Reauthorizing the Higher Education Act: Opportunities to Improve Student Success
Senate Health, Education, Labor, and Pensions Committee

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Good morning, Chairman Alexander, Ranking Member Murray, and members of the Committee. Thank you for inviting me to testify today about what the research evidence tells us about ways to improve the academic success of low-income college students.

My name is Lashawn Richburg-Hayes, and I am director of the Young Adults and Postsecondary Education policy area for MDRC, a nonprofit, nonpartisan research organization based in New York City. MDRC was founded more than 40 years ago to build reliable evidence on the effectiveness of programs for the disadvantaged and to help policymakers and practitioners use that evidence to improve policies and programs. MDRC is known for conducting large-scale evaluations and demonstration projects to test the impacts and cost-effectiveness of education and social programs. Many of our studies use a random assignment research design, the most rigorous method for assessing such programs, which is able to determine the value an intervention adds to the status quo. This method, analogous to the one used in medical clinical trials, produces the most reliable evidence that a program works. As a result, it is the only method to be accepted without reservations by the Department of Education's What Works Clearinghouse. Given that resources are limited and problems are very difficult to solve, proceeding with evidenced-based policy is prudent. Ensuring that the evidence is there when it is needed is our mission and that of many other dedicated researchers.

Let me begin by summarizing my main points. These are all lessons drawn from existing research:

1. Comprehensive and integrated programs can make a sizable difference. The City University of New York's Accelerated Study in Associate Programs (ASAP) is a comprehensive and integrated long-term program designed to help more community college students graduate more quickly. MDRC's random assignment study of ASAP shows that the program nearly doubled three-year graduation rates for students who started college needing developmental (or remedial) course work — at a lower cost per graduate than usual college services.

2. Identifying effective strategies for developmental education students is critical to improving national graduation rates and evening outcomes by socioeconomic status. Several random assignment interventions have been conducted that suggest modest positive improvements in outcomes are possible. Second-generation interventions are

currently being evaluated and findings will be available shortly to inform policymakers and practitioners about what works in this area.

3. ASAP is one example of a program that implemented elements of a structured pathway approach, which is based on the idea that simple, well-defined programs of study may help more students complete community college. Most community college students are offered a vast array of courses and options to arrange their schedules and earn credentials. In theory, these allow them to match their interests with the right program. In reality, however, they leave many students confused and overwhelmed.

4. Financial aid is an important lever to help low-income students succeed. Given both the size of the financial aid system ($226 billion) and the widespread use of financial aid for various purposes, financial aid must be thought of as another tool that can be used to improve academic success and postsecondary completion. A growing body of work has studied interventions that use financial aid as an incentive to improve academic success. Nine such studies demonstrate that incentive-based grants — an innovation on traditional financial aid — result in a larger proportion of students meeting academic benchmarks, a greater number of credits earned, and modest effects on grade point average in the first year. Work by MDRC in this area has shown that incentive-based grants can increase first-year enrollment when the intervention targets graduating high school seniors.

Recommendations

1. **Give colleges and states incentives to replicate proven programs.** For example, the federal government could support the spread of ASAP. This could be through funding mechanisms such as First in the World. This year's First in the World competition did encourage applicants to propose replicating interventions that had strong evidence, but additional support could be fostered through future competitions and also through other funding mechanisms.

2. **Encourage innovation paired with research, especially rigorous evaluation**. Specifically, additional research could be conducted into structured pathways, year-round financial aid, and work-study programs.

- The Department of Education (or other parts of the federal government) can encourage tests of structured pathways. Components of structured pathways have been studied in different fields but evidence is lacking on the effectiveness of an entire model. A center focused on structured pathways or a grant competition with long-term support can foster more research in this area.

    o The Department of Education can test Pell Grant funding to cover the summer term of the academic year. Offering Pell Grant aid to students during the summer would offer an opportunity to test whether aid during short terms (that is, those less than 12 weeks in duration) helps students make stronger progress toward

degree completion. Tying the reintroduction of summer Pell awards to some of the other strategies discussed in this testimony (for example, incremental aid disbursements) could help control program costs and make the program more sustainable.

- o States and institutions could be encouraged to use internal or external grant funding to test whether summer funding improves outcomes. States and institutions with flexible grant aid dollars could allocate some of those funds to grants for summer or winter college enrollment, or both. Additionally, states and institutions could seek out partnerships with local and national donor organizations committed to helping low-income students graduate from college.

