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College Persistence and Completion Strategies: Opportunities for Scaling Up

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INTRODUCTION

Previous reports by the Center for Evaluation & Education Policy (CEEP) on higher education have dealt with topics such as trends in college remediation courses (Plucker, Wongsarpigoon, & Houser, 2003), post-secondary credit-based transition programs (Plucker, Chieu, & Zaman, 2006), university sponsorship of charter schools (Plucker et al., 2004), and the status of athletics and Title IX in Indiana (Eckes & Chamberlin, 2003). This brief focuses on historically underrepresented college students and the factors that affect their decisions to enter higher education, stay in college, complete their degrees "on time," or leave college altogether.

The Indiana Commission for Higher Education (ICHE) has demonstrated strong leadership on the issues of college access and completion and has established clear goals as detailed in the report, *Reaching Higher with College Completion: Moving from Access to Success* (2008). Although ICHE has been recognized as a leader on these issues nationally, a recent CEEP report explored successful practices in place elsewhere in the U.S., and reflects on the Indiana experience (Spradlin et al, 2010). What did we learn?

Effective strategies and solutions to boost college completion rates remain elusive, especially for underrepresented student populations (defined in this report as low-income, minority, or first-generation college students). The statistics on college completion have been well documented, but remain alarming. Overall, fewer than 3 out of 10 students who start at a community college on a full-time basis graduate with an associate degree in three years (NCHEMS, 2009a). Just over half of students who start 4-year bachelor's degree programs full-time finish in six years (NCHEMS, 2009b). Sixty percent of White students who attend 4-year colleges full-time complete a bachelor's degree within six years, compared to 49% of Hispanic students and 42% of African-American students (U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System [IPEDS], 2007).

Today, roughly 39 percent of American adults hold a 2- or 4-year degree — a rate that has held remarkably steady for four decades. But in several other countries, more than half of young adults are degree holders. Once ranking first in the world in the percentage of young adults with a college degree, the United States now ranks 10th (OECD, 2009). To improve upon this standing for the U.S., the Lumina Foundation recently announced its "Big Goal" to raise college completion rates to 60 percent by 2025. Based on current estimates, to reach this goal, the U.S. higher education system must produce 23 million more college graduates than are expected at present rates (Lumina Foundation for Education, 2010).

Although financial issues generally play the largest role in decisions to enter a college or university, primarily non-academic factors play a particularly significant role in student decisions to stay in school (Joo et al., 2009; Lumina Foundation, 2008; Tinto, 1999). Psychological factors tend to be a more impor-

tant variable in student retention decisions than student finances (Wang & Pilarzyk, 2009). Still, financial aid programs have been shown to have some effect in allowing students to remain in school (Signell, 2004). Statewide programs such as Indiana's Twenty-first Century Scholars Program have helped underrepresented students view college as an attainable enrollment goal and have given them financial assistance once they entered. Various university-specific mentoring programs for historically underrepresented students have been a particularly popular option to help students stay in college once they arrive. National-level initiatives such as *Complete College America* and *Achieving the Dream: Community Colleges Count* have worked to increase the numbers of minorities on campus through various policy changes and the development of common standards (Collins, 2009; *Complete College America*, 2010a).

Previous studies have identified nonacademic factors that contribute to dropout decisions, including financial (student aid and other forms of monetary assistance), psychological (particularly notions of inclusion), and institutional (such as mentoring or learning communities). Unfortunately, much of the literature is often of limited generalizability. Supplemental data at university, state, and national levels can help researchers and institutional leaders better assess the effectiveness of various enrollment and retention programs.

This brief has three goals: examine national research on enhancing the participation and success of historically underrepresented college students, provide information on the effectiveness of current retention programs in postsecondary institutions, and identify promising policies and strategies that merit further exploration. Recommendations included are similarly aimed at improving the quality of evaluative evidence for college retention and completion.

LITERATURE REVIEW

Student retention and persistence is perhaps the most highly researched topic in American higher education (Seidman, 2005). The most influential models for explaining student persistence are Tinto's Student Integration Model (Tinto, 1975, 1987) and Bean's Student Attrition Model (Bean, 1980, 1990), which were both partially synthesized in work by Cabrera et al. (1992, 1993). In general, the decision to remain in college is the product of a number of different influences, including a student's personal characteristics, academic goals and performance, and integration into the university's academic and social life. However, many students are at a high risk of leaving college without a degree due to lack of preparation, social pressures, and attendance at schools with lower graduation rates. At particular risk are low-income (ACSFA, 2010; Lotkowski, 2004; Tinto & Pusser, 2006), first-generation (Choy, 2002), and minority students (Tinto, 2003; Fenske et al., 2000; Tinto, 2003).

According to Tinto (1999), although academic preparation and performance play a major role in retention of underrepresented students, up to 75 percent of all dropout decisions are non-academic in nature. Tinto argues that these non-academic factors can be summarized into three lenses through which retention efforts should be viewed: financial, psychological, and institutional.

Financial. Lower-income students are much less likely to attend college or graduate (ACSFA, 2010; Tinto & Pusser, 2006), and tuition assistance does seem to encourage college access (Lumina Foundation, 2008; Singell, 2004). However, the extent to which financial pressures affect college persistence is hotly disputed (ACSFA, 2010; Baker & Velez, 1996; Braunstein et al., 2000; Braxton et al., 2004; Hawley & Harris, 2005). There is some evidence that the ability to pay is an especially important factor for minority students (Braxton et al., 2004). Non-tuition expenses (books, fees, meals, etc.) can be crippling, and schools generally do not provide enough funding to cover these costs. As students realize the need for supplemental income, a job quickly becomes necessary. However, the presence of part-time employment is associated with a significantly lower retention rate in all but a few specific situations. A cycle quickly develops where a student needs money for expenses and begins a new part-time job, which subsequently takes time away from engagement in class and studies. The low priority of academics begins to affect grades, as well as a student's ability to remain in college.

Although financial issues generally play the largest role in decisions to enter a college or university, primarily non-academic factors play a particularly significant role in student decisions to stay in school.

