first enroll in postsecondary education in the 2003-04 school year.

institution over a 6-year period—illustrates how graduation rates are understated due to this treatment of transfer students. Figure 2 shows the completion status of the nearly 1.4 million students who started their postsecondary education at a 4-year institution in 1995-96 (no transfers into 4-year institutions from 2-year institutions or certificate programs were included). Over one-quarter of the students who started at a 4-year institution transferred from their first institution to another institution. If only those who completed a bachelor's degree at the first institution of attendance are considered, the graduation rate is 51 percent. However, an additional 8 percent transferred to another institution and completed a bachelor's degree within the 6-year period.





Source: Department of Education.

Note: GAO analysis of BPS 1995-96 data.

Over Half of Students Enrolled in a 4-Year College or University Completed Their Degree within 6 Years, but Certain Factors Affect the Likelihood of Doing So Over half of students who enrolled in a 4-year college or university completed a bachelor's degree within 6 years of beginning postsecondary education, according to our analysis of BPS data. However, background characteristics such as being black or a first-generation college student<sup>9</sup> were associated with lower rates of completion. Whereas students were more likely to complete a bachelor's degree within 6 years if, among other things, they had a more rigorous curriculum in high school, attended college full-time, were continuously enrolled, worked less than 20 hours per week, or did not transfer. After controlling for other factors, we found that disadvantaged students were no less likely to complete a bachelor's degree than other students. Notwithstanding this fact, as we have noted, students from disadvantaged backgrounds are less likely to attend college in the first place.

For various reasons, not all students who enroll in college will ultimately attain a degree. Based on Education's 1995-96 BPS study, 52 percent of the estimated 1.8 million students who enrolled in a 4-year institution at some point during the subsequent 6-year period (including approximately 450,000 students who transferred from a less than 4-year institution<sup>10</sup>) completed their bachelor's degree.<sup>11</sup> Of the 48 percent of students who had not attained a bachelor's degree, nearly 14 percent were still enrolled in a 4-year institution at the end of the 6-year period, as shown in figure 3. See appendix II for completion rates by characteristics and appendix III for descriptions of the variables used in our analysis and a discussion of their levels of significance.

<sup>&</sup>lt;sup>9</sup>First-generation college students come from families in which neither parent has earned a bachelor's degree.

<sup>&</sup>lt;sup>10</sup>These institutions include 2-year schools and certificate programs at less than 2-year schools.

<sup>&</sup>lt;sup>11</sup>Students in our population are counted as bachelor's degree completers if they had attained their degree by the end of the 6-year study. Our analysis included students enrolled in public or private, not for profit, 4-year institutions.





Note: GAO analysis of Education's BPS 1995-96 data.

Of the background characteristics we analyzed, being black or a firstgeneration college student was associated with lower completion rates. Students with either of these characteristics were about a third less likely to complete college as students without these characteristics. The completion rate for black students was 38 percent compared with 55 percent for both white and Asian students. As for students who had at least one parent with a bachelor's degree, their rate of completion was 59 percent compared with 43 percent for students who were firstgeneration college students. Being a first-generation student affected completion regardless of race. For example, first-generation white students were no more likely to complete college than first-generation black students.

Students who had a more rigorous high school curriculum and achieved better grades in high school and during the first year of college were more likely to complete college.<sup>12</sup> About 80 percent of students who had the

Source: Department of Education.

<sup>&</sup>lt;sup>12</sup>BPS includes five categories for curriculum rigor, which are based on the number and level of courses completed. The "highly rigorous" category includes 4 years each of English and math; 3 years each of foreign language, science, and social science; 1 advanced placement or honors class or 1 advance placement test score in any subject; and student had taken pre-calculus, biology, chemistry, and physics.

most rigorous high school curriculum completed college compared with 47 percent who had the least rigorous curriculum. Additionally, the higher the grades a student earned both in high school and in the first-year of college, the higher the likelihood of completion. Regarding first-year college grade point average, about 71 percent of students who earned higher than a 3.0 had completed college compared with 51 percent who earned between a 2.0 and 3.0. Students were more than twice as likely to complete college for every one-point increase in first-year college grade point average.

Decisions students make regarding attendance, participation in collegiate clubs, and work had varying effects on completion. Students who were continuously enrolled during their studies were more than 6 times as likely to graduate than students who experienced one or more breaks from enrollment<sup>13</sup> Additionally, students who attended college full-time were more than twice as likely to graduate as students who attended part-time or some combination of part-time and full-time, all other factors equal. Students who reported participating in collegiate clubs were one and one-half times as likely to graduate as students who did not participate. Less than half of students reported such participation. Students who worked 20 or more hours per week were less likely to complete a bachelor's degree than students who did not work. However, working less than 20 hours per week was not associated with lower completion rates. Figure 4 illustrates bachelor's degree completion rates by the number of hours worked per week.

<sup>&</sup>lt;sup>13</sup>A "break" includes not being enrolled for more than 4 months at a time.



Percent who completed bachelor's degree

80

Figure 4: Bachelor's Degree Completion by Number of Hours Worked Per Week

Transferring between institutions was also associated with a lower likelihood of completion in that students who transferred were a little less than half as likely to complete as students who did not. About 69 percent of students who started at a 4-year institution and did not transfer attained a bachelor's degree compared with 47 percent of students who started at a 4-year institution and transferred to another 4-year institution. The rate of completion for students who started at a 2-year institution and transferred to a 4-year institution was roughly half of those who started at a 4-year institution and did not transfer.<sup>14</sup> Figure 5 illustrates the bachelor's degree completion rate after 6 years according to type of institution first attended and transfer status.

Source: Department of Education. Note: GAO analysis of Education's BPS 1995-96 data.

<sup>&</sup>lt;sup>14</sup>Since our population includes only 2-year students who transferred, we tested to see if the effect of transferring was instead an effect of starting at a 2-year institution. We found that it is transferring that accounts for the variance in completion, not type of first institution.





Source: Department of Education. Note: GAO analysis of Education's BPS 1995-96 data.

After controlling for other factors, we found that disadvantaged students were no less likely to complete a bachelor's degree than other students. However, as we have noted, students from disadvantaged backgrounds are less likely to attend college in the first place.

States and 4-Year Institutions Had Various Methods to Foster Bachelor's Degree Completion While states and 4-year colleges and universities are employing various methods to foster bachelor's degree completion, information on the effectiveness of these efforts is limited. Over two-thirds of the states responding to our survey reported having at least one effort in place to foster bachelor's degree completion. Half the states indicated additional actions they would like to take to foster bachelor's degree completion, but cited state budget constraints as a factor preventing them from moving forward. As a way to foster bachelor's degree completion, 4-year colleges and universities we visited were engaged in activities designed to improve the learning experience for students and strengthen support of students. In some cases, officials attributed increases in retention to their efforts to foster completion.