- o The federal government could encourage a test that compares the current work-study model with a modified version designed to help low-income students make career advances while in college. Given the amount of money expended on this aid program ($972 million in academic year 2011-2012), it would be a worthy endeavor to clarify how that aid can help students most effectively.

The Challenge

Access to college has increased substantially over the last 50 years, but student success — defined as the combination of academic success and degree or certificate completion — has not improved.[1] What's more, success is unevenly distributed by socioeconomic status, with students from high-income families attending and completing college at higher rates than low-income students are completing. While low-income students are now more likely to attend college, they are not more likely to complete college.[2]

Part of the reason is that students arrive at college underprepared. Many students from low-income families are unlikely to engage in a curriculum that prepares them for college. A large proportion of such students therefore arrive at college, are assessed to see if they are ready for college course work, and are placed into developmental education courses, where they linger.

The gap in completion rates is exacerbated by the fact that low-income students are more likely to attend open- or broad-access institutions that typically do not have the resources to provide the level of support that underprepared and unprepared students need in order to succeed.[3] To cite just one statistic, the nation's 1,200 community colleges enroll over 10 million students each year — nearly half of the nation's undergraduates. Yet fewer than 40 percent of entrants complete an undergraduate degree within six years.[4] The outcomes are not much better at public four-year, open-access institutions, where the six-year graduation rate is only slightly higher. In short, while there have been marked successes in college access since the passage of the Higher Education Act of 1965 — which extended need-based financial assistance to the

general population for the first time — more work remains to be done to improve college persistence and completion rates.

The challenge is to develop more opportunities for low-income students to both attend and succeed at institutions of higher learning. Fortunately, research is beginning to point the way toward some possible solutions in four areas: comprehensive and integrated reforms, developmental education reforms, structured pathways, and innovations in financial aid.

Comprehensive and Integrated Interventions

Many reforms have been found to help students in the short term, but few have substantially boosted college completion.[5] The City University of New York's (CUNY's) Accelerated Study in Associate Programs (ASAP), launched in 2007 with funding from the New York City Center for Economic Opportunity, is an uncommonly comprehensive and long-term program designed to help more community college students graduate and help them graduate more quickly. Earlier this year, MDRC released new results from our random assignment study of ASAP showing that the program *nearly doubled* three-year graduation rates for students who started college needing developmental (or remedial) course work — at a *lower cost per graduate* than usual college services.[6]

ASAP represents both an opportunity and an obligation for students. It was designed to address multiple potential barriers to student success and to address them for up to three years. The key components of ASAP are:

- **Requirements and messages:** Students are required to attend college full time (defined as 12 credit hours per term) and are encouraged to take developmental courses early and to graduate within three years.
- **Student services:** Students receive comprehensive advising from an ASAP-dedicated adviser with a caseload of 60 to 80 students (as compared with 600-plus for other CUNY advisers), career information from an ASAP-dedicated career and employment services staff member, and ASAP-dedicated tutoring services.
- **Course enrollment:** Students may enroll in blocked or linked courses (two or more courses grouped together with seats reserved for ASAP students) in their first year. Students also enroll in an ASAP seminar during their first few semesters covering topics such as goal setting and study skills. Students can also register for courses early.
- **Financial support:** Students receive a tuition waiver that covers any gap between financial aid and college tuition and fees. Students also receive free use of textbooks and free MetroCards for use on public transportation, contingent on participation in key program services.

Many of the components of ASAP (enhanced student services, financial aid as an incentive, linked courses, student support courses) have been studied rigorously in other settings and found to increase student success only modestly at best. Would combining them together create a whole that was more effective than the sum of its parts? For the MDRC study, ASAP targeted Pell-eligible low-income students who needed one or two developmental courses to build their reading, writing, or math skills and compared ASAP with regular services and classes at the colleges. MDRC's report, which provides results for three years, found that ASAP:

- **Boosted enrollment and credits earned.** ASAP increased enrollment in college, especially during the shorter winter and summer intersessions. ASAP increased the average number of credits earned over three years by 8.7 credits (47.7 for ASAP students vs. 39.0 for students in the control group).
- **Greatly increased graduation rates**. ASAP nearly doubled the percentage of students who earned an associate's degree in three years (40.1 percent for ASAP students vs. 21.8 percent for students in the control group, for an 18.3 percentage point difference). It is important to note that these students had to fulfill developmental education requirements before earning at least 60 college-level credits to graduate.
- **Increased transfers to four-year colleges**. ASAP increased the percentage of students who transferred to a four-year college by 7.8 percentage points (25.1 for ASAP students vs. 17.3 for the students in the control group).
- **Lowered the cost per degree**. At the three-year point, the cost per degree was lower in ASAP than in the control condition. Because the program generated so many more graduates than the usual college services, the cost per degree was less, despite the substantial investment required to operate the program.