Psychological. Feeling out of place on campus can lead academically qualified students to drop out of school. The research literature highlights the importance of social integration on campus, which can exert a significant effect on a student's decision to remain in school (Baker & Velez, 1996; Bean, 2000; Braxton et al., 2004; Ziskin, 2006). Astin (1993), and Oseguera and Rhee (2009) note the effect that peers can have on student persistence, either positively or negatively. Aside from involvement in social activities, engagement with academic activities can also improve persistence (Bean, 2000; Braxton & Lien, 2000; Porter & Swing, 2006; Ziskin, 2006). Even controlling for background characteristics and performance, freshman who felt a part of a university's academic and social life are much more likely to remain in school (Kuh et al., 2007). Additionally, the psychological need to "fit in" to the university's social

and academic life appears to be of particular importance for minority students (Choy, 2001; Kuh et al., 2007; Lumina Foundation, 2008; Tinto, 1987; Tinto, 1999; Wells, 2008).

Family support can be critical for underrepresented students (Wells, 2008). First-generation college students face specific challenges, since their relatives lack personal experience in postsecondary education. For example, students lacking such support may feel they have no one to guide them on class or career questions, or even new social challenges. Many underrepresented students must also take on additional family responsibilities, taking time away from classes and studying as they care for younger siblings or other dependents (Habley & McClanahan, 2004; Tinto, 1987; Wang & Pilarzyk, 2009).

Institutional. According to Patton et al. (2006), there are generally five types of intervention strategies available to schools to increase retention: transition programs, mentoring, learning communities, faculty/student interaction programs, and advising:

- **Transition programs** include any type of summer bridge programs or orientation activities that a school may provide for its students. Most schools, including 2-year and nonresidential colleges, have at least a basic orientation program in place for first-year and transfer students to ease the stress of adapting to the college and campus lifestyle.
- **Mentoring programs** can have multiple arrangements. Many of the existing programs have upperclassmen or even graduates act in a mentoring role for incoming or first-year students. Such programs tend to focus on pairing students of similar racial and socioeconomic backgrounds.
- **Learning communities** are groups of students that typically enroll together, take a significant number of classes together during each academic year, and (in the case of residential colleges) typically live in the same dormitory.
- **Faculty/student interaction programs** most often refer to specialized programs allowing students to interact with faculty members for mentoring, advice, and even in research positions.
- **Advising programs** used in this context typically refer to targeted, dedicated advising services for use by freshmen or underrepresented student groups. Certain schools noticed over time that underclassmen reported feeling overlooked by advisors, who often had hundreds of students assigned to them at all class levels. The response has been to open these dedicated advising centers to help freshmen with class and major selection during this critical period in their academic careers.

Unfortunately, research articles and literature reviews on the topic (e.g., Lumina Foundation, 2008; Patton et al., 2006) have commented on the dearth of rigorous, detailed studies that focus on the causes of student attrition and potential remedies that colleges and governments may take. For example, a meta-analysis conducted by Patton et al. (2006) showed a lack of strong evidence for the effectiveness of mentoring, faculty/student interaction (but see Astin, 1993; Oseguera & Rhee, 2009), or advising programs. Learning communities have emerged as a widespread and growing strategy to increase persistence. Although there has been some support for learning communities' ability to increase persistence (Bailey & Alfonso, 2005; Tinto, 1997; Wild & Ebbers, 2002), other researchers have noted that there is little methodologically rigorous evidence demonstrating the success of learning communities (Andrade, 2007; Patton et al., 2006). Further complicating the discussion around these communities, Weiss et al. (2010) recently completed a study employing random assignments and found that although learning communities had a positive effect on persistence, the result was not statistically significant.

In addition, until recently the vast proportion of studies were focused on 4-year residential campuses to the neglect of commuter schools and community colleges (Bailey & Alfonso, 2005; Metz, 2004). Serious questions have been raised as the applicability of models to promote student persistence that rely on student socialization to schools where most students live off-campus and many are part-time (Bailey & Alfonso, 2005; Bean & Metzner, 1985; Braxton et al., 2004; Wild & Ebbers, 2002). The background, personality, and behavioral characteristics of students have a strong effect on retention in community colleges where there is little organized campus life (Feldman, 1993; Hawley & Harris, 2005; Voorhees, 1987).

Despite the comparative lack of attention to community colleges, there are some promising initiatives that could enhance persistence at 2-year as well as 4-year schools. For instance, classrooms can serve as a focus for engagement through active learning and community building. By developing learning communities within classrooms, schools might be able to overcome the lack of other socialization opportunities (Tinto, 1997; Tinto & Pusser, 2006). Faculty collaboration and training would be a crucial element of such an approach (Tinto & Pusser, 2006). This approach has already shown some success even at traditional 4-year residential colleges (Braxton et al., 2000; Braxton, 2008; Oseguera & Rhee, 2009), but could be particularly useful in 2-year and commuter institutions. However, as noted previously, evidence stating the positive effects of learning communities is not conclusive; therefore institutional leaders should track the success of such programs.

Broad-based analyses of multiple institutions with higher persistence rates suggest a number of structural approaches. Hossler et al. (2009) argue for the importance of administrative leadership and institutional commitment to persistence with full-time staff dedicated to persistence issues. Tinto (1998) points to the need for the training of and collaboration by faculty and staff in persistence strategies, and reorganizing the first year of college to focus explicitly on socializing students to university life. Strategies for increasing persistence rates among

minority students include early identification and intervention (Lynch & Engle, 2010), availability and greater use of data (Lynch & Engle, 2010; McClenny & Marti, 2006), and frontloaded student support services that focus on socializing minority students. Finally, Jenkins (2007) notes the importance of reform efforts targeted at minorities in community colleges be system-wide rather than mere "boutiques" isolated from the general currents of campus life.

STATE POLICY REVIEW

Fair and equitable access to higher education has been an increasing focus of both federal and state policymakers. Recent history has seen the development of a number of programs that aim to improve access to both general and underrepresented populations. These programs have enjoyed a measure of success. However, there remain a number of concerns from policymakers and the general public regarding both college access and completion. The following section is intended to explore statewide initiatives and discuss how Indiana and other states are working to: 1) provide college access to underrepresented populations, and 2) increase graduation rates once underrepresented students enter college.

