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Bridging the Gap:

How to Strengthen the Pk-16 Pipeline To Improve College Readiness

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Executive Summary

Far too many students leave high school unprepared for the rigors of college and the workplace. Nearly a third of all incoming freshmen— 42 percent of first-year students at public two-year colleges—require remediation. At some postsecondary institutions, more than 90 percent of first-time freshmen need to take remedial classes before enrolling in courses that count toward their degrees. Remedial courses are offered at 99 percent of public two-year colleges and more than 75 percent of public four-year institutions.

Our nation's high schools bear much of the blame for this lack of academic preparation. According to the most recent National Assessment of Educational Progress (NAEP), only a fourth of high school seniors scored proficient or above in mathematics, while only a third scored proficient or above in reading. Yet 66 percent of high school graduates go on to postsecondary institutions. Unfortunately for them, they are graduating ill-prepared for college-level work.

But the issue is more than a matter of poorly performing secondary schools. Low college readiness rates are a massive failure of the pre-kindergarten through college (Pk-16) system as a whole. High schools, colleges, and universities have not worked together to establish expectations or common standards as to what students should know and be able to do. Postsecondary admissions policies vary widely from college to college, and key admissions criteria, like standardized tests, are not anchored in high school academic goals. Similarly, high schools have not aligned their graduation requirements with college readiness standards; only six states in the nation have taken steps to align their graduation exit exams with workforce and postsecondary expectations.

Policymakers have made some progress in improving the secondary to postsecondary pipeline. Many states have rewritten their high school standards, while others have set up councils to smooth the transition between high school and college. Some states have taken steps to improve their students' college readiness by requiring all ninth graders to enroll in a college preparatory curriculum. Federal programs are also attempting to improve the college readiness of disadvantaged students through early intervention and academic support.

Still, much more needs to be done. Despite good intentions, current initiatives are often weak and disconnected. Too many students are getting lost amid the competing demands and misaligned policies of the Pk-16 system as a whole. Indeed, one of the most vexing problems is that there is not one system, but a multitude that act independently of one another.

It is time for the federal government to partner with key stakeholders—states, colleges, and secondary schools—to address our nation's college remediation crisis. This can only be achieved by leveraging limited federal resources in both the short and long term to create ideal conditions for deep and lasting reform. To accomplish these goals, we recommend:

Improving the Pk-16 pipeline. For high school graduates to succeed in college and compete in the global economy, they must clear a minimum preparedness bar and be ready for the rigors of college and the workforce. We recommend that the federal government provide states with incentives to come together and adopt national college and work-readiness standards in math, science, and the language arts. States who choose to adopt these benchmarks as their core standards under the current No Child Left Behind (NCLB) accountability system should be given the option to administer a federally designed assessment at no cost to them. We also recommend that the federal government mandate and provide funding for high school graduation plans that include an expectation of college enrollment even for students who intend to enter the workforce immediately after graduation. In addition, the federal government should work directly with states to foster partnerships between high schools and postsecondary institutions to smooth the transition between high school and college.

Financing and restructuring programs that improve college readiness. The federal government should significantly restructure and adequately fund its current approach to early intervention college readiness programs. In addition, federal dollars should be leveraged to identify and seed further growth of promising models currently being tested in states, in local school districts, and on college campuses.

Strengthening college remediation. The federal government must also play a leading role in restructuring the current college remediation system. It should play the primary role in collecting data on the scope and depth of the problem so that an adequate and appropriate response can be developed. It should conduct rigorous research into what works in college remediation. And, it must leverage its own dollars by partnering with key stakeholders to establish a system that provides students with low- or no-cost remediation before their postsecondary studies begin. That said, the responsibility for providing remedial education must be shared by all stakeholders—the states, institutions of higher education, school districts, and the federal government—and the remediation provided must be of high quality.