While ASAP offers many services to students (and expects their substantial commitment in return), it is important to emphasize that it achieves its effects without making changes in curricula or in pedagogy. A few other points are worth noting. A substantial portion of the effect on credit accumulation for ASAP students came during the winter and summer terms, which ASAP strongly encouraged students to attend. (In fact, students could fulfill their full-time status for a main spring or fall term by taking summer or winter courses). The value of providing support to students year-round is a subject I will return to later. While our research design cannot definitively determine which components of ASAP made the most difference, three aspects of the program stand out: (1) combining participation requirements for students with extensive support services, (2) tying the distribution of the MetroCard (worth more than $100 per month) to student engagement in program services like advising *and* careful monitoring of student participation by CUNY, and (3) encouraging students to take developmental courses early and to enroll in summer and winter sessions. The success of ASAP does not come easy. Other similarly ambitious programs have confronted a variety of implementation and institutional challenges.

What is next for ASAP? ASAP's success has prompted New York City to invest up to $42 million by 2019 to bring the program to as many as 25,000 students. As CUNY has expanded ASAP, it has been able to bring down its per-student cost. In addition, CUNY and MDRC, with anchor funding from the Great Lakes Higher Education Guaranty Corporation, are replicating ASAP at three Ohio community colleges to test whether it can be successfully adapted in new contexts serving different student populations. In the future, MDRC may work with other colleges interested in implementing their own versions of ASAP to evaluate the effectiveness of these adaptations.

Developmental Education Reforms

Research suggests that about one-half of all entering college students and 68 percent of entering community college students take at least one remedial course within six years. Many enroll in more than one remedial course, either in one subject or in multiple subjects.[7] Fewer than half of students successfully make it through the sequence of courses to which they are referred and only one-third of students who take a remedial course ever earn any postsecondary credential.[8] Low-income, minority, and first-generation college students are all overrepresented in these negative outcomes associated with developmental education.[9]

Several interventions have shown modest short-term effects for students with developmental education needs. For example, MDRC studied eight summer bridge programs in Texas that aimed to reduce the need for remediation by offering students accelerated, focused learning opportunities between the senior year of high school and college. That study found positive impacts on introductory college-level course completion in math and writing, though those impacts faded by the end of two years. MDRC also evaluated learning communities, a strategy to address developmental education by bringing together small groups of students who take two or more linked courses that have mutually reinforcing themes and assignments. That evaluation also found modest, positive impacts for students while the learning communities were in place.

More research will emerge on strategies effective at addressing developmental education. The Center for the Analysis of Postsecondary Readiness (CAPR) — a joint center funded by the Institute for Education Sciences and run by MDRC and the Community College Research Center at Teacher's College, Columbia University — is conducting research to document current practices in developmental English and math education across the United States and to rigorously evaluate innovative assessment and instructional practices. The purpose of CAPR's research is to help advance a second generation of developmental education innovation in which colleges and state agencies design, implement, and expand stronger and more comprehensive reforms that improve student outcomes. CAPR is conducting three major studies that together will help provide a foundation for this undertaking: (1) a national survey of developmental education practices at two- and four-year colleges, (2) an evaluation of alternate systems of remedial assessment and placement, and (3) an evaluation of an innovative developmental math pathways program.

In addition to CAPR, rigorous random assignment evaluations are currently under way of several promising interventions including CUNY Start, a multifaceted prematriculation program that provides intensive instruction in reading, writing, and math through a carefully prescribed curriculum and instructional delivery system. CUNY Start condenses the time students spend preparing for college-level English and math into a single semester. In addition, it delivers

enhanced academic and nonacademic support through advisers, tutors, and a weekly seminar that builds college success skills, at a cost to students of only $75 per semester.

MDRC's Developmental Education Acceleration Project is also testing the effectiveness of an "accelerated" developmental education curriculum, using a random assignment design. The ModMath program at Tarrant County College in Fort Worth, Texas, divides three semesters of developmental math into nine discrete modules, allowing students to enter the sequence at a point appropriate to their skills and to leave and return without losing as much ground as they would in semester-length courses.