States Are Using a Variety of Efforts to Foster Bachelor's Degree Completion, but Would Like to Do More	Thirty-four of the 48 states responding to our survey, including the 5 states we visited—Florida, Maryland, Oregon, Texas, and Virginia—reported having at least one effort in place to foster bachelor's degree completion. Most of these states reported efforts that fell into three broad categories: (1) efforts to increase the overall number of college graduates by increasing the number of students entering postsecondary education; (2) efforts to help colleges improve their performance in retaining and graduating students; and (3) efforts to help individual students remain in college and to encourage timely completion for these students. While states reported that almost half of their approaches have been evaluated, the instances where states provided specific evaluation results were limited. Half of the states indicated that there were additional actions they would like to take to foster bachelor's degree completion, but cited state budget constraints as a factor preventing them from moving forward.
States Seek to Increase the Number of Students Entering Postsecondary Education	Nineteen states have efforts to increase the number of bachelor's degrees awarded by increasing the number of students enrolling in postsecondary education. This approach includes efforts such as increasing the number of students ready for college, educating students and parents about college requirements and costs, and providing financial assistance to help cover college costs.
	<b>Increasing student readiness for college.</b> Some states have efforts to improve the academic readiness of students so that more students have the opportunity to attend college. Kentucky has a P-16 partnership that focuses on aligning standards between high school and college to ensure students are academically prepared for college. <sup>15</sup> Kentucky reported in our survey that the state had aligned high school graduation standards with college admissions standards by creating a single high school curriculum for all students. The state has adopted an online diagnostic test designed for sophomores and juniors to test their readiness for college mathematics in time to improve these skills and avoid remedial placement in college. Oregon has implemented proficiency-based admissions standards that

<sup>&</sup>lt;sup>15</sup>The terms "K-16" or "P-16" describe a movement by educators, political officials, and business leaders to work together in a more systemic way to strengthen educational achievement from kindergarten or pre-school through completion of the college degree.

specify certain knowledge and skills students should demonstrate for admission to its public universities. The standards are intended to provide more accurate information about student readiness for college and encourage students to choose challenging coursework that will prepare them for college. Oklahoma uses assessments in the eighth and tenth grades to provide students feedback on their progress in preparing for college. In addition to student feedback, colleges use assessment results to improve curricula and instruction. The state reported that since this effort began 10 years ago there have been increases in the number of high school students taking college preparatory courses, particularly among black students.

**Educating students and parents about college**. To increase the numbers of students enrolling in postsecondary education and ultimately completing a bachelor's degree, some states are focusing on raising awareness among students and parents about the benefits and costs of postsecondary education. Texas, for example, has a plan that centers on counseling students and their parents about what is necessary to enroll in postsecondary education. The state provides information on the benefits of postsecondary education, the academic preparation necessary for enrolling, and the costs of attending, including information about available financial aid and how to qualify. These efforts are designed to support its goal of increasing its enrollment from just under 1 million students in 2000 by adding 500,000 new college students by 2015.

**Providing financial aid for college.** Financial assistance is another way states seek to increase the number of students enrolling in college. Several states have programs that provide monetary assistance to academically qualified students based on academic merit, financial need, or some combination of the two. For example, Oklahoma provides free tuition at public institutions for students whose families have incomes below \$50,000 and meet other requirements, including completing a prescribed high school course of study with at least a 2.5 grade point average. Oklahoma reported that the performance of students in this program has exceeded that of the general student population. Another example is the West Virginia Higher Education Grant Program, which provides assistance to academically qualified, but needy students who attend college in West Virginia or Pennsylvania. West Virginia's evaluation of the program revealed that grant recipients had higher graduation rates than students receiving other types of financial aid and students who received no financial aid.

State Efforts to Help Colleges Improve Their Performance in Retaining and Graduating Students Many states reported efforts to improve the performance of colleges in the areas of retaining and graduating their students. Such efforts include promoting accountability for colleges by collecting and, in some instances, publishing retention and graduation rates. States also promote accountability by tying funding—mainly for public colleges—to performance. States are also sharing information with colleges about retention strategies to foster increased rates of bachelor's degree completion.

Promoting accountability for colleges. In order to hold colleges and universities accountable for their performance in the areas of student retention and graduation, states must first collect consistent information from these institutions. Three-fourths of the states that responded to our survey reported that they collect data that allow them to calculate and track retention and graduation rates for individual institutions and across the state. Specifically, 24 of these states reported that they collect enrollment and graduation data on individual students from public institutions only, and 9 states reported collecting these data from both public and private institutions in their states.<sup>16</sup> Having these data allows the state to calculate retention and graduation rates for each institution and the system as a whole. Additionally, because the institutions provide the state with individual student records, the state can track the educational progress of a student who attends more than one institution. This enables the states to include transfer students in their graduation rate. The data are limited to student transfers within the state.

Eighteen states reported that they promote accountability by publishing the performance of their colleges and universities on measures, including retention and graduation rates because some officials believe that this motivates colleges to improve their performance in those areas. In Virginia, a state that uses multiple accountability measures, officials told us that institutions are not compared with other institutions in the state with respect to the various performance measures. Rather, each institution works with the state to identify a national peer group of institutions with similar characteristics with which to be compared. In this way, institutions can see whether their performance is on par with institutions that have similar missions and serve similar types of students. In addition to

<sup>&</sup>lt;sup>16</sup>Additional states may collect summary data on graduation and retention rates from individual institutions, rather than collecting enrollment and graduation data for individual students that can be tracked across institutions.

measuring retention and graduation rates, Virginia requires its public institutions to measure and report on certain student learning outcomes to demonstrate the value of each institution to its students.

Nine states reported accountability efforts that have financial implications for colleges and universities to encourage them to graduate their students in a timely manner. These efforts include linking a portion of state funding to an institution's performance on multiple measures or making incentive payments to institutions based on their performance in the areas of retention and completion. Tennessee has a performance-funding for performance on multiple indicators, such as retention and graduation. In another variation, Pennsylvania provides a financial bonus to any 4-year institution in the state, whether public or private, that graduates more than 40 percent of in-state students within 4 years.<sup>17</sup>

Sharing retention strategies. Five states reported efforts to improve institutional performance by sharing information among state and college officials about strategies to help students remain in college. For example, the Oregon University System formed a retention work group to provide a forum for developing and sharing campus initiatives to enhance retention. The group has used annual systemwide and institutional data on retention and graduation to identify areas that need to be addressed to increase retention. The group looks at retention efforts that seem to be working on specific campuses and shares information with other campuses. As a result of its work with tribal governments to increase retention of Native American students, the system developed a Native American resource guide that includes information about topics such as outreach and retention efforts of colleges, financial assistance, childcare programs, and community college transfer procedures. Officials in Oregon attribute the increases in graduation rates at most campuses in the system to the work of this group.

State Efforts to Help Individual Students Remain in College and to Encourage Timely Completion Twenty-two states reported efforts directly aimed at helping students remain in college and encouraging timely completion for these students. Many such state-level programs provided funding to support efforts carried out by individual colleges, such as programs that provide academic and social support directly to students. Other efforts seek to ease student

<sup>&</sup>lt;sup>17</sup>Students who graduate within 5 years also count toward the bonus if they are in 5-year baccalaureate programs.

transfers among colleges, utilize technology to help students complete their degree, or include financial incentives to encourage students to complete their bachelor's degrees in a timely manner.

**Funding college programs that provide support services for students**. Several states provide funding for college-run programs designed to support students in need of assistance. For example, through its Access and Success program, the Maryland Higher Education Commission provides funds to colleges and universities<sup>18</sup> for the operation of programs to increase retention and graduation rates of their undergraduates. The colleges have used these funds to, among other things, operate summer bridge programs that acclimate students to college the summer before they enroll and provide advising, tutoring, and counseling services to students who are already enrolled. New York's Collegiate Science and Technology Entry Program, aimed at increasing the number of low-income students who pursue careers in math, science, technology, or health-related fields, provides funding for services such as enriched science and math instruction, graduate school test preparation, and career awareness.