Access

Over the past decade a number of states have established their own college scholarship programs. These programs have emerged as popular public plans to improve access to college within a state and increase enrollment in the given state's tertiary institutions. Duffourc (2006) posited that at least 15 states[1] have initiated scholarship programs "to pay all or a portion of tuition expenses for worthy high school graduates." However, as she goes on to note, there remains "little systematic policy analysis" attesting to the impact of these programs (p. 235). Some of the 15 states cited in the Duffourc study have recently suspended or changed their scholarship programs; nevertheless, both current and suspended systems provide useful information when analyzing how specific state systems were constructed and what led to their success or failure.

An initial review reveals that state scholarship systems are varied, dynamic, and multifaceted. For example, some were implemented to provide college access to an entire state population, while others focus on specific populations of underrepresented students. To assist in an analysis of state systems, Duffourc (2006) explained variation in state scholarships according to political variables (selection criteria and retention standards) and economic variables (award amounts, number of recipients, and state costs).

Selection Criteria. The majority of states with scholarship programs set a minimum entrance GPA. The remaining states that do not set this benchmark either require that a student be admitted to a state university, or, as in the case of Alaska, require students to be in the top 10 percent of their graduating high school class. When compared to other states that require minimum GPAs, Indiana's is amongst the least restrictive, with a minimum GPA of 2.0.

Some states include additional selection criteria such as minimum scores on college readiness exams (e.g., SAT and ACT) and/or a maximum allowable family income. For example, similar to Indiana's program, Washington State's College Bound Scholarship sets maximum income levels for students applying to the program. Additionally, Washington requires that students must apply and qualify for the scholarship by June of the student's 8th grade year, subject to allowable family income limits when the student enters the program and upon high school completion.

Retention Standards. Minimum college GPAs are an explicit retention requirement for most of the reviewed state scholarship programs, with the range of minimally acceptable GPAs from a low of 2.0 in Washington to a high of 3.5 in Mississippi. A small number of state programs are exceptions to this rule. For instance, Indiana's Twenty-first Century Scholars and the now-suspended Michigan Merit Award Scholarship and Program do not require a minimum GPA once the student enters college. In addition to a satisfactory GPA, most states require that students meet a minimum yearly or semester credit load. Indiana falls in line with the majority of states and requires enrollment of at least 12 credits per semester; however, there are some states, such as Georgia and Florida, who only require part-time enrollment (6 credit-hours per semester).

Award Amounts. Award amounts differ greatly across programs. For example, the Georgia Hope Scholarship provides students with full tuition and most fees, plus a $150-per-semester textbook allowance for enrollment at any public college in Georgia's public system ($3,500 for private school tuition). Other states provide more modest support. Nevada, for instance, covers a maximum of 12 credit-hours with the following amounts: community college attendees receive $40 per enrolled lower division credit-hour and $60 per enrolled upper division credit-hour; state college attendees receive $60 per enrolled credit-hour; and at all other eligible institutions, recipients receive $80 per enrolled credit-hour (Nevada, 2010). The Indiana scholarship covers undergraduate tuition and regularly assessed fees at an approved public institution. The scholarship also covers a portion of the tuition and fees at a private (independent) or proprietary school.

Number of Recipients. Duffourc (2006) reasoned that the number of state scholarship recipients serves as a reasonable measure of program impact. By this standard, in 2006, Kentucky's scholarship program served the most students (approximately 118,000), followed closely by Florida (approximately 110,000 students enrolled in the program). In the same year, 10,000 Indiana students received scholarship funding

1. The 14 states and years implemented are: Indiana (1990), Georgia (1993), Mississippi (1995), Florida (1997), Louisiana (1997), New Mexico (1997), Kentucky (1998), South Carolina (1998), Alaska (1999), Michigan (1999), Washington (1999), West Virginia (1999), Nevada (2000), and South Dakota (2003).

under the Twenty-first Century Scholars Program. Despite differences in population sizes and instead using proportions, Indiana remains at the lower end of served students of the 14 states reviewed here. However, Duffourc (2006) does not include information from other Indiana programs, such as the needs-based Frank O'Bannon Grant that provided an average grant of $3,608 to over 54,000 students in 2008-2009.

State Cost. Spending per student varies widely across state scholarship programs. This variability is attributable to two primary factors: 1) award amount, and 2) number of recipients. A third constraint is the typical reliance by states on a stream of funding that varies over time and from state to state. For example: New Mexico, Florida, and Georgia rely on state lottery funds; Louisiana and Nevada use tobacco settlement trust funds; Indiana, Mississippi, and South Dakota use state legislative appropriations; and Alaska uses a land grant endowment fund.

Access within Indiana. With the introduction of the Twenty-first Century Scholars Program in 1990, Indiana became the first state to offer full-tuition waivers to all qualified applicants. According to a recent report from the Lumina Foundation (2008), the program enrolls roughly one percent of all students in the state. Further, the same study speculated that previous Lumina Foundation studies "left no question that the Scholars Program helped increase college enrollment among low-income students: Up to 85 percent of Scholars who signed up for the program in eighth grade were in college within a year after their expected high school graduation in 1999" (p. 1).

The Lumina Foundation's (2008) report reviewed three seminal studies that evaluated specific aspects of the Twenty-first Century Scholars Program. The report contained a number of observations regarding access, including:

- Being a Twenty-first Century Scholar appears to increase the likelihood of being better prepared for college entry (p. 34).
- Given that Twenty-first Century Scholars are better prepared for college, the program is improving college access to Indiana students (p. 34).
- Scholars reported that the promise of financial support was integral to their commitment to enter college (p. 35).

Conclusions on State Access. The majority of state-funded scholarship programs, including Indiana's Twenty-first Century Scholars Program, have made significant progress in increasing access to higher education. Most states have focused these efforts on underrepresented populations. However, some states, like New Mexico, offer scholarships funded by the state lottery to all graduating seniors which provide full tuition coverage at all state institutions. What does remain consistent is that all state programs reviewed contain a set of defined stipulations for participants to enter the program and/or to continue receiving funds while attending college. Indiana is unique in this area because it remains one of the few states that does not require a minimum GPA once a student enters college.