Structured Pathways

ASAP is one example of a program that implemented elements of a structured pathway approach, which is based on the idea that simple, well-defined programs of study may help more students to complete community college. Most community college students are offered a vast array of courses and options to arrange their schedules and earn credentials. In theory these allow them to match their interests with the right program. In reality, however, they leave many students confused and overwhelmed, unsure about what classes they need to complete their degrees and which credits can transfer to a four-year institution. Moreover, little guidance is provided on how to sift through the chaos and make the right decisions based on their goals and long-term plans. Students end up taking courses and accumulating credits, but never finishing their degrees or getting their certificates.

More choice is not always better. For example, studies in behavioral economics have shown that when people are faced with a plethora of choices, seemingly irrelevant contextual factors tend to influence their decisions. In addition, when they are confronted with complicated decisions with long-term implications, they struggle to identify which factors are the most important, how to gather all the necessary relevant information, and how to weigh the costs and benefits of these factors.[10] Basically, people who are uninformed or overwhelmed with too much complicated information may make decisions that are not in their best interests.

A promising approach is to provide more structure and guidance and a limited selection of pathways in community colleges. In principle, the structured pathways model applies to all aspects of a student's experience in college. It includes robust services to help students choose career goals and majors. It integrates developmental education courses with college-level courses and organizes the curriculum around a limited number of broad subject areas that encourage defined programs of study. It also emphasizes ongoing collaboration among faculty, advisers, and staff members.

Beside the robust and structured advising and guidance offered by ASAP, other schools that have implemented the structured pathway approach include Guttman Community College in New York City. Students there were required to enroll full time their first year and to take a common first-year curriculum. They were also placed in "houses," which were similar to learning communities and which included faculty members who taught the students throughout their first year at school. After the first year, students could choose their preferred program of

study from a limited selection. The first-year students had promising outcomes, although no rigorous evaluation has been conducted.[11]

Financial Aid Innovations

Financial aid has long been the tool of choice to increase access. In fact, one of the original purposes of student financial aid was to ensure more equitable access to postsecondary education for those traditionally underrepresented and those least able to afford it.[12] However, the current financial aid system serves far more students than originally envisioned by the legislation that created it, and for purposes beyond the inability to pay. Almost two-thirds of all undergraduates receive some form of financial aid and many institutions are using financial aid for other reasons, such as "enrollment management" to attract competitive students to attend their institutions rather than others.[13]

Given both the size of the financial aid system ($226 billion) and the widespread use of financial aid for various purposes, financial aid must be thought of as another tool that can be used to improve academic success and postsecondary completion.[14] Yet little is known about whether financial aid *increases* access and *improves* academic success. Previous research suggests that financial aid is positively associated with increased enrollment in postsecondary education,[15] and also positively associated with increased persistence.[16] Generally, the relationship between financial aid and student outcomes has been difficult to answer because of problems with endogeneity.[17] That is, factors that are associated with financial need, such as low family income, are also associated with a lack of academic success, making it difficult to isolate the effect of additional financial aid on student achievement. This issue of selection bias is best addressed through the employment of a random assignment experimental design.[18]

A growing body of work has studied interventions that use financial aid as an incentive to improve academic success. Fortunately, several of the incentive-based grant programs — where incentive-based grants are defined as additional financial aid to students that is contingent on academic performance — have been evaluated using random assignment.[19] Since it is not ethical to eliminate need-based aid and experiment with randomly providing aid to students, the studies have focused on randomly providing additional aid.[20] Nine such studies demonstrate that incentive-based grants — an innovation on traditional financial aid — result in a larger proportion of students meeting academic benchmarks, a greater number of credits earned, and modest effects on grade point average (GPA) in the first year.[21] Work by MDRC in this area has shown that incentive-based grants (known as performance-based scholarships in MDRC's studies) can increase first-year enrollment when the intervention targets graduating high school seniors.

There are several promising innovations for financial aid that could improve success and allow students to complete their degrees faster: (1) distributing aid in a way that encourages students to devote effort to their studies, (2) providing year-round financial aid so students can accelerate their studies, and (3) restructuring the notification of satisfactory academic progress (SAP) requirements so that students are aware of the requirements and have an incentive to meet them.

It is important, however, that these reforms be rigorously evaluated before they are implemented on a large scale.