Facilitating transfer among institutions. Seven states reported efforts to facilitate transfer from one college to another as an approach to foster bachelor's degree completion. Officials in Florida told us that establishing policies that help students transfer from community colleges to 4-year institutions was important because the community college system is considered the point of entry for most college students in the state. Florida has common course numbering for all public institutions in the state and requires public institutions to accept transfer credits for any course they offer that a student completes at another institution. Officials told us this policy prevents students from needlessly duplicating coursework, saving both the state and students money, along with reducing the time it takes to complete a degree. Florida also has a statewide policy that guarantees admission to the state university system as a junior for any student who completes an Associate of Arts degree. Officials in Florida told us that without these policies it would be difficult for community college students or other transfer students to complete their degrees. They acknowledged, however, that these policies could be at odds with encouraging timely

<sup>&</sup>lt;sup>18</sup>Historically Black Colleges and Universities are defined as, among other things, any college or university that was established prior to 1964 and whose principal mission was, and is, the education of black Americans.

degree completion because they make it easier for students to exit and reenter postsecondary education.

**Using distance learning.** A few states reported using technology to enhance access and make it easier for students to complete a degree. Kentucky, for instance, has a virtual university and library that offers credit courses and academic advising for those who work or have family situations that may not allow them to come to campus. This also aids on-campus students who need greater course availability. Students taking advantage of these electronic offerings have grown from fewer than 300 students in 1999 to nearly 10,000 in 2002.

Using financial incentives to encourage students' timely **completion.** Some states have financial aid programs to encourage timely degree completion. These programs may have time limits and/or may require students to earn a minimum number of credits each year for participation. For example, the University of Alaska Scholars Program, targeted at the top 10 percent of high school graduates, offers financial aid for eight semesters provided that the scholar remains in good standing. Other states have programs that impose financial penalties if students repeat coursework or take too long to graduate. Florida's in-state students must pay the full tuition rate—without state subsidies—for any courses they repeat more than once. Utah requires that students who enroll for credits in excess of 135 percent of what is usually needed for a degree pay higher tuition for the excess credits. Texas passed a law designed to encourage students to minimize the number of courses they take to complete their degree. State residents who complete their coursework and degrees in the state with no more than three attempted hours in excess of the minimum required for graduation are eligible to apply for a \$1,000 tuition rebate from their institution. Officials told us that about 1,500 students received tuition rebates in the 2001-2002 academic year.

Twenty-four states listed at least one area in which they would like to do more to increase bachelor's degree completion rates. Many of these desired actions dealt with increasing financial aid for students and increased financial support to colleges to help their students succeed. Some wanted to offer special funding for colleges that perform well in certain areas related to retention and college completion. Others wanted to improve preparation of high school graduates for college or improve transitions from one level of education to another. Almost without exception, the states cited state budget constraints as a significant factor preventing them from moving forward with these actions.

#### Half the States Would Like to Do More to Foster Bachelor's Degree Completion

## Four-Year Institutions Foster Completion by Improving Learning and Support of Students

Enhancing the Learning

Experience

Our visits to 11 colleges and universities in five states showed that initiatives in these institutions cluster around two main approaches to foster bachelor's degree completion: (1) enhancing the learning experience by creating smaller learning communities that foster greater connections to the institution and (2) strengthening support of students to promote academic success. In some cases, officials attributed increases in retention rates or higher retention rates for certain groups of students to these approaches.

Nearly all of the colleges and universities we visited were engaged in efforts designed to enhance the learning experience for students, primarily by creating smaller communities that foster greater connections to the institution. These approaches aim to increase students' engagement in academics and provide them with a network of faculty and other students who can support them academically and socially. These approaches are employed both in and out of the classroom, and most focus on easing the transition from high school to college for first-year college students.

**Linking courses.** Several of the colleges we visited are trying to enhance the learning environment by giving students a small classroom experience that will provide them greater opportunities to connect with faculty and their peers, not unlike the experience they would have had in high school. For example, Texas A & M University at Corpus Christi, a Hispanic Serving Institution,<sup>19</sup> requires all full-time, first-year students to enroll in learning communities—clusters of three or four classes in which the course content is linked. Students are typically enrolled in a large lecture course with 150 or more students and two other courses with 25 or fewer students from the lecture course. In addition to covering course content, instructors help students learn how to succeed in their first year of college, helping with topics such as study skills on an as needed basis.

Portland State University provides its students smaller learning communities in the freshman and sophomore years through its University Studies program. According to officials there, the university developed the program in 1994 to address disappointing retention rates from the freshman to sophomore year. Officials told us that, because few students live on campus, the university has to create opportunities for students to

<sup>&</sup>lt;sup>19</sup>Hispanic Serving Institutions are defined as having at least 25 percent of their full-time equivalent students who are Hispanic, of which no less than 50 percent are low-income individuals.

connect to the campus via the classroom. The required freshman and sophomore courses are comprised of 35-40 students who meet as a whole with faculty and in smaller mentor sessions, led by upper-level or graduate students. Officials told us they think the upper-level students who serve as peer mentors for the freshman classes are particularly helpful for many first-generation college students who attend the university and may find college more difficult to navigate.

Officials at both universities reported positive outcomes for these learning programs. Specifically, at Texas A & M students withdrew from the large lecture courses at lower rates and had higher grades in these courses when taken as part of the learning community. They also attributed retention rates for first-year minority students that are on par with other first-year students to the learning communities. At Portland State, officials attributed increases in retention from the freshman to sophomore year, as well as from the sophomore to junior year, to its University Studies program.

**Using service learning.** Connecting classroom learning to the community is another approach colleges are taking to enhance the learning experience and create a sense of belonging. The Regional Ecosystem Applied Learning Corps was established in 1997 through partnership between Southern Oregon University in Ashland, Oregon, and community and government organizations. This AmeriCorps<sup>20</sup> program engages students in the classroom and through community-based projects dealing with land management issues. One student, who went to college directly from high school but left after 2 years, told us that the Regional Ecosystem Applied Learning Corps played a large part in his decision to finish his bachelor's degree because it allowed him to connect his studies to the community while working. He noted that it was difficult to return after a 4-year break because college life felt unfamiliar to him.

**Providing residential learning opportunities.** For those students who live on campus, some colleges are aiming to improve the learning experience by enhancing educational opportunities available to students in the residence halls. Florida State University in Tallahassee, Florida, instituted its first "living-learning community" in a residence hall in the fall

<sup>&</sup>lt;sup>20</sup>AmeriCorps is a network of national service programs that engage about 50,000 Americans each year in intensive service to meet critical needs in education, public safety, health, and the environment.

of 1997 as a way to provide freshmen with a smaller community that would facilitate connections with faculty and students. An official at the institution told us that the size of the institution is an obstacle in retaining students because it is easy for students at a large research university with over 36,000 students to feel lost. Students live in a residence hall together and have to take at least one class in the building. Required weekly meetings help students navigate services available to them on the campus. Florida State reported that 5 years after the freshman class of 1997 entered the institution, 77 percent of students who participated in the first livinglearning community had graduated, while the graduation rates of other oncampus students and those living off campus was around 60 percent.<sup>21</sup>

**Promoting Scholarship.** The University of Maryland-Baltimore County established the Meyerhoff Scholars Program to increase the numbers of minorities pursuing doctoral study in math, science, engineering, and computer science.<sup>22</sup> In addition to the academic requirements, the scholars participate in activities designed to expose them to scientific careers, such as field trips and research experiences. University officials credit the program with much of the success the university has had with minority students—the 6-year graduation rate is higher for black students than for white. Officials attribute part of this success to the role Meyerhoff scholars play in motivating other minority students at the institution.