It is a stark, indisputable fact that America's high school graduates are not ready for the rigors of college. Fewer than half of the high school juniors and seniors who took the ACT national college admissions test in 2008 met its college readiness benchmark in mathematics.[1] Of the 40,000 freshmen admitted into the California State University system in 2007, more than 60 percent needed remediation in English or math.[2] According to one study, only 34 percent of all students finish high school with the minimum qualifications necessary for admission to a four-year postsecondary institution.[3]

The nation's secondary schools bear much of the responsibility for these low college-readiness rates. Our middle schools and high schools do not do nearly enough to prepare students for the rigors of higher education. Many middle school and high school teachers lack a solid command of their subject matter: One out of every four secondary classes in core academic subjects is taught by a teacher who did not major or minor in the field.[4] Nor are students on track to take the courses they need to prepare them for college. Only 41 percent of middle school students enroll in college gateway classes such as Algebra I.[5] High schools also rarely require students to take pre-college courses or align graduation requirements with college entrance requirements.

Colleges and universities have done a poor job of communicating the skills they expect their incoming freshmen to possess.

For their part, colleges and universities have done a poor job of communicating the skills they expect their incoming freshmen to possess. They do an even worse job of providing high-quality remediation and extended support services to ensure that underprepared students eventually graduate: Only 30 percent of students who take remedial reading courses go on to obtain a postsecondary degree or certificate within eight years.[6]

The states, school districts, institutions of higher education, and the federal government all bear some responsibility for this state of affairs. The current pre-kindergarten through college (Pk-16) system is a patchwork of unfocused academic policies and programs that fail to adequately prepare students for college or the workforce. Adding to the problem is the fact that few states track the progress of students from pre-kindergarten through higher education. Clearly, the nation needs a new approach to Pk-16 reform, with the federal government providing the leverage to promote change.

The Importance of Academic Preparation

Despite their lack of preparation, most high school graduates go on to the postsecondary system. In fact, about two-thirds of graduates enroll in higher education in the fall after their high school graduation.[7] Enrolling in college, however, is not a sign of academic preparation. The nation's education system is remarkably adept at moving students through the academic pipeline with little accountability. Most community colleges admit every student who applies, and more than three-quarters of college freshmen attend universities with low admissions standards.[8]

Nearly a third of all college freshmen enroll in remedial programs. Remedial courses are offered at 99 percent of public two-year colleges and more than 75 percent of public four-year institutions.[9] At some institutions of higher education, more than 90 percent of first-time freshmen need to take remedial classes before they can take courses that count toward a degree.[10]

Moreover, students who are academically unprepared for college are unlikely to attain a degree. A study by the

National Center for Education Statistics (NCES) found that of the students in the high school graduating class of 1992 who took college remedial reading courses, only 30 percent obtained a postsecondary degree or certificate within eight years. Unfortunately, failing to graduate has negative implications for students beyond not obtaining a degree. Many leave with large amounts of student debt.

Not surprisingly, students who are unprepared for college are also unprepared for the workforce. Eighty-four percent of respondents to a 2005 survey by the National Association of Manufacturers said K-12 schools were not doing a good job preparing students for the workplace—up from 78 percent who said so in 2001.[11] Over 60 percent of respondents in that same survey said high school graduates and General Education Development (GED) recipients were poorly prepared for a typical entry-level job at their place of work.[12]

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According to a 2005 report by Achieve, Inc., nearly 40 percent of recent high school graduates in the workforce said they were not fully prepared for the workplace—a sentiment echoed by a similar percentage of surveyed employers.[13] Of that same group of employers, 45 percent said their employees who recently entered the workforce would have a hard time advancing beyond entry-level positions due to their lack of preparation.[14] A 2006 report by the Partnership for 21st Century Skills found that 42 percent of employers surveyed rated their recent high school graduate employees as "deficient" in the skills needed for entry-level jobs, and 72 percent said these students were "deficient" in writing English.[15] Less than 1 percent said the overall preparation of recent graduates was "excellent."[16]

A Poorly Engineered Pipeline

While high schools must be held accountable for the lack of college and workplace readiness among their graduates, unprepared students represent a failure of the entire PK-16 system—a dysfunctional academic pipeline with weak standards and misaligned policies. Policymakers have long approached the high school and higher education systems as independent entities whose practices do not impinge on one another. This is even true at the federal level, where most education legislation focuses on either K-12 or higher education.