Innovative Distribution of Aid: In order to support students' ongoing expenses, encourage students to stay enrolled, and reduce the inefficiencies and risks of disbursing financial aid at the start of the semester in a lump sum, states and institutions could consider disbursing aid on various timetables. Typically, any amount left over of a student's financial aid after tuition, fees, books, and supplies is refunded to the student in a lump sum at the beginning of the semester. While these financial aid refunds may support and enable student success, when students withdraw prior to the 60 percent point in the term, the college may be required to pay back part of the refunded aid (Return to Title IV), and may need to recoup those funds from students. Students who are unable to settle their debts with the college may not be allowed to reenroll until they do. MDRC does not know of any national data about the scale of these returns or the number of students affected, but anecdotally it seems common for large colleges to report that they lose over $1 million a year due to Returns to Title IV.

One innovation to consider is to have institutions reallocate lump sum aid into small increments. When refunds (both grants and loans) are disbursed to students in small biweekly or monthly increments, those students could potentially better budget and manage the financial aid that they receive. These more frequent incremental disbursements may also better align with the timing of when aid is earned, which could result in fewer or smaller Returns to Title IV (which would benefit colleges as well as students). MDRC's Aid Like A Paycheck evaluation is currently evaluating the impact of this intervention.[22]

Another innovation to consider is a restructuring of federal work-study. Students who are employed full time while enrolled in college are at a greater risk of dropping out or at least prolonging their time to degree completion. Work-study could be expanded to more low-income students to reduce their need to work full-time jobs disconnected from their educational pursuits. While this idea has not been studied, the federal government could alter the funding formula for work-study. Current allocation formulas send more work-study funds to institutions with small numbers of low-income students (according to Pell Grant eligibility).[23] In addition, many work-study jobs bear little relation to students' career objectives.[24] Modifications to job development processes for work-study-eligible jobs could improve the program's ability to advance students' careers.

Year-Round Financial Aid: Faster is better for college completion. Faster completion can be achieved if students are encouraged to attend college full time when possible and supported in doing so. While it is clear that many community college students work and need to attend school part time, it may be helpful and feasible to encourage them to increase their "attendance intensity." There are two ways to get there. One way would be to try to increase the number of credits students earn per semester. The other would be to make greater use of the winter intersession and summer sessions. Focusing on year-round attendance would change the mental accounting period for students to a full year, possibly making it easier for them to accumulate 24 or 30 credits and keeping them on track for timely degree completion. Year-round attendance could help students catch up or move ahead in their studies, which may be especially important for students who need to combine work and school. In addition, summer enrollment keeps students connected to college without a large break, which may boost reenrollment the following

academic year. Evidence from three studies suggests that year-round aid can increase enrollment during the summer and winter, and that summer and winter enrollment can help students earn more credits.

One of these studies — the Performance-Based Scholarship Demonstration evaluation at two community colleges in New York City — evaluated the effect of adding a summer scholarship offer to scholarships otherwise offered only during the fall and spring. Students in the program group could receive up to $1,300 per semester if they enrolled for a certain number of credits and kept their grades above a "C." Half of the program group could receive the scholarship for two semesters, the other half for two semesters plus a summer term. The summer-scholarship group was 6.8 percentage points more likely to enroll in summer than the group who received scholarships only in the fall and spring, an increase of about 35 percent over the fall-and-spring group's summer enrollment rate of 19.4 percent.[25]

Recent research also suggests that undergraduates who attend summer school have better retention rates thereafter and are significantly more likely to complete a degree.[26] Two MDRC studies (CUNY ASAP and the Opening Doors Learning Communities) encouraged students to enroll in summer and winter and included financial support for them to do so. Those two studies also suggest that increased enrollment during intersessions may be linked to greater credit accumulation over time. Students in both studies could use financial aid during the summer and winter, meaning that the usual financial barriers to year-round enrollment were largely absent.