Strengthening Support of Students All of the colleges and universities we visited were engaged in efforts to strengthen support of their students to ensure their academic success and retention. Colleges support their students by providing services such as academic advising, financial aid counseling, and academic support services such as tutoring. Colleges also provide supports designed to ease the transition from high school or community college to a 4-year institution. In some cases, colleges are changing how they deliver support services to ensure the needs of students are met. For example, colleges may colocate many of their support services to make it easy for students to access them.

<sup>&</sup>lt;sup>21</sup>Florida State reported that the comparison groups were randomly selected and there was no difference among the three groups in terms of SAT scores. However, because students decide whether to participate in a living-learning community, the effects of self-selection cannot be ruled out.

<sup>&</sup>lt;sup>22</sup>The scholarship program is open to students of any race.

**Colocating support services.** During our site visits, we found that several of the institutions we visited are colocating support services to make it easier for students to access those services. In 2000, Prairie View A & M University, a historically black institution in Prairie View, Texas, implemented a comprehensive support system for freshmen. By groups of 100-125 students, freshmen are assigned to 1 of 12 academic teams. These teams consist of a professional adviser, residence hall staff, and a faculty fellow. The groups generally live together in residence halls close to all the services they might need, such as advising, academic support services such as tutoring, and financial aid counseling. Advisers work closely with the learning community manager and two community assistants, professional staff who reside in each hall. Officials think having advisers and residence hall staff working together provides many opportunities to intervene with students in time to get them connected with the services they need.

**Consolidating offices.** Some of the institutions have also made organizational changes to ensure that most of the offices providing support to students are working together. The University of Central Florida, for example, merged the student affairs office with the enrollment management office and, according to officials, having this one office responsible for recruitment and retention ensures that a wide range of efforts can be coordinated across the cycle of student life.

**Improving academic advising**. Most of the colleges we visited had made changes to improve academic advising services provided to students with the idea that students need consistent and accurate advisement to stay on the path to graduation. To respond to student complaints that advisers in their majors did not know enough about general graduation requirements, Florida State University centrally hired a total of 40 full-time advisers to work in the individual departments. According to one official, when individual departments hired advisers, the amount of time spent advising students declined over time as other responsibilities were assigned to those advisers. Retaining central control of the advisers ensures that advising is consistently available to students and that students receive advisement on both departmental and nondepartmental issues. Portland State University developed a system that allows students to stay abreast of where they are in terms of graduating. Advisers can use the system to help students develop a course plan and identify any remaining coursework they need for graduation.

**Using proactive intervention strategies.** Many of the institutions we visited have approaches designed to proactively intervene with students in

an effort to retain them to graduation. Several of the institutions reported that they have a warning system in place to identify students whose midterm grades or cumulative grade point averages drop below a certain level. These students are contacted and encouraged to meet with an adviser and to make them aware of the different services available to help them. Contacting students by telephone is an approach some of the smaller institutions we visited employ to intervene with students. For example, Southern Oregon University, in Ashland, Oregon, is proactive in calling students who are not attending classes based on faculty reports. To improve its 6-year graduation rate, Coppin State College, an historically black institution, in Baltimore, Maryland, has been contacting those students who have not pre-registered for the fall semester, but are within reach of graduating within 6 years of when they started. Officials believe calling students lets them know that someone at the college is interested in them as an individual and reinforces their commitment to return.

**Providing academic support services.** Most institutions cited academic support services as an approach to retaining students. Examples of these services include tutoring, walk-in centers that provide assistance with areas like writing and math, and programs that support special populations such as low-income and first-generation college students. Over half of the institutions we visited provide these types of services to students before they have enrolled in college to ease the transition from high school to college. In these summer bridge programs, students typically take a couple of courses, along with seminars that cover topics designed to help them succeed in college, such as time management and study skills. Generally, fewer than 100 students participate in these programs, which allows the institution to provide more intensive and personalized services. Institutions generally reported that the retention rate from the freshman to sophomore year for these students is comparable to or higher than the general population. A couple of institutions reported higher graduation rates for these students, but some officials noted that their 6-year graduation rates may lag because some of these students take longer to graduate.

**Easing the transition for transfer students.** Some institutions are engaged in efforts to encourage and ease the transition of students from a 2-year institution to a 4-year institution. For example, the University of Central Florida has forged relationships with area community colleges and has established satellite campuses at community colleges in Orlando and the surrounding area. The university's satellite campuses are designed for those students for whom transferring to a 4-year college may be difficult because of work and family commitments. The university has dedicated

faculty and staff at these satellite campuses to ensure students receive the same education and services they would at the main campus. Advisers who travel among the satellite campuses ensure that students can obtain academic advising without traveling to the main campus.

Education Has Programs to Foster College Completion, but No Systematic Efforts to Identify and Disseminate Information on Promising Practices Education fosters bachelor's degree completion through programs that provide financial and academic support to students, but little is known about the effects of these programs on college completion. Education has also established goals for increasing college completion and strengthening the accountability of colleges. While Education has some dissemination efforts—mainly through its academic support programs and through its Fund for the Improvement of Postsecondary Education program—it does not have systematic efforts in place to identify and share promising practices in the areas of retention and graduation with states and colleges that are looking for strategies to help them better retain their students.

Programs Provide Financial Resources and Academic Support to Students, but Little Is Known about Their Effectiveness In order to help students pay for a college degree, the federal student aid programs provide billions of dollars to help students finance college with the objective that students will complete their programs. The Federal Family Education Loan Program and the William D. Ford Federal Direct Loan Program, two major federal student loan programs authorized in Title IV of the Higher Education Act, together provided student borrowers with about 9 million new loans totaling \$35 billion in fiscal year 2001. The Pell Grant Program, designed to help the neediest undergraduate students, expended \$8 billion to provide grants to nearly 4 million students in 2000-2001. To be eligible for these programs, students must be enrolled in a degree- or certificate-granting program. While Education has made these funds available, we reported in September 2002 that little information is available on the relative effectiveness of Title IV grants and loans in promoting postsecondary attendance, choice, and completion, or their impact on college costs.<sup>23</sup> Among other things, we noted that data and methodological challenges make it difficult to isolate the impact of grants and loans.

<sup>&</sup>lt;sup>23</sup>U.S. General Accounting Office, *Student Aid and Tax Benefits: Better Research and Guidance Will Facilitate Comparison of Effectiveness and Student Use*, GAO-02-751 (Washington, D.C.: Sept. 13, 2002).

Education administers three academic support programs aimed at students who are low-income, first-generation, or disabled that have college completion as a primary goal. Student Support Services provides academic support to students at the college level, while the Upward Bound program and Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) serve students before they enter college.<sup>24</sup> GEAR UP differs from Student Support Services and Upward Bound, which identify and invite individual students to participate. GEAR UP serves an entire grade of students at participating schools beginning no later than the seventh grade and follows them through high school. According to program officials, the program begins no later than the seventh grade because high school is too late to begin working with students on the preparation that leads to college. Table 1 provides an overview of the three programs.