The diffuse nature of secondary standards also makes it difficult to improve coordination between the high school and college sections of the Pk-16 pipeline. Every state in the nation has a different academic standard for high school graduation, and only a few states align these standards with public college and university system admission requirements.[17] Of the almost two dozen states that require students to pass an exit exam in order to graduate, only six administer tests that reflect college expectations.[18] The rest focus on basic skills that require students to master little more than eighth-grade knowledge.

Students who graduate ill-prepared from high school are often surprised to find that this is the case. A recent study found that more than 80 percent of students taking remedial courses in college were surprised that they needed extra academic help. These students thought they were prepared for college, and many reported that their high schools did not adequately inform them of what would be required of them to succeed in a university or college setting.[19]

Students in low-performing schools have even less knowledge about what it means to be college-ready. According to a report by Civic Enterprises, only 43 percent of parents with a child in a low-performing school said the school did a "fairly good" or "good" job communicating with them about their child's academic progress, compared to 83 percent of parents with children in high-performing schools.[20]

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Ultimately, today's Pk-16 pipeline is rooted in the outmoded view of a college education as a privilege for the

few, not a goal for the many. As late as the 1980s, barely half of all high school graduates enrolled in higher education.[21] Past generations of students could leave high school and land a solid position in middle management or enjoy a successful career in an auto company or a real estate firm. But an unprecedented wave of technological change has altered our nation's economy over the past two decades. Young people now need a college diploma to be successful. The Department of Labor estimates that between 2006 and 2016, the United States will need to fill over 29 million positions that require some level of college education.

The Costs of Pk-16 Misalignment

Disadvantaged students are hurt the most by the lack of college readiness and the broken secondary-postsecondary pipeline. Lower-income students are less prepared for college than their higher-income peers and as a result are more likely to take remedial courses in college. NCES data show that 31 percent of students in the highest income quartile were enrolled in remedial courses in 2004, compared to 37 percent of students in the lowest income quartile.[22] The higher incidence of remediation among low-income students likely contributes to these same students graduating at much lower rates than their wealthier counterparts. Only about 20 percent of students from families with incomes of less than $25,000 graduate with an associate's degree or higher, compared with more than three-quarters of students from families making more than $75,000.[23]

Students failed by the Pk-16 pipeline fare worse in our modern economy when they exit the system without a college degree. According to the U.S. Census Bureau, individuals with a bachelor's degree earn, on average, almost twice as much over their lifetimes as high school graduates. Those who go on to earn professional degrees make almost four times as much.[24] From a societal perspective, lower overall earnings by those who fail to graduate from college translates into less revenue for local, state, and federal governments in the form of income, property, and consumption taxes.[25]

Students who enter college but drop out before completing their degrees are often left with significant student loan debt, and are much more likely than their graduating peers to default on their loans.[26] The consequences for these young people can be devastating. Except in extremely limited cases, borrowers cannot discharge student loans in bankruptcy and, having defaulted, are forbidden from receiving any additional federal student financial aid. Increased student loan default rates also mean higher costs for the federal government, which reimburses private lenders for defaults and pays student loan guarantee agencies a fee to collect on these loans.[27]

Employers also incur costs when students are ill-prepared for college and the workforce. According to a 2005 study, business and industry leaders spend an average of $600 million a year on remedial skill training for their employees. General Motors spends more than $25 million annually on remedial education, and the U.S. military spends an average of $70 million annually on remedial training for new recruits.[28] So long as students leave high school without the basic skills needed to perform in the workforce, American businesses will continue to have to pay millions to make up for their academic shortcomings.

When a student who needs remediation receives financial aid for college, taxpayers pay twice: once for the student's high school education and again when federally subsidized student loans are used to fund remedial coursework.