- **ASAP:** As mentioned above, much of ASAP's large impact on student outcomes could be traced to ASAP's outsized effect on students' performance during summer and winter intersessions — where ASAP pushed hard for students to enroll. During the main sessions of the second through sixth semesters after students joined the study, ASAP boosted enrollment by between 4.6 percentage points and 9.6 percentage points. Yet ASAP's effects on intersession enrollment were far more dramatic, peaking at 25.2 percentage points during the second semester. That rise in intersession enrollment is responsible for the program group earning on average 2.4 more cumulative total credits over six semesters (the equivalent of taking nearly an additional extra course), about a quarter of the program's total impact on credits earned.[27]

- **Opening Doors Learning Communities**: The Opening Doors demonstration at Kingsborough Community College found that on average, program group students enrolled in more intersessions than control group students and earned more credits on average during intersessions: 0.5 credits more in the first year (than the 3.7 credits earned in the control group) and 1.0 credits more after six years (than the 9.2 credits earned in the control group). This gain accounted for about a quarter of the program's total impact on credits earned. The demonstration put freshmen into groups of up to 25 who took three classes together their first semester, and provided enhanced counseling and tutoring as well as textbook vouchers. Students were encouraged to enroll in the intersession following the program session, and received an additional textbook voucher of $75 if they did.[28]

Taken together, these three studies suggest that a year-round Pell Grant program may be beneficial. If it is reintroduced, however, it should be with a plan for rigorous evaluation to inform the policy moving forward.

Restructure the Notification of SAP Requirements: Students must make satisfactory academic progress (SAP) to maintain any Title IV federal aid (including Pell Grants). SAP has three components: (1) passing 60 percent of courses attempted (to demonstrate academic progress); (2) earning a GPA of at least 2.0 in these courses (to demonstrate academic performance); and (3) if these first two components are violated, increasing performance during an academic probation semester to be returned to good standing. While these criteria appear straightforward, in practice students may fail for several terms before their eligibility is restricted, as two-year institutions are only required to check SAP annually for students in two-year programs (though they can check more frequently). In addition, students may continue to be in violation of SAP, lose their Title IV eligibility, yet remain enrolled if the cost of tuition and fees are very low.[29] As a result, the current system may provide only a weak incentive to induce students to alter their behavior.[30]

Many students are not aware of an institution's SAP requirements and institutions typically evaluate SAP progress at the end of each academic year, so students do not know if they are at risk of failing to meet the standards. One innovation in financial aid could have institutions implement an early notification system, so that students have the opportunity to change their behavior if they are at risk of failing to meet SAP standards. While such systems are often labeled as student success strategies, they can have sizable implications for financial aid as well. Georgia State University's predictive analytics intervention is a well-known example of this type of intervention.

Recommendations

1. **Give colleges and states an incentive to replicate proven programs.** For example, the federal government could support the spread of ASAP. This could be through funding mechanisms such as First in the World. This year's First in the World competition did encourage applicants to propose replicating interventions that had strong evidence, but additional support could be fostered through future competitions and also through other funding mechanisms.

2. **Encourage innovation paired with research, especially rigorous evaluation**. Specifically, additional research could be conducted into structured pathways, year-round financial aid, and work-study programs.

   a. *The Department of Education (or other parts of the federal government) can encourage tests of structured pathways.* Components of structured pathways have been studied in different fields but evidence is lacking on the effectiveness of an entire model. A center focused on structured pathways or a grant competition with long-term support can foster more research in this area.

b. *The Department of Education could clarify areas for innovation.* In our experience, institutions are very conscious of complying with Title IV regulations and are reluctant to innovate if such innovation is not clearly protected. To remedy this, the Department of Education could put out a fact sheet about what colleges can do right now to disburse aid differently without approval from the Department or a legislative change. Waivers could also be granted more readily for experimentation.

c. *The Department of Education can test Pell Grant funding to cover the summer term of the academic year.* Offering Pell Grant aid to students during the summer would offer an opportunity to test whether aid during short terms (that is, those less than 12 weeks in duration) helps students make stronger progress toward degree completion. Tying the reintroduction of summer Pell awards to some of the other strategies discussed in this testimony (for example, incremental aid disbursements) could help control program costs and make the program more sustainable. While summer Pell turned out to be prohibitively expensive for the government, it might not be more expensive if analyzed in terms of costs per graduate. In addition, costs may be mitigated by targeting the availability of summer aid in various ways.

d. *The Department of Education (or other parts of the federal government) could also encourage a test of Supplemental Educational Opportunity Grant (SEOG) funding to cover the summer or winter terms of the academic year, or both.* Federal Student Aid could collaborate with selected two-year and four-year institutions to test offering additional SEOG funds to students during summer and winter terms.[31]

e. *States and institutions could be encouraged to use internal or external grant funding to test whether summer funding improves outcomes.* States and institutions with flexible grant aid dollars could allocate some of those funds toward grants for summer or winter college enrollment, or both. Additionally, states and institutions could seek out partnerships with local and national donor organizations committed to helping low-income students graduate from college. The effect of summer grant aid on students' academic success could be tested by randomly assigning students to one of three groups: aid during the summer and winter, more aid during all academic terms, or no additional aid. Designing a test with these three variable conditions would help to inform the field about how much summer aid helped students, and about whether summer aid alone was enough to see a meaningful impact on student success.