<sup>&</sup>lt;sup>24</sup>Student Support Services and Upward Bound are part of TRIO, a cluster of six educational opportunity outreach programs designed to motivate and support students from disadvantaged backgrounds through the educational pipeline. The other TRIO programs have goals for, among other things, increasing enrollment in postsecondary education, encouraging students to pursue undergraduate degrees in mathematics and science, and increasing the attainment of doctoral degrees among certain groups of students. While increasing college completion is not an explicit goal of these programs, increases in completion for participating students may be an indirect result of the services the programs provide.

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Table 1: Overview of Education Froorains That have Gonede Gondienon as a Fridary	COAL

Program	Purpose	Target population	Services provided	FY 2002 funding (in millions)	Students served
TRIO Student Support Services	Increase graduation and retention rates.	Low-income, first- generation, or disabled college students.	Counseling, tutoring, supplemental grants for qualifying students.	\$263	198,551
TRIO Upward Bound	Increase postsecondary enrollment and success. <sup>a</sup>	High school students who are from low-income families or from families where neither parent has a college degree.	Instruction required in subjects such as math, science, and composition. Services such as counseling, tutoring, mentoring, assistance completing financial aid and college entrance applications; information on postsecondary opportunities, and work study positions.	\$264	56,324
GEAR UP	Increase the number of low- income students who are prepared to enter and succeed in postsecondary education.	Entire grades of students at participating low- income schools starting no later than the seventh grade.	Relies on participating schools and partners to provide services that promote academic preparation and an understanding of college costs, provide professional development, and continuously build capacity to sustain projects beyond the grant term. Also provides scholarships for participants who enroll in postsecondary education.	\$285	1,236,606

Source: Department of Education.

<sup>a</sup>Education interprets success as graduating from institutions of postsecondary education.

In 2001, Student Support Services added a financial assistance component as a tool to increase retention and graduation of student participants. Specifically, Student Support Services permits the use of grant aid for current Student Support Services participants who are already receiving federal Pell Grants. These funds are intended to increase retention and graduation by reducing the amount of financial need or money eligible participants have to borrow in their first 2 years of study.<sup>25</sup>

Student Support Services is the only program for which information on the effectiveness of the program on college completion is available. Specifically, a preliminary evaluation of the program found that participants had higher bachelor's degree completion rates as compared to a control group of similar students not receiving those services. However,

 $<sup>^{25}</sup>$ Institutions can award funds to students who have completed their first 2 years of study if they can demonstrate that the students are at high risk for dropping out and the needs of students in the first 2 years of study have been met.

it is too early to determine the impact of the grant aid component of the program, given that it was first implemented in the 2001-2002 academic year. According to Education officials, it is also too early to determine the impact of Upward Bound and GEAR UP on college completion because students are not expected to have completed college yet.<sup>26</sup>

Education Has Identified Priorities for Increasing College Completion and Strengthening Accountability of Institutions In its 2002-2007 strategic plan, Education has established goals of reducing the gaps in college participation and completion among certain student populations and increasing completion rates overall. Education has identified some strategies for meeting these goals, such as focusing on improving the K-12 system, improving the readiness of low-income and minority students for college, and improving the effectiveness of support services for low-income and minority students. The performance measure—institutional graduation rates—Education uses for assessing its progress toward the goal of increasing completion rates understates the percentage of students who actually complete bachelor's degrees, because the measure does not account for students who transfer and complete their degrees at institutions different from where they started. However, this is the only information available on an annual basis. Other longitudinal studies, such as BPS, provide more information but are costly to administer. Education has not established other performance measures for assessing progress toward its college completion goal.

Education has also established a goal for strengthening accountability of postsecondary institutions in its strategic plan. Specifically, Education is looking to ensure that colleges are graduating their students in a timely manner. Education thinks making information on student achievement and attainment available to the public is one way to hold institutions accountable for their performance because prospective students can use this information to make informed choices about where to attend college. Education has begun to discuss this issue with the higher education community and asked the community for ideas on how to strengthen accountability of postsecondary institutions. As part of its efforts,

<sup>&</sup>lt;sup>26</sup>A 1999 review of Upward Bound conducted for Education concluded that while the program did not increase enrollments among participants, it did have positive results for students who enrolled in college. Among other things, Upward Bound participants at 4-year colleges earned more nonremedial credits than a control group. The study authors stressed, however, that these results should be interpreted with caution because only about one-fourth of the students in the study had entered college at the time they were last contacted, and one-third were still in high school. Results from a more recent followup were not available in time to be included in this report.

	Education has held panel discussions with student financial aid experts, state officials, and business leaders, among other participants, about improving accountability. Additionally, Education is considering "performance-based grants" to provide incentives to colleges for timely graduation. In one state, however, where this was tried, there were concerns that the grant created perverse incentives to increase graduation rates, such as reducing the number of credits required for graduation.
Education Has Some Evaluation and Dissemination Efforts	Education has some efforts to disseminate information on retention and completion; however, it does not have a systematic effort in place to identify and disseminate promising practices in these areas. Education has commissioned studies on the factors that affect college completion, and it has some evaluations on student retention—for example, one study dealing with retention strategies for students with disabilities and one on Hispanic students. It has not, however, systematically conducted research to determine what strategies have been effective in helping colleges and universities retain their students. Additionally, Education has some retention and completion dissemination efforts in place. For example, GEAR UP and TRIO grantees have the opportunity to share information with each other at annual conferences organized by private groups. Education facilitates information sharing through the TRIO Dissemination Partnership Program, which provides funding for TRIO grantees with promising practices to work with other institutions and community-based organizations that serve low-income and first-generation college students but do not have TRIO grants. The program is intended to increase the impact of TRIO programs by reaching more low-income, first-generation college students. Only a small number of grantees are disseminating information through this program—in fiscal year 2002, Education provided \$3.4 million to 17 grantees. In these instances, only institutions and organizations that formally partner with grantees are likely to have the opportunity to learn about promising practices. Furthermore, promising practices that are employed by institutions outside these programs are not captured.
	According to agency officials, another effort in which dissemination occurs is within the Fund for the Improvement of Postsecondary Education's Comprehensive Program. This 30-year old program seeks to help improve access and quality of postsecondary institutions by funding small promising practices grants. According to an official of the Comprehensive Program, the grants are for a 3-year period, with an average annual award amount of between \$50,000 and \$200,000. Last year, the program awarded \$31 million for grant activities—including new

awards of about \$10 million. The grants cover all aspects of postsecondary improvement, and within the areas of retention and completion there are grants for, among other things, creating learning communities, reviewing remedial and introductory courses to find more effective approaches, and developing innovative methods of delivering support services. Dissemination efforts include a searchable project database on its Web site; four published volumes of promising practices (the most recent publication was in 2000); specific dissemination grants expressly aimed at replicating particularly promising practices for retention and completion; dissemination plans built into the actual grants; and annual meetings where project information is shared. Each grant has an evaluation component and the Comprehensive Program is currently being reviewed for, among other things, the efficacy of these evaluation efforts.

## Conclusions

As policymakers and others consider what is necessary to ensure accountability in higher education, the issue of how to measure performance becomes more important. While some states have used graduation rates to promote accountability, such measures may not fully reflect an institution's performance. Graduation rates do not capture differences in mission, selectivity, programmatic offerings, or student learning outcomes. Nor do they account for another goal of higher education, increasing participation. In other words, a college or university could have a low rate of completion, but still be providing access. As policymakers consider ways to hold colleges and universities accountable for their performance, it may be possible to use multiple measures that capture an institution's performance in regard to how well its students are educated through the use of student learning outcomes, in addition to its performance in graduating them.