Still, students, governments, and employers are not the only ones to shoulder the costs of remediation. When a student who needs remediation receives financial aid for college, taxpayers pay twice: once for the student's high school education and again when federally subsidized student loans are used to fund remedial coursework.[29]

Attempts to Align the Pipeline

State Efforts

The majority of efforts to align the Pk-16 system have occurred at the state level. Several states have sought to transform the existing system by creating Pk-16 or Pk-20 councils that focus on easing the transition between high school and college. Thirty-eight states have created such councils and an additional four have governance programs with similar functions.[30] According to a recent Editorial Projects in Education study, however, these councils have

been relatively ineffective. For instance, while 19 councils have initiatives related to improving teacher quality, only eight have actually helped enact new policies.[31] While it is difficult to pinpoint why they have had such limited effects, it is possible that they lack incentives to act or are not composed of the appropriate balance of stakeholders. It is also unclear to what extent these councils are able to influence legislators.

Some states are working to align state high school standards and graduation requirements with college expectations using the guidance of outside organizations. The American Diploma Project (ADP) Network, an effort by Achieve, Inc., an education reform organization in Washington D.C., brings states, governors, state education officials, businesses, and institutions of higher education together to raise high school standards, strengthen curricula and assessments, and align expectations with college and career expectations. ADP reports that 18 states and the District of Columbia have completed some form of alignment between high school graduation requirement and college expectations. ADP also reports that nine states currently have longitudinal Pk-20 data systems for tracking students as they progress through the education pipeline.

The Data Quality Campaign (DQC), a national, collaborative effort designed to encourage and support state policymakers in implementing state longitudinal data systems to improve student achievement, has supported states as they develop data systems capable of tracking students from Pk through college graduation. In addition to identifying the "10 Essential Elements" of a good state education data system, the DQC tracks states' progress on their systems, reporting how many elements each state has in a given year. As of 2008, DQC reports that 29 states collect and track student-level college readiness test scores.[32]

Nine states are turning to their own high school assessments to measure student college readiness.[33] California's 11th grade standards-based exam, for instance, includes voluntary test items provided by the California State University (CSU) system. Students who respond to the items, score high enough on the exams, and continue to take challenging courses during their senior year in high school are exempt from the placement exam when they enter a CSU school.[34] The same students are also exempted from placement exams at community colleges. Other states, including Illinois and Colorado, incorporate the ACT national college admissions test in their state assessment systems to evaluate the college readiness of high school students.

Other states have chosen to improve the alignment of the Pk-16 pipeline by rethinking high school curricula and graduation requirements. In Texas, all high school freshmen are automatically enrolled in the Recommended High School Program, a 24-credit "college preparatory curriculum."[35] Students who are unable to complete this course of study may opt for the lower-qualification Minimum High School Program, while advanced students may participate in the more rigorous Distinguished Achievement High School Program.[36] Texas is also implementing 12 end-of-course (EOC) assessments on subjects ranging from Algebra I–III to World History designed to measure college readiness and the need for remedial, also known as developmental, coursework in higher education.

Indiana has developed a college preparatory curriculum, Core 40, which all students must complete in order to graduate.[37] Students who receive a Core 40 diploma and meet other financial aid requirements can receive up to 90 percent of approved tuition and fees at eligible institutions. The state also has made Core 40 a requirement for college admissions. As of fall 2011, students will not be able to enter an Indiana four-year public college without a Core 40 diploma or a documented equivalent. Policymakers hope that the requirement will significantly reduce, if not eliminate, the need for remediation in the state college and university system.

Florida has sought to align its Pk-16 pipeline by creating a comprehensive data system that uses unique identifiers to track students throughout the public school system. School and district level "feedback reports" reveal the percentage of graduates who take a college admissions test or college-level classes, enroll in a Florida postsecondary institution, and successfully complete English or math courses in college.[38] Attendance and course enrollment data are also recorded and disaggregated by type of institution and class level. Where possible, the data system also tracks employment and income after graduation.[39] Some state higher education systems have also started recording this type of information. The University of North Carolina system reports college retention and graduation statistics broken down by state institution.[40]

North Carolina and other states are building Early College High Schools (ECHSs) in an attempt to smooth the transition from high school to college. A reform approach heavily supported by the Bill & Melinda Gates Foundation, ECHSs are often opened on college campuses and target students from disadvantaged backgrounds. These schools allow students to enroll in classes that count toward both high school and college credit. Students graduate from high school with college credits already accrued toward their major and with a better sense of what college-level courses demand. Students enrolled in ECHSs do not pay tuition on their college-credit courses, lowering their eventual postsecondary costs.[41]

Federal Efforts

The federal government has traditionally addressed early education, K-12, and higher education as separate policy areas. Regarding higher education, policymakers typically focus almost exclusively on expanding access for low- and middle-income students through student aid. The federal government invests roughly $80 billion annually in federal student aid to substantially increase college enrollment, especially among disadvantaged students.[42] But it has done little to ensure that students graduate from high school ready for college-level work.