f. *The federal government could encourage a test that compares the current work-study model with a modified version designed to help low-income students make career advances while in college.* To date, little research has been conducted to test the effectiveness of the Federal Work-Study program. The few studies that have been conducted of such aid have been quasi-experimental and have yielded heterogeneous findings.[32] Given the amount of money expended on this aid program ($972 million

in academic year 2011-2012), it would be a worthy endeavor to clarify how that aid can help students most effectively.

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[10] Scott-Clayton, Judith. 2011. The Shapeless River: Does a Lack of Structure Inhibit Students' Progress at Community Colleges? New York: Community College Research Center.

[11] Bailey, Thomas R., Shanna Smith Jaggars, and Davis Jenkins. 2015. Redesigning America's Community Colleges: A Clearer Path to Student Success. Cambridge, MA: Harvard University Press.

[12] Title IV of the Higher Education Act of 1965 references the purpose of financial aid in this way.

[13] Enrollment management refers to the consolidation of recruitment, admission, and retention under a single leader or office. Among other things, many enrollment managers systematically test financial incentives to maximize enrollment yield with targeted groups of students or to increase net tuition revenue. Harrison Keller and Nate Johnson, "Completion Management: Using Aid and Price to Improve Results," Working Paper: Report of the Institutional Working Group (Indianapolis, Indiana: Lumina Foundation, 2013).

[14] The size of federal, state, and institutional aid for both undergraduate and graduate students as cited in HCM Strategists, *The American Dream 2.0: How Financial Aid Can Help Improve College Access, Affordability, and Completion* (Washington, District of Columbia: HCM Strategists, 2013).

[15] Edward St. John et al., *Meeting the Access Challenge: Indiana's Twenty-first Century Program* (Indianapolis, Indiana: Lumina Foundation for Education, 2002); Thomas Kane, "Evaluating the impact of the D.C. Tuition Assistance Grant Program," National Bureau of Economic Research Working Paper No. 10658 (2004); Susan Dynarski, "Hope for Whom? Financial Aid for the Middle Class and Its Impact on College Attendance," National Bureau of Economic Research Working Paper No. 7756 (2000); Susan Dynarski, "Does Aid Matter? Measuring the Effect of Student Aid on College Attendance and Completion," *American Economic Review* 93, no. 1 (March 2003); Christopher Cornwell, David B. Mustard, and Deepa J. Sridhar, "The Enrollment Effects of Merit-Based Financial Aid: Evidence from Georgia's Hope Program," *Journal of Labor Economics* 24, no. 4 (October 2006).

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Access and Persistence: Findings from Ten Years of Longitudinal Research on Students (Washington, District of Columbia: Center for Policy Analysis, American Council on Education, 2002); Stephen L. DesJardins, Dennis A. Ahlburg, and Brian P. McCall, "Simulating the Longitudinal Effects of Changes in Financial Aid on Student Departure from College," *Journal of Human Resources* 37, no. 3 (2002); Eric Bettinger, "How Financial Aid Affects Persistence," in *College Choices: The Economics of Where to Go, When to Go, and How to Pay for It*, ed. Caroline M. Hoxby (Chicago: University of Chicago Press, 2007); Larry Singell and Mark Stater, "Going, Going, Gone: The Effects of Aid Policies on Graduation at Three Large Public Institutions," *Policy Sciences* 39, no. 4 (2006).

[17] (Dynarski, 2002)

[18] (Shadish, Cook, and Campbell, 2002)