States, institutions of higher education, and Education are engaged in a variety of efforts to retain and graduate students. Education does have some efforts to evaluate and disseminate information related to retention and completion; however, it does not systematically identify and disseminate information on those practices that hold promise for increasing retention and graduation rates across all sectors of higher education. Such information could benefit colleges and universities that are looking for new approaches to better serve their students and seek to avoid duplicating unsuccessful efforts. As policymakers consider new ways to hold postsecondary institutions accountable for retaining and graduating their students, it becomes more important to widely disseminate promising practices in these areas. Having Education identify and disseminate promising practices in the areas of retention and

	graduation would help ensure that all colleges and universities have access to the same level of information and can readily draw on those practices they think might help them better serve their students.			
Recommendations	As Education moves forward with its plan to hold colleges and universities accountable for their performance in graduating their students, we recommend that the Secretary of Education consider multiple measures that would help account for other goals of higher education, such as increasing participation, as well as differences in mission, selectivity, and programmatic offerings of postsecondary institutions. Education should work with states and colleges to determine what would be most helpful for strengthening the accountability of institutions and ensuring positive outcomes for students.			
	We also recommend that the Secretary of Education take steps to identify and disseminate information about promising practices in the areas of retention and graduation across all sectors of postsecondary education.			
Agency Comments	In written comments on a draft of this report, the Department of Education agreed with our recommendations but had some concerns about certain aspects of the draft report. Education commented that we could have included trend data on, for example, whether retention and completion are increasing or decreasing. While such information might have been interesting to include, we were specifically focusing on the current status of college completion. Education suggested in its letter that we could have used its two BPS studies for such an analysis. It would not be appropriate to use these two studies for identifying trends because they covered different time periods. For example, using the first BPS study— which tracked students for 5 years—Education reported that 53 percent of students who began at a 4-year institution in 1989-90 earned a bachelor's degree. Using the second BPS study—which tracked students for 6 years—we reported that 59 percent of students who began at a 4-year institution in 1995-96 earned a bachelor's degree. While the increase in graduation rates might have resulted from any number of factors, the most likely reason is because an additional year was included in the calculation.			
	The Department correctly noted that we did not address student financial aid in our analysis. We have addressed this issue in our discussion of the report's objectives, scope, and methodology section (see app. I).			

With respect to Education's comment about how the effects of being disadvantaged are accounted for in our analysis, we agree that performing a more sophisticated analysis to account for the indirect effects of being disadvantaged on completion may have yielded a more complete picture of college completion. However, our analysis was designed to provide overall descriptive information on completion rates while taking into account certain differences among students.

Education had concerns that our report did not sufficiently recognize the role of its Graduation Rate Survey (GRS). While we did not directly discuss GRS, we did explain the legislative requirements regarding institutional reporting of graduation rates. Education developed GRS to help institutions comply with this requirement. Additionally, with respect to GRS, we sought clarification of Education's statement that GRS is the basis for state efforts to track graduation rates; however, officials did not provide us with information that would support this statement. In looking at this issue, it is clear that the type of data states collect is different from the GRS data. Specifically, GRS collects only summary data from institutions on graduation rates, whereas by using data on individual students, the states we highlighted have the ability to not only calculate graduation rates but to track student transfers across the state. Furthermore, officials in two states we visited told us that they have had the ability to track individual students for over 10 years, long before information from the GRS would have been available—making it impossible for GRS to be the basis of these systems as Education suggested. We also believe that Education's statement that we do not acknowledge the limitations of the state systems with respect to tracking student transfers is inaccurate. Our draft clearly stated that tracking is limited to student transfers within the state.

Finally, with regard to Education's concern that our report does not recognize its efforts to identify and disseminate information on retention and completion, we believe Education may have misunderstood our discussion about their efforts. We clearly highlight Education's efforts to identify and disseminate information through studies on the factors that affect retention and completion. However, we conclude that Education does not systematically identify and disseminate information on those practices that hold promise for increasing retention and graduation rates across all sectors of higher education.

Education also provided technical comments, which we incorporated where appropriate. Education's comments appear in appendix IV.

As arranged with your offices, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from its issue date. At that time, we will send copies of this report to appropriate congressional committees, the Secretary of Education, and other interested parties. Copies will also be made available to others upon request. In addition, this report will be available at no charge on GAO's Web site at http://www.gao.gov.

If you have any questions about this report, please contact me on (202) 512-8403. Other contacts and acknowledgments are listed in appendix V.

Cornelia M. ashby

Cornelia M. Ashby Director, Education, Workforce, and Income Security Issues

# Appendix I: Objectives, Scope, and Methodology

You asked us to determine (1) the extent to which students—including those from lower socioeconomic backgrounds—who enroll in a 4-year college or university complete a bachelor's degree and the factors that affect bachelor's degree completion; (2) what states and 4-year colleges and universities are doing to foster bachelor's degree completion and what is known about the effectiveness of these efforts; and (3) what the U.S. Department of Education is doing to foster bachelor's degree completion.

To determine the extent to which students-including those from lower socioeconomic backgrounds—who enroll in a 4-year college or university complete a bachelor's degree and to identify the factors that affect bachelor's degree completion, we analyzed Education's 1995-96 Beginning Postsecondary Students (BPS) study. BPS is a longitudinal study<sup>1</sup> that followed the retention and degree completion of students from the time they enrolled in any postsecondary institution over a 6-year period. It is based on a sample of students who were enrolled in postsecondary education for the first time in 1995-1996 and participated in Education's 1995-96 National Postsecondary Student Aid Study (NPSAS:96). NPSAS:96 consisted of a nationally representative sample of all students enrolled in postsecondary education during the 1995-96 academic year. Information for NPSAS:96 was obtained from more than 830 postsecondary institutions for approximately 44,500 undergraduate and 11,200 graduate and firstprofessional students. The sample of undergraduates represented about 16.7 million students, including about 3 million first-time beginning students, who were enrolled at some time between July 1, 1995 and June 30, 1996. This BPS study began with a sample of approximately 12,000 students who were identified in NPSAS: 96 as having entered postsecondary education for the first time in 1995-1996. Education followed up with these students via computer-assisted telephone interviews in both 1998 and 2001. In addition to obtaining data from students through these interviews, data were obtained from other sources, including institutions and the Educational Testing Service, which administers standardized tests, such as the SAT I and Advanced Placement tests. Education has published reports that provide information about student enrollment and the rates of persistence, transfer, and degree attainment for students.

<sup>&</sup>lt;sup>1</sup>The first BPS study tracked the educational attainment of a group of students who first enrolled in postsecondary education in 1989-90. The next scheduled BPS study will follow students who first enroll in postsecondary education in the 2003-04 school year.

For our purposes, we analyzed a subset of these data. We only included students who in 1995-96 were enrolled in a 4-year institution or were enrolled at another type of institution, but transferred to a 4-year institution at some point during the 6-year period. Our analysis excluded other types of students, such as community college students who did not transfer to a 4-year institution because the focus of our study was on bachelor's degree completion. We first grouped students into three categories: those who, after 6 years (1) had completed a bachelor's degree; (2) had not completed a bachelor's degree, but were still enrolled in a 4-year institution; and (3) had not completed a bachelor's degree and were no longer enrolled in a 4-year institution. We then calculated the percentage of our population in each group overall and by various characteristics relating to personal background, academic preparation and performance, college attendance and work patterns, and social integration as shown in appendix II.