In many instances the scholarship programs mentioned above represent only one piece of larger state reforms that were enacted to encourage higher education access. For example, the Lumina Foundation (2008) noted that the Twenty-first Century Scholars Program was "part of a larger package of statewide reforms introduced in the 1990s to improve academic preparation among Indiana high school students." The Lumina Foundation grouped these reforms into three general categories: 1) Rigorous high school curriculum; 2) Increased support services; and 3) Generous need-based aid (p. 3). Ideas from each of these categories are apparent within the Scholars Program, but what tends to be missing in this, and many other state programs, is a clear set of initiatives to retain students once they are provided adequate access.

COMPLETION

As discussed, there are a number of successful state programs that have been established to increase access to higher education. To a great extent, these programs have ensured that more than 65 percent of graduates from U.S. secondary schools are entering tertiary education systems, including community colleges, technical training programs, colleges, and universities. This places the U.S. 10th internationally and well exceeds the Organisation for Economic Co-operation and Development (OECD) average of 56 percent (OECD, 2009). Unfortunately, many national higher education statistics are lower than most national policymakers would like. At the national level, of students entering 4-year higher education institutions, only 56 percent graduate within six years, and of students entering 2-year institutions, only 27.8 percent graduate within three years. Further troubling are the graduation rates among minority students. Nationally, only 48.3 percent of non-White students are graduating from 4-year institutions within six years (NCES, 2007).

Completion within Indiana. As can be expected, given the large diversity of the U.S., variation among state graduation rates is high. For example, in 2008 about 56.6 percent of higher education students in Indiana receive a bachelor's degree within six years of entering public institutions. This rate is markedly lower than the top ten best performing states, whose completion rate is 64.6 percent. At 27.1 percent, Indiana is slightly lower than the national average (27.8 percent) for 2-year degree completion within 3 years; however, the top 10 states' average is much higher at 42.3 percent (NCHEMS, 2009a, 2009b).

Completion Initiatives. At the state level, two initiatives stand out as programs intended to assist state policymakers through both research and information sharing between states: *Achieving the Dream: Community Colleges Count,* which began in 2004, and *Complete College America,* which began in 2009. Both of these programs provide

TABLE 1. Complete College America State Completion Rates

State	% of high school students going directly to college	% of graduates with bachelor's degree in six years	% of graduates with associate's degree in three years	% of 25-34-year-olds with college degree
Arkansas	56.6	42.9	24.3	25.9
Connecticut	70.4	63.0	16.1	46.3
Georgia	68.2	47.2	26.4	34.0
Hawaii	59.8	42.1	19.0	40.9
Idaho	45.7	42.9	36.9	34.1
Illinois	60.7	58.7	24.8	42.7
Indiana	63.4	55.5	27.9	36.0
Louisiana	65.5	42.2	24.5	28.1
Maryland	65.6	64.6	20.3	44.6
Massachusetts	71.7	68.0	18.3	53.4
Minnesota	68.4	58.4	30.9	48.3
Nevada	52.2	38.1	43.3	28.2
Ohio	60.0	55.3	25.9	36.4
Oklahoma	59.2	46.5	27.9	30.3
Oregon	47.3	56.6	28.4	36.3
Pennsylvania	62.1	64.9	39.2	42.8
Rhode Island	54.7	64.9	14.5	43.4
South Dakota	71.9	45.4	70.6	43.6
Tennessee	63.5	50.3	29.4	31.3
Texas	55.2	49.0	18.6	30.7
Utah	47.1	48.7	39.9	38.2
Vermont	55.2	63.7	15.6	43.8
West Virginia	57.8	44.3	27.2	28.2

Sources: Percent of high school students going directly to college - NCHEMS (2009c); percent of graduates with bachelor's degree in six years and percent of graduates with associate's degree in three years - NCHEMS (2009a, 2009b); percent of 25-34-year-olds with college degree - Complete College America (2010c). When using similar data, Complete College America (2010b) noted that the data are not based on longitudinal data, but are an attempt (using a collection of available data) to illustrate the challenges states face (p. 7).

a number of resources for state policymakers and educational stakeholders. The following overview of each program will focus on the program's recommendations, and, when appropriate, on what select states have accomplished while participating in these consortia.

Achieving the Dream: Community Colleges Count. Achieving the Dream is a national initiative aimed at increasing community college completion with a focus on low-income and minority students. The initiative operates at both the national and state level with the aim of influencing priorities, rules, regulations, and resource allocations to better improve community college student outcomes. With 16 state members, including Indiana, Achieving the Dream has established a national network of over 100 institutions across the U.S.[2]

State initiatives appear to be a large focus of Achieving the Dream. In each state, there is a lead organization that sets an agenda for policy change. The lead organization can be a state community college system office, a community college/presidents' association, or another group that provides leadership on community college issues. That organization receives a multi-year grant to hire a staff person, convene a leadership team, and develop a strategic approach tailored to policy opportunities in its state (Achieving the Dream, 2010).

The variety of new policies championed by Achieving the Dream, and reviewed for this policy brief, demonstrate some of the work deemed important by specific state policymakers in order to increase graduation rates. For example, the cre-

2. For more information on Achieving the Dream, see: www.achievingthedream.org and Collins (2009).

ation of the MassTransfer web site in Massachusetts represents a state-developed tool that might help community college students in viewing graduation from community college as a viable gateway to a 4-year degree. Also, recent Ohio legislation includes a set of research projects and recommendations focused on higher education completion. For state policymakers, Achieving the Dream appears to fill a necessary void because it not only sets a framework for increasing participation, but also warehouses and disseminates participant information and goals.

Complete College America Program. Complete College America was established in 2009 as a national nonprofit organization aimed at increasing the nation's college completion rates and consists of 23 "alliance states."[3] Table 1 provides an overview of the states' completion rates.