[19] See Joshua Angrist, Daniel Lang, and Philip Oreopoulos, "Incentives and Services for College Achievement: Evidence from a Randomized Trial*," American Economic Journal: Applied Economics* 1, no. 1 (2009). Joshua Angrist, Philip Oreopoulos, and Tyler Williams, "When Opportunity Knocks, Who Answers? New Evidence on College Achievement Awards," National Bureau of Economic Research Working Paper No. 16643 (2010). Edwin Leuven, Hessel Oosterbeek, and Bas van der Klaauw, "The Effect of Financial Rewards on Students' Achievement: Evidence from a Randomized Experiment," *Journal of the European Economic Association* 8, no. 6 (2010). MacDonald et al., *Final Impacts Report: Foundations for Success* (Ottawa, Canada: R.A. Malatest & Associates LTD., 2009). Lashawn Richburg-Hayes et al., *Rewarding Persistence: Effects of a Performance-Based Scholarship Program for Low-Income Parents* (New York: MDRC, 2009) and Lisa Barrow et al., "Paying for Performance: The Education Impacts of a Community College Scholarship Program for Low-Income Adults" *Journal of Labor Economics*, Vol. 32, No. 3 for Opening Doors Louisiana; Lashawn Richburg-Hayes et al., *Providing More Cash for College: Interim Findings from the Performance-Based Scholarship Demonstration in California* (New York: MDRC, forthcoming) for California; Cynthia Miller et al., *Staying on Track: Early Findings from a Performance-Based Scholarship Program at the University of New Mexico* (New York: MDRC, 2011) for New Mexico; Reshma Patel and Timothy Rudd, *Can Scholarships Alone Help Students Succeed? Lessons from Two New York City Community Colleges* (New York: MDRC, 2012) for New York; Paulette Cha and Reshma Patel, *Rewarding Progress, Reducing Debt: Early Results from Ohio's Performance-Based Scholarship Demonstration for Low-Income Parents* (New York: MDRC, 2010) and Reshma Patel et al., *Using Financial Aid to Promote Student Progress: Interim Findings from the Performance-Based Scholarship Demonstration* (New York: MDRC, 2013) for Ohio.

[20] Therefore, the results of these studies are likely to reflect marginal returns to financial aid since the aid is on top of any other aid for which students are eligible.

[21] See Richburg-Hayes, Lashawn. (2014). "Incentivizing Success: Lessons from Experimenting with Incentive-Based Grants," in Andrew Kelly and Sara Goldrick-Rab (Eds.), Reinventing Financial Aid (pp. 101-126) Cambridge, MA: Harvard Education Press.

[22] Ware, Michelle, Evan Weissman, and Drew McDermott. 2013. Aid Like A Paycheck: Incremental Aid to Promote Student Success. New York, NY: MDRC.

[23] The top ten institutions that were awarded the most work-study allocations in 2012-2013 are (in order of greatest to least): City University of New York, New York University, Columbia University, University of Southern California, Pennsylvania State University, DeVry University, ITT Technical Institute, University of Michigan (Ann Arbor), International American University of Puerto Rico, and Cornell University. See http://www.nationaljournal.com/next-america/education/the-ten-colleges-that-get-the-most-work-study-aid-20141001.

[24] O'Sullivan, Rory, and Reid Setzer. 2014. A Federal Work Study Reform Agenda to Better Serve Low-Income Students. Washington, DC: Young Invincibles; Scott-Clayton and Minaya, 2014. "Should Student Employment Be Subsidized? Conditional Counterfactuals and the Outcomes of Work-Study Participation." NBER Working Paper 20329. Cambridge: National Bureau of Economic Research.

[25] Patel, Reshma, and Timothy Rudd. 2012. Can Scholarships Alone Help Students Succeed? Lessons from Two New York City Community Colleges. New York: MDRC.

[26] Paul Attewell and Sou Hyun Jang, "Summer Coursework and Completing College," Research in Higher Education 20 (2013): 117-141.

[27] Scrivener, Susan, Michael J. Weiss, Alyssa Ratledge, Timothy Rudd, Colleen Sommo, and Hannah Fresques. 2015. *Doubling Graduation Rates: Three-Year Effects of CUNY's Accelerated Study in Associate Programs (ASAP) for Developmental Education Students.* New York: MDRC.

[28] Sommo, Colleen, Alexander Mayer, Timothy Rudd, and Dan Cullinan. 2012. Commencement Day: Six-Year Effects of a Freshman Learning Community Program at Kingsborough Community College. New York: MDRC.

[29] See Sue Scrivener, Colleen Sommo, and Herbert Collado, Getting Back on Track: Effects of a Community College Program for Probationary Students (New York: MDRC, 2009) for evidence of this in California.

[30] See U.S. Department of Education, Federal Student Aid Handbook 2012-2013 (Washington, District of Columbia: U.S. Department of Education, 2012): Chapter 1 for specific details.

[31] Institutions have discretion over the schedule of SEOG disbursements, so this innovation would need to be a partnership between Federal Student Aid and selected institutions.

[32] Scott-Clayton (2011) and Scott-Clayton and Minaya, 2014.