We focused on factors that affect whether or not students completed a bachelor's degree by the end of the 6-year period and looked at the effect of the various characteristics mentioned above on college completion. We did not include student aid variables in our analysis. Resource constraints and the timing of the release of the BPS data made it difficult to examine the effect of student aid variables given their complexity and year-to-year variation. We first examined the independent effect of each characteristic on completion without controlling for differences among individuals. Each of these independent effects, with the exception of delaying entry into college, was statistically significant. However, because of the strong relationships among these characteristics, it is more accurate to explain the variance in completion rates using multivariate analysis, which tests the effect of each characteristic on completion while controlling for the effects of all the other characteristics.

Logistic regression is a standard procedure used to estimate the effect of a characteristic on a particular outcome. The model uses odds ratios to estimate the relative likelihood of completing a bachelor's degree within 6 years of beginning postsecondary education. The odds ratios for various characteristics are shown in appendix III. For a particular characteristic, if there were no difference between students who completed within 6 years and those who did not, the odds would be equal, and the ratio of their odds would be 1.00. The more the odds ratio differs from 1.00 in either direction, the larger the effect on completion. For example, an odds ratio below 1.00 indicates a lower likelihood of completion for a student with that particular characteristic, all else being equal. The odds ratios were generally computed in relation to a reference group; for example, if the

odds ratio refers to being a dependent student, then the reference group would be independent students. Some characteristics, such as grade point average and age, are continuous in nature. In these cases, the odds ratio can be interpreted as representing the increase in the likelihood of completing college given a 1-unit increase in the continuous variable. An odds ratio that is statistically significant is denoted with the superscript a. The characteristics we used in our model explain 38 percent of the variance in bachelor's degree completion.

Because the estimates we use in this report are based on survey data, there is some sampling error associated with them. This occurs because observations are made on a sample of students rather than the entire student population. All percentage estimates we present from the BPS data have sampling errors of  $\pm 3$  percentage points or less, unless otherwise noted. Furthermore, tests of statistical significance were performed using software to take into account the complex survey design and sampling errors. In addition to the reported sampling errors, the practical difficulties of conducting any survey may introduce other types of errors, commonly referred to as nonsampling errors. For example, differences in how a particular question is interpreted, in the reliability of data self reported by students, or the types of students who do not respond can introduce unwanted variability into the survey results.

To identify what states and 4-year colleges and universities are doing to foster bachelor's degree completion, we conducted a survey of the 59 state higher education executive officer agencies in all 50 states, the District of Columbia, and Puerto Rico and visited 5 states and 11 public colleges and universities within those states.<sup>2</sup> We received completed questionnaires from 48 of the 52 states and territories we surveyed, a response rate of 92 percent. We took steps in the development of the questionnaires, the data collection, and the data editing and analysis to minimize nonsampling errors. For example, we pretested the questionnaire with 3 states to refine the survey instrument, and we called individual respondents, if necessary, to clarify answers.

<sup>&</sup>lt;sup>2</sup>The population for our survey was the membership list of the State Higher Education Executive Officers association, a nonprofit, national association of the chief executive officers serving statewide coordinating and governing boards of postsecondary education. Seven states have two association agencies, and we received responses from both agencies in four states. In none of these cases did the responses conflict with one another. We combined multiple responses from one state into a single unified response for that state. We checked with each respondent to obtain approval for this procedure.

We conducted site visits in Florida, Maryland, Oregon, Texas, and Virginia. We chose states and colleges to visit based upon our discussions with experts and preliminary information from our survey. Additionally, we selected these states and institutions based on geographic dispersion and the variety of efforts reported to us by experts and in the survey. In each state, we met with state higher education officials to discuss college completion in general and specific efforts taking place in their states. In each of these states, we also visited colleges that were viewed by state officials as doing particularly well in working with their students to help them complete a bachelor's degree. We met with college officials to discuss their efforts to improve retention and help students attain a bachelor's degree.

To identify what Education is doing to foster bachelor's degree completion, we talked with Education officials and reviewed program and planning documents. We conducted our work between April 2002 and May 2003 in accordance with generally accepted government auditing practices.

## Appendix II: Bachelor's Degree Completion Status of 1995-96 Beginning Postsecondary Students 6 Years after Enrolling

Numbers in percent	Chudant			Na haabala"a	Ne beebeler's
	population by	Completed	Did not complete	still enrolled at	not enrolled at
Characteristic	characteristic	bachelor's	bachelor's	4-year	4-year
Overall percentage		52	48	14	34
Background characteristics					
Sex					
Female	52	57	43	18	25
Male	48	47	53	25	29
Race					
White, non-Hispanic	73	55	45	20	25
Black, non-Hispanic	10	38	62	23	40
Hispanic	10	40	60	28	32
Asian/Pacific Islander	6	55	45	25	20
Other	1	58	42	11	30
Age when first enrolled					
18 and under	77	59	41	19	22
19	12	36	64	30	34
20-23	6	21	79	33	46
24-29	2	27	73	33	40
30 and over	3	15	85	33	52
Socioeconomic status disadva	ntaged index				
Not disadvantaged	58	58	42	20	22
Disadvantaged	42	44	56	23	33
Dependent status <sup>⁵</sup>					
Dependent	90	56	44	20	25
Independent, no children	4	22	78	35	43
Independent, married with children	3	23	77	36	41
Independent, not married,					
with children	3	21	79	36	43
First generation to attend colle	ge				
No	57	59	41	21	19
Yes	43	43	57	22	35
Academic preparation & perfor	mance				
High school completion					
Diploma	97	53	47	21	25
GED/Other	3	27	73	27	46
High school curriculum					
Did not meet new basics	27	47	53	23	30
Met new basics, not rigorous	7	48	52	19	33
Slightly rigorous	30	55	45	18	28
Moderately rigorous	19	65	35	18	17
Highly rigorous	16	81	19	8	11

#### Appendix II: Bachelor's Degree Completion Status of 1995-96 Beginning Postsecondary Students 6 Years after Enrolling

Numbers in percent					
Characteristic	Student population by characteristic	Completed	Did not complete	No bachelor's, still enrolled at 4-year	No bachelor's, not enrolled at 4-year <sup>a</sup>
High school grades				4 your	- your
A to A	26	78	22	11	11
A- to B	21	60	40	18	23
B to B-	11	39	61	25	36
B- to C	7	33	67	26	41
C to D	36	37	63	29	35
SAT score <sup>°</sup>					
Lowest quartile (<800)	41	32	68	30	38
Middle quartiles (800-1100)	41	60	40	18	22
Highest quartile (>1100)	18	79	21	9	12
First-year college GPA					
> 3.0	34	71	29	16	13
2.0 to 3.0	39	51	49	22	27
< 2.0	27	29	71	27	44
Attendance & work patterns					
Delayed college after high scho	ol				
No	82	59	41	18	23
Yes	18	24	76	35	41
College attendance					
Part-time or mix of part- and full-time	43	34	66	35	32
Full-time	57	66	34	11	23
Continuous enrollment	••		• ·		
No	27	15	85	45	40
Yes	73	66	34	12	22
Work during college					
Did not work	31	61	39	16	24
Less than 10 hours	15	61	39	14	25
Between 10 and 19 hours	17	63	37	16	22
Between 20 and 31 hours	24	41	59	30	29
Full-time (32 hours or more)	13	28	72	34	38

#### Appendix II: Bachelor's Degree Completion Status of 1995-96 Beginning Postsecondary Students 6 Years after Enrolling

Numbers in percent					
Characteristic	Student population by characteristic	Completed bachelor's	Did not complete bachelor's	No bachelor's, still enrolled at 4-year	No bachelor's, not enrolled at 4-year <sup>a</sup>
Transferred to a 4-year institution					
No	55	69	31	9	22
Yes	45	32	68	36	32
Social integration					
Participated in study groups					
No	33	40	60	27	33
Yes	67	59	41	18	23
Participated in collegiate clubs					
No	58	41	59	26	32
Yes	42	68	32	14	18

Source: Department of Education.