The program is unique in that it focuses on increasing completion solely through state policy change by coordinating dialogue among state leaders, higher education leaders, and the national education policy community. The alliance operates under the premise that within the U.S., college enrollment has significantly grown while, at the same time, completion rates have been stagnant. In hopes of increasing college completion across the U.S., Complete College America requires that all member states, in partnership with their colleges and universities, pledge to make college completion a top priority and commit to the following three actions: 1) Set completion goals; 2) Develop action plans and move key policy levers; 3) Collect and report common measures of progress (Complete College America, 2010a).

Similar to the Achieving the Dream initiative, Complete College America acts as a venue for states to share policies as well as design mechanisms to collect and compare information necessary to make informed policy decisions. The program recommends that states use consistent data and progression measures to include: 1) Common metrics for measuring and reporting progress; 2) Publicly reporting year one benchmark data and annual progress on college completion, progression, transfer, job placement and earnings, cost and affordability measures; and 3) Disaggregating data by level and type of degree/credential, age, race, and income (Complete College America, 2010a).

Although there is an evident need for enhanced data, the current available data does raise a number of concerns. The information presented in Table 1 demonstrates both the need for action and the need for more detailed information. For example, South Dakota has the highest percentage of students entering college directly after high school, as well as the highest percentage of students graduating with an associate's degree in three years; however, the state falls below the average number of bachelor's degrees achieved in six years. Indiana, however, shows a lower percentage of graduates with an associate's degree in three years. The availability of detailed, comparable longitudinal data would enable state policymakers and researchers to engage in more in-depth, cross-state analyses to explore possible policy levers to improve completion.

The creation of both Achieving the Dream and Complete College America represent the growing need for states to concentrate efforts on improving graduation rates at both the 2- and 4-year level. Although both programs encourage states to continue to concentrate on access, especially amongst underrepresented populations, they also encourage the important conversation of college completion. As noted by both projects, this conversation becomes difficult at the state and national level due to an absence of comparable data of sufficient detail and quality.

The programs reviewed above are representative of an important shift from concerns about access to concerns about completion. State policymakers from across the country are increasingly focused on access and completion and have formed alliances to begin solving these problems. Both initiatives are relatively recent in nature and more time is required to properly evaluate their success. However, their work has resulted in a number of high profile reports and news articles aimed at bringing attention to some of the staggeringly low college completion numbers across the nation.

A notable recent development in a number of states has been the implementation of institutional financial incentives to encourage college completion. For example, in a 2008 report the Indiana Commission for Higher Education provided further recommendations to continue or implement outcomes-based incentives in Indiana. These include:

- *credit-completion growth incentives:* financially rewards institutions for high percentage of credit completion (applied to select campuses);
- *degree growth incentives:* financially rewards institutions for increasing the number of degrees awarded;
- *on-time graduation rate incentive:* financially rewards institutions for students who graduate with a 4-year bachelor's degree or a 2-year associates degree;
- *transfer incentives:* provides community colleges with additional funding for students that transfer to an Indiana 4-year college; and
- *premium low-income:* financially rewards institutions for college completion of underrepresented students.

(ICHE, 2008)

The Indiana Commission for Higher Education's (2009) final report on the 2009-11 higher education budget reveals a plan that will largely increase the completion incentive funding formulae for fiscal years 2010 and 2011. These increases will financially reward state institutions who show high levels of retention and completion.

Other alternative financial initiatives are also being piloted. For example, in 2008,

3. The states are: Arkansas, Connecticut, Georgia, Hawaii, Idaho, Illinois, Indiana, Louisiana, Maryland, Massachusetts, Minnesota, Nevada, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Dakota, Tennessee, Texas, Utah, Vermont, and West Virginia.

TABLE 2. State Completion-Based Funding for Higher Education

State	New Policies
Indiana	New formulas will reward institutions for successfully completed credit-hours instead of attempted; change funding for total degrees; increase funding for on-time degrees; increase funding for low-income degree completion; provide 2-year transfer incentives; provide non-credit instruction incentive increase (ICHE, 2009).
Louisiana	Plans for a new performance-based incentive funding pool to strengthen the postsecondary education system and make institutions more competitive. Colleges and universities will be able to earn these funds based on results in focused areas linked to each institution's specific mission.
Missouri	Missouri abandoned performance funding due to budget cuts.
Ohio	Performance goals adapted to the state's 10-year strategic plan for higher education. Both course completions and degree completion are included in the goals. Funding takes institutional mission into consideration. Extra support for at-risk students. Enrollments would be funded based on course completions (grade D or higher) and by the statewide average cost of individual programs.
Oklahoma	Performance funding has averaged $2.2 million per year and has been distributed by the Oklahoma State Regents for Higher Education. The focus of the incentives is on student retention, graduation, and degree completion.
South Carolina	South Carolina has abandoned performance funding due, in part, to complexity.
Tennessee	Performance funding began in Tennessee in the early 1980s. The state has approximately 5% of its total higher education budget based on student improvement and performance. Data reported by the state includes the percentage of students taking remedial or developmental courses that subsequently complete college-level courses one year later.
Texas	Proposed performance funding - especially course completions and degrees awarded. In 2007, the legislature enacted a bill that, in most cases, requires undergraduate students entering as first time freshmen at a higher education public institution in the fall of 2007 or later to be limited to a total of six dropped courses during their career (Texas Education Code, Sec. 51.907).
Washington	Incentive funding program that rewards 2-year colleges when students pass key landmarks on the way to a degree. Colleges compete against themselves for continuous improvement. Funding is stable and predictable, and cumulative over time. Incentives to help students build and maintain their academic momentum whatever their level of preparation.

Source: Unless otherwise noted all information in this table is taken directly from MHEC (2009).

Indiana, Colorado, Ohio, and Tennessee were selected by the Lumina Foundation to experiment with new or revised methods of awarding funds based on colleges' success in educating students (Inside Higher Education, 2008). The Lumina Foundation provided funding for these states to develop state-based funding programs that would improve retention and completion. Although state allocated funding connected to performance incentives is not unprecedented, the state of Indiana appears to be at the forefront of implementing a large-scale program.

The Midwestern Higher Education Compact (MHEC) (2009) provided a sample of funding incentives for higher education. Table 2 summarizes many of their findings.