Note: GAO analysis of Education's BPS 1995/96 data.

<sup>a</sup>This includes students who were not enrolled in postsecondary education and those who were enrolled at a 2-year institution or less at the end of the 6-year period . These student may have earned an associate's degree or certificate.

<sup>b</sup>Student dependency status for federal financial aid during 1995-96. Students age 23 or younger were assumed to be dependent unless they met the independent student criteria, including being married or having legal dependents, other than a spouse.

<sup>c</sup>Student's SAT I combined score. This variable was derived as either the sum of SAT I verbal and mathematics test scores or the ACT Assessment (American College Testing program) composite score converted to an estimated SAT combined score using a concordance table. The primary source of data were from a match with the SAT files from the Educational Testing Service and the ACT test files of the American College Testing programs, supplemented by postsecondary institution reported and student-reported information. The quartiles were derived from the distribution of the test scores among the BPS cohort sample students.

<sup>d</sup>Indicates whether student delayed enrollment in postsecondary education, as determined by receipt of a high school diploma prior to 1995 or reaching the age of 20 before December 31, 1995.

# Appendix III: Results of Regression Models for Bachelor's Degree Completion within 6 Years of Beginning College

Characteristic	Completed a bachelor's degree within 6 years	Odds ratio- independent effect	Odds ratio- net effect
Background characteristics	*		
Sex			
Female	57	а	а
Male	47	0.66 <sup>b</sup>	0.83
Race			
White, non-Hispanic	55	а	а
Black, non-Hispanic	38	0.48 <sup>♭</sup>	0.62 <sup>♭</sup>
Hispanic	40	0.53 <sup>♭</sup>	0.68
Asian/Pacific Islander	55	0.99	0.76
Other	58	1.12	0.52
Age			
18 and under	59		
19	36		
20-23	21	0.86 <sup>b</sup>	0.93
24-29	27		
30 and over	15		
Socioeconomic status disadvanta	ged index		
Not disadvantaged	58	а	а
Disadvantaged	44	0.56 <sup>b</sup>	1.06
Dependent status <sup>c</sup>			
Dependent	56	а	а
Independent, no children	22	0.22 <sup>♭</sup>	
Independent, married with children	23	0.24 <sup>b</sup>	0.52
Independent, not married, with children	21	0.21 <sup>⊳</sup>	
First generation to attend college			
No	59	а	а
Yes	43	0.51 <sup>⁵</sup>	0.66
Academic preparation & performa	nce		
High School Completion			
Diploma	53	а	а
GED/Other	27	0.32 <sup>⊳</sup>	0.63
High school curriculum			
Did not meet New Basics	47		
Met New Basics, not rigorous	48		
Slightly rigorous	55	1.39 <sup>⊳</sup>	1.14 <sup>b</sup>
Moderately rigorous	65		
Highly rigorous	81		

Characteristic	Completed a bachelor's degree within 6 vears	Odds ratio- independent effect	Odds ratio- net effect
High school grades	• • • •		
A to A-	78		
A- to B	60		
B to B-	39	2.08 <sup>b</sup>	1.17 <sup>⊳</sup>
B- to C	33		
C to D	37		
SAT Score <sup>d</sup>			
Lowest quartile (<800)	32		
Middle quartiles (800-1100)	60	1.41 <sup>♭</sup>	1.03
Highest quartile (>1100)	79		
First-year college GPA			
> 3.0	71		
2.0 to 2.9	51	2.45 <sup>b</sup>	2.24 <sup>b</sup>
< 2.0	29		
Work & attendance patterns			
Delayed college after high school <sup>e</sup>			
No	59	а	а
Yes	24	0.99	1.01
College attendance			
Part-time or mix of part- and full-			
time	34	a	a
Full-time	66	3.89 <sup>⁵</sup>	2.31 <sup>⁵</sup>
Continuous enrollment			
No	15	a	а
Yes	66	10.81 <sup>b</sup>	6.22 <sup>⁵</sup>
Work during college			
Did not work	61	a	а
Worked Less than 10 hours	61	1.00	0.86
Between 10 and 19 hours	63	1.09	0.79
Between 20 and 31 hours	41	0.45 <sup>b</sup>	0.62 <sup>b</sup>
Full-time (32 hours or more)	26	0.25 <sup>b</sup>	0.49 <sup>b</sup>

Characteristic	Completed a bachelor's degree within 6 years	Odds ratio- independent effect	Odds ratio- net effect
Transferred to a 4-year institution			
No	69	а	а
Yes	32	0.21 <sup>♭</sup>	0.41 <sup>b</sup>
Social integration			
Participated in study groups			
No	40	а	а
Yes	59	2.17 <sup>⊳</sup>	0.99
Participated in collegiate clubs			
No	41	а	a
Yes	68	3.04 <sup>b</sup>	1.54 <sup>b</sup>

Source: Department of Education.

Note: GAO analysis of Education's BPS 1995/96 data.

<sup>a</sup>denotes referent category.

<sup>b</sup>Odds ratio is statistically significant at p<=0.05.

<sup>c</sup>Student dependency status for federal financial aid during 1995-96. Students age 23 or younger were assumed to be dependent unless they met the independent student criteria, including being married or having legal dependents, other than a spouse.

<sup>d</sup>Student's SAT I combined score. This variable was derived as either the sum of SAT I verbal and mathematics test scores or the ACT Assessment (American College Testing program) composite score converted to an estimated SAT combined score using a concordance table. The primary source of data were from a match with the SAT files from the Educational Testing Service and the ACT test files of the American College Testing programs, supplemented by postsecondary institution reported and student-reported information. The quartiles were derived from the distribution of the test scores among the BPS cohort sample students.

<sup>e</sup>Indicates whether student delayed enrollment in postsecondary education, as determined by receipt of a high school diploma prior to 1995 or reaching the age of 20 before December 31, 1995.

# Appendix IV: Comments from the Department of Education





Page 3 - Ms. Cornelia M. Ashby Finally, the Department is considering ways to improve information on college retention and completion and to disseminate it widely. One possibility, to ensure that all useful information is considered, would be having this topic researched as part of the "what works" clearinghouse sponsored by the Institute of Education Sciences within the Department. Again, we appreciate having the opportunity to comment on the draft report. Sincerely, Sally L. Stroup Attachment (1)

# Appendix V: GAO Contacts and Staff Acknowledgments

Contacts	Kelsey Bright, Assistant Director (202) 512-9037 Debra Prescott, Analyst-in-Charge (202) 512-2972
Acknowledgments	In addition to those named above, Rebecca Ackley, Avrum Ashery, Patrick diBattista, Kopp Michelotti, John Mingus, Luann Moy, Doug Sloane, and Wendy Turenne made important contributions to this report.

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