It is yet to be determined if large-scale institutional financial incentive funding will encourage the intended results. As many policymakers, researchers, and higher education stakeholders are aware, incentive programs must be closely monitored to ensure they do not infringe on high-quality education by lowering standards to improve completion. Constant oversight and research will be necessary. However, this is not to underscore the advantages of such programs. For example, in difficult economic times, utilizing such policy levers enables states to quickly shift focus from an enrollment-based system to an outcomes-based system.

Although state policymakers and governing bodies are increasingly establishing programs, initiatives, and policy frameworks, their actions are simply one part of the solution to increase college completion. The following section will concentrate on select college and university programs within and outside of Indiana that have been implemented to improve continuation and completion rates among targeted populations.

CAMPUS-BASED RETENTION PROGRAMS

Early Warning Programs

In recent years there has been considerable attention focused on the use of monitoring and early warning systems as a tool for increasing college persistence. According to the College Board (2009), approximately half of all schools report having some type of early warning system in place. Organizations, such as Access to Success, argue that well-designed early warning systems can use institutional and student-level data to develop "on track" indicators (remediation, gateway courses, and credit accumulation) as a means to both identify at-risk students and to use as a basis for institutional reform (Offenstein et al., 2010).

Early warning and monitoring systems generally come in two different forms: models that identify students at the greatest risk of dropping out and those that track student progress once they are already in school. The first, more traditional type, usually relies on analysis of high school performance, standardized test results, and student personal characteristics (social, demographic, and economic) that are correlated with college persistence (Beck & Davidson, 2001; Lotkowski, 2004). The second approach measures student progress after the first semester or focuses on student performance in specific classes where low performance can be a signal that a student may drop out. Real-time early warning systems could have great promise, especially if they are based on classroom-level data collection and performance, as many problems manifest in the first two weeks of school (Kuh et al., 2007; Tinto & Pusser, 2006). Simply waiting until midterms could be too late. Other approaches include early warning committees composed of staff and faculty from across the university (Kuh et al., 2007; Myers, 2003). Tinto (2006) has suggested that schools might consider other indicators such as lateness, absences, and behavior in residential settings.

However, the use of only observable student data can miss a number of powerful indicators of student persistence. The research literature suggests that student attitudes greatly contribute to the likelihood that a student will remain in college and graduate. Student attitudes about the institution, their academic goals, their sense of social integration and engagement, as well as concerns about money all play a role in student completion (Beck & Davidson, 2001; Davidson et al., 2009; Glynn et al., 2006; Kuh et al., 2008; Rivas et al., 2007, 2008). Using a combination of institutional, environmental, and student factors — including student attitudes — researchers have developed statistical models that account for between 68 to 80 percent of variations in student persistence (Cabrera et al., 1993; Glynn et al., 2006). It is therefore important that indicators measuring student attitudes be incorporated into early warning systems.

TABLE 3. Interventions Among Selected High Persistence Institutions

	2-year public (6)	4-year public residential (20)	4-year public nonresidential (12)	private (7)
Counseling & Mentoring	4	13	11	4
Learning Communities	2	4	4	1
Student-Faculty Interactions	0	6	4	1
Transition & Orientation	0	8	3	2
Academic Support	2	4	4	1
Tracking/Early Warning	3	4	5	1
Coursework/ Instruction	2	7	4	4
Scholarships	0	1	3	0
Other	0	0	1	2

Source: Spradlin et al., 2010

There are other elements to consider when constructing an early warning system. First, students who fail to complete college cannot all be lumped together indiscriminately. Hoyt and Winn (2004), for example, argue that students who drop out without an intent to return have a different set of motivations than those who leave only temporarily (stop-outs), never had intention of getting a degree (opt-outs), or who transferred to another school (transfer-outs). Monitoring systems that fail to address these distinctions could result in flawed interventions. Second, student surveys which are constructed in environments where the student feels comfortable are likely to yield the most data. Tinto (2006) suggests that distributing surveys in class, at residence halls, and even before students enter school, could generate better results, rather than conducting surveys by student affairs staff or using a mailing.

Some interstate programs also hold promise. One such program, *Access to Success*, is sponsored by the Education Trust and the National Association of System Heads and is working with 24 public universities to close attendance and completion gaps. Although each college is pursuing its own narrowly tailored strategy for shrinking graduation gaps, they are doing so in a way that uses student data and matches the specific problems facing their student body. There is some indication that the data-driven approach advocated by Access to Success has had a degree of success in increasing persistence (Engle & Theokas, 2010; Offenstein et al., 2010).

Campus-Based Interventions

To date, there has been no complete inventory of campus-based intervention programs to determine comparative effectiveness in increasing college persistence. Scholarly research tends to focus on specific programs at particular institutions, and even then, such analysis has been noted as frequently lacking methodological rigor (Patton et al., 2006). However, since 1989, Noel-Levitz, a higher education consulting firm, has given awards to schools that have demonstrated some level of improved persistence

(Noel-Levitz, 2010). In addition, Patton et al. (2006) conducted a meta-analysis in an effort to determine what types of persistence programs had the most success. For this report, CEEP researchers combined information drawn from both of these sources to develop a group of 45 institutions where there is some empirical evidence for improvements in retention rates (see Table 3). The following intervention strategies were the most common:

- Counseling or mentoring of students, either by peers or trained personnel (32 institutions, 71%);
- Offering some form of instruction, specifically focused towards freshmen (17 institutions, 38%);
- Transition/orientation programs (13 institutions, 29%);
- Tracking/early warning systems (13 institutions, 29%)
- Learning communities (11 institutions, 24%);
- Student-faculty interactions and additional academic support services (11 institutions, 24%).

Most institutions used a combination of interventions. The fact that counseling is only effective in conjunction with other approaches raises questions about excessive reliance on this approach.

We also divided the schools in the sample into institutional types: private schools, 4-year public residential institutions, 4-year non-residential colleges, and 2-year community colleges (see Table 3). Unfortunately most of the empirical literature has focused on 4-year institutions, which also tend to have the lowest attrition rates. Information from the small cross-section of schools analyzed in this report suggests that although student retention is a significant challenge at 4-year institutions, the stakes for 2-year community colleges are enormous.

Community colleges do have higher attrition rates, but also have fewer institutional resources because of their smaller size and student populations that are much more likely to drop out (Provasnik & Planty, 2008). Two-year institutions also have a tendency to use interventions that are least likely to have an effect on student retention (such as counseling) while they are less likely than 4-year institutions to employ strategies for which there is greater evidentiary support (transition, student-faculty interactions, learning communities). These results underscore the work of Hably and McClanahan (2004), which posited that although mandated tutoring, coursework, and academic support were believed to be among the most effective ways to improve persistence, only 10 percent of community colleges used these strategies.

Indiana Programs

According to a CEEP-designed and administered survey of Indiana colleges and universities, large and urban 2- and 4-year Indiana colleges have the largest number of intervention programs (Spradlin et al., 2010). Of the 28 institutions that voluntarily returned surveys, academic support/advising, counseling/mentoring, and transition/orientation programs were the most common intervention programs (see Table 4). Hossler (2005) found that colleges and universities nationwide do not consider retention and persistence as a single issue. Instead, most consider student attendance a continuation of the recruitment and admissions process. As a result, retention programs are rarely considered as an independent factor shaping a school's student population.

Although some school retention programs are race-specific, others are not. In our sample for instance, to a large extent, geography and demographics seem to be the determining factors about the type of program found in a given school. Public and urban schools tend to have more race-based programs, while rural and private schools focus less on student demographics (Spradlin et al., 2010). The University of Indianapolis, a private urban university, features multiple initiatives aimed at minority populations. These include Making Achievement Possible (MAP), New Student Experience (NSE), and the Bridge Program. One Indiana-specific initiative, the Twenty-first Century Scholars Program, gives financial assistance to students from low- and moderate-income families. Across the state, at least 23 institutions offer financial support to supplement the Twenty-first Century Scholars Program, such as a book stipend, housing deposit waiver, or by offering matching dollars. Overall, the most common university action has been a fee waiver (Spradlin et al., 2010).

TABLE 4. Overview of Retention Interventions at Indiana Institutions

Intervention Strategies	
Counseling/Mentoring	19
Leaning Communities	2
Faculty/Student Interaction	2
Transition/Orientation Programs (including Summer Bridge)	16
Academic Support/Advising	39
Early Warning/Tracking Systems	6
Scholarship Programs	12
Other (including dual credit)	13
Total Interventions	109

Source: Spradlin et al., 2010

* Information compiled from a 2010 self-reported survey and does not represent all colleges and universities in Indiana.

However, even within the same university system, no two campuses offered identical programs. Schools may consider retention issues as being unique to each campus. That is, while many schools participate in statewide initiatives, like the Twenty-first Century Scholars Program, they also develop programs that address the specific needs of their student body. The number of programs offered also varies by campus. Schools such as Indiana Tech, Purdue, and Rose-Hulman offered only one intervention, while Indiana State and IUPUI offered 10 or more (Spradlin et al., 2010). Across the state, 2- and 4-year schools offered an average of four different retention programs.

Indiana community and regional campuses have the most extensive lists of retention programs offered (Spradlin et al., 2010). Specifically, IUPUI, Indiana State, and Ivy Tech have the highest number of interventions. This phenomenon seems particularly needs-based, as these schools are more likely to have students in need of this type of assistance. At the same time, such schools have the fewest resources available to implement these services; schools with the greatest need often have the least amount of resources. For instance, Ivy Tech's future retention programs remain contingent on acquiring future TRiO grants.

Many schools engage students in campus life through some form of on-campus employment. However, the effect of such work, like the Purdue Promise Program, which offers 10-20 hours a week employment for at-risk students, continues to be debated. Some studies have found that students who work on campus are less likely to continue in school or graduate on time (Ehrenberg & Sherman, 1987; Joo, Durband, & Grable, 2009; Porter & Swing, 2006). A limited amount of research has come to the opposite conclusion — that on-campus employment has had a positive effect on students especially if the employment has some connection with the students' academic and career interests (American Council on Education, 2006).

CONCLUSIONS AND RECOMMENDATIONS

This brief has looked at a number of programs and underlying research designed to enhance the participation and success of college students, with emphasis placed on programs that focus on historically underrepresented student populations. Specifically, an examination of academic literature, state policies, and specific campus-based initiatives regarding higher education access and completion suggests that a great deal of work remains to be done to ensure broad-based academic success. Considerable focus has been placed on college access and completion at the national and state levels; however, there is a surprising paucity of quality comparable data across states. There are some programs, although new, that assist states in both sharing information and producing improved comparable data and can help state policymakers gain knowledge that will better inform programs.

A self-reported inventory of programs and initiatives in place at public and private colleges and universities across Indiana (Spradlin et al., 2010) demonstrates that college access for underrepresented populations continues to be a dilemma in virtually all states, including Indiana. Although Indiana has significantly increased the number of underrepresented students entering higher education, the rates of college completion for these same students have remained low.

The evidence suggests that financial aid tools have had only mixed success in increasing persistence rates among underrepresented students. There are considerable costs related to college outside of tuition. Unfortunately, findings show that higher education institutions appear to provide less than sufficient support in this area. Schools and state policymakers may wish to consider creating new alternatives to assist students in paying all costs associated with college.

A major concern is the need for some groups of students, particularly minorities, to "fit in" on campus and feel welcome. However, many schools do not view retention as a specific problem, but instead as a part of the larger recruitment and admissions process. This phenomenon led Hossler (2005) to term this broad approach a "laundry list." Schools do not view the topic strategically and include retention efforts as part of a school's much larger admissions and enrollment plan. Thus, administrators merely check off all of the topics on the list without evaluating the appropriateness of each.

Conclusion:

Access is Not Enough — We Need a New Commitment to Address Persistence

Continued improvements in access to higher education is important, but not sufficient. College access for underrepresented populations continues to be a dilemma across the country and within Indiana; however, as noted in this report, Indiana has significantly improved the number of underrepresented students entering higher education. Unfortunately, the rates of college completion for these same students have remained low. Indiana state policymakers should continue to increase access to underserved populations but should also increase focus and spending on college completion at both 2- and 4-year colleges and universities with emphasis placed on underrepresented populations. The Indiana Commission for Higher Education should continue to increase its focus on college completion.

Recommendation:

Expand Financial Assistance

There are considerable costs related to college outside of tuition. Unfortunately, our findings show that higher education institutions rarely provide sufficient support in this area. Schools and state policymakers may wish to consider creating new alternatives to assist students in paying all costs associated with college. One example is Indiana University Bloom-

ington's Twenty-first Century Scholars Program. In addition to the state-funded scholarship, IUB independently provides additional financial support so that the full cost of college attendance is paid for by the university. Full cost includes estimated university costs and living costs as estimated by the federal government.

Recommendation:

Building on the Twenty-first Century Scholars Program

The Twenty-first Century Scholars Program has had far more success in getting students into college than through college. At Indiana University Bloomington, efforts to cover the full cost of college attendance have come from internal resources, while retention interventions have been financed from temporary external grants. The presence of a large pool of program alumni provides an opportunity for calling upon their involvement in program activities such as recruitment and fundraising. With fundraising, Scholars graduates could contribute to individual institutions or foundations within the institutions to support current Scholars and receive a tax credit (of 50 percent of the contribution or $100 for an individual income tax return or $200 on a jointly filed return; see Schedule CC-40). The state could play an important role in supporting these and similar initiatives to build a comprehensive retention system.

Conclusion:

The Need for Better Information

Considerable focus has been placed on college access and completion at the national and state levels; however, there is a surprising paucity of quality comparable data across states.

Recommendation:

Improve Data Collection Systems

Programs such as Complete College America and Achieving the Dream try to assist states in both sharing information and producing improved comparable data. Although these programs are new, they are important initiatives that can assist state policymakers in gaining improved knowledge for better informed programs. An important element of any such data system should be a tracking and notification system (such as those currently operating at Purdue University and in development at Indiana University Bloomington) that identifies students who are encountering difficulties and enables intervention by university personnel.

Recommendation:

Conduct Rigorous, Comprehensive Research

The resources and influence of state policymakers provide a unique capacity to sponsor high-quality research of retention strategies at colleges and universities. For example, the state could support the creation of pilot programs (one for each of the three types of public institutions: 4-year public residential, 4-year public non-residential, and 2-year public) that employ a full-scale retention policy including multiple interventions, perhaps focused on Twenty-first Century Scholars. A rigorous evaluation could match participants with students in schools that are not provided such rigorous support programs in order to identify which interventions best increase persistence among low-income and at-risk populations. Another possibility would be to build on the state's development of a preschool-to-employment data system to study the transition from 2- to 4-year institutions. Studies should pay particular attention to the effects of family background, social engagement, and personal finances.

Conclusion:

Tailoring Programs to Specific Needs

Although college completion rates are problematic for almost all groups and types of institutions, the problem is of particular importance for at-risk students (low-socio-economic status [SES], minority, first-generation college students) and for those attending 2-year and non-residential colleges. A great deal of research has taken place in 4-year residential colleges, whose students are frequently more advantaged and are attending institutions with much higher persistence rates. In addition, efforts to date have approached persistence issues in a piecemeal, laundry-list fashion.

Recommendation:

Targeting Non-Residential and 2-year Colleges

Students attending commuter and community colleges face a very different experience in attempting to earn their degree — differences that have not always been accounted for in either research or policymaking. As these institutions have much higher drop-out rates, a much greater focus should be placed on these types of schools when designing strategies to improve persistence. Two key factors should be considered: 1) interventions that rely on social engagement face much greater difficulties, so that greater weight should be placed on academic and financial support; and 2) there is some evidence that learning communities can be constructed at the classroom level, with a premium placed on collaborative learning and close cooperation among faculty, staff, and administration.

Recommendation:

Targeting At-Risk Students

There is an extensive body of work demonstrating that first-generation, minority, and financially disadvantaged students are at a much greater risk of leaving college without a degree. Social engagement appears to play a critical part in success for these students. Campus-level policies should specifically target their interventions to these students, tailoring interventions to their unique circumstances. Summer bridge programs, first-year orientation programs, and aggressive advising systems have shown promise for at-risk students.

Recommendation:
Adopting a Comprehensive Strategy

This paper alludes to what Hossler (2005) calls the "laundry list." However, schools often do not view the topic strategically and include retention efforts as part of a school's much larger admissions and enrollment plan. Thus, administrators merely check off all the topics on the list without evaluating the appropriateness of each.

The most effective approach is one where every college examines the "laundry list" and compares the available services to the specific needs of that school's student body. Each college's retention and persistence program should be as unique as its students. All programs must incorporate dedicated personnel, a system of follow-ups with students receiving retention services, and careful evaluation of program effectiveness. In addition, schools should not treat persistence as a stand-alone problem isolated from the university's broader mission. Instead, persistence should be the principal emphasis during every student's first year, with dedicated staff and a clear campus-wide commitment.

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WEB RESOURCES

Access to Success
http://www.edtrust.org/issues/higher-education/access-to-success

Achieving the Dream
http://www.achievingthedream.org/

Center for Evaluation and Education Policy
http://www.ceep.indiana.edu

College Board: The College Completion Agenda 2010 Progress Report
http://completionagenda.collegeboard.org/sites/default/files/reports_pdf/Progress_Report_2010.pdf

Complete College America
http://www.completecollege.org/

The Education Trust: Access to Success
http://www.edtrust.org/issues/higher-education/access-to-success

Indiana Twenty-first Century Scholars Program
http://www.in.gov/ssaci/2345.htm

Indiana University Project on Academic Success
http://pas.indiana.edu/

Lumina Foundation
http://www.luminafoundation.org/

Midwestern Higher Education Compact
http://www.mhec.org/MHECHomePage

National Center for Education Statistics: The Condition of Education 2010
http://nces.ed.gov/pubs2010/2010028.pdf

The National Center for Higher Education Management Systems Information Center
http://www.higheredinfo.org/

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