The federal government has traditionally addressed early education, K-12, and higher education as separate policy areas.

It could be argued that the federal government has attempted to improve "academic access" to college through its interventions in the Pk-12 system. In 1994, president Bill Clinton pushed legislation through Congress that required states to set challenging academic standards and assess student performance. These efforts culminated in 2002 when president George W. Bush signed the No Child Left Behind Act (NCLB) into law. That legislation, however, did not contain any mandate for postsecondary institutions to be involved in creating these standards or aligning them with college admissions requirements. As a result, academic expectations and standards at the secondary level often have little connection to the rigors of college-level work.

Attempts to Improve College Readiness

State Efforts

Some states have developed programming that seeks to bolster or supplement the high school experience in order to prepare students for college. For example, California funds Advancement Via Individual Determination (AVID), a program designed to help underachieving middle school and high school students prepare for and graduate from college. Schools participating in AVID offer a voluntary elective course that teaches students specific study and organizational skills, offers college planning and visits, and generally aims to immerse students in a college-going culture. In addition to encouraging the students to enroll in academically rigorous and challenging courses, AVID provides students with academic support services, including twice-weekly tutoring sessions.[43]

Texas offers the Summer Bridge Program to rising high school juniors and seniors who have low scores on the Texas Assessment of Knowledge and Skills (TAKS) test. The program consists of an academic summer program of four weeks or more, which is administered in cooperation with, and often located at, nearby community colleges and universities to foster a college-going culture. An initial implementation and effectiveness study of the program found that it produced significant gains in math and writing skills, though participants did not always meet the college-readiness threshold.[44]

Along with its college readiness standards and Recommended High School Program, Texas has recently funded GO Centers, information hubs for prospective college students in middle school and high school. These centers are locally managed and focus on creating a schoolwide college-going culture and promoting college awareness in the surrounding community. Students who seek help from GO Centers may be assigned mentors who guide them through the college application process and keep them motivated to succeed.

Federal Efforts

The federal government currently administers three early-intervention programs that aim to prepare low-income students for college: TRIO Talent Search, TRIO Upward Bound, and the Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP). TRIO Talent Search identifies disadvantaged middle and high school

students with college potential and encourages them to pursue higher education through out-of-school programs or pull-out sessions during the regular school day.[45] TRIO Upward Bound identifies promising high school freshmen and sophomores and provides them with after-school and weekend instruction, along with tutoring support for core academic subjects. It also helps students with college and financial aid applications. GEAR UP consists of school-college partnerships that provide counseling, mentoring, academic support, and college outreach services to entire grades of disadvantaged students during regular school hours, starting in middle school.[46]

Unfortunately, a number of issues have hampered the effectiveness of these initiatives. Most notable is a lack of adequate funding. Program budgets have not kept up with inflation for the past six years, and as a result are not operating at full capacity. TRIO programs currently serve only about 7 percent of eligible students,[47] and GEAR UP serves only about 20 percent of eligible students.[48]

Apart from inadequate funding, federal college-readiness programs also suffer from significant overlap and some redundancies, wasting resources and undermining what should be a coordinated effort. For example, each of the three programs provides tutoring and academic guidance, and works closely with students to help prepare them for the college admissions and financial aid process. But each program functions as a separate entity, rarely sharing information on best practices or approaches. In fact, the programs are administered by two different offices at the Department of Education.[49]

Overall, the programs have not been rigorously researched and do not appear to be adequately structured. While the Department of Education has sponsored several major studies of the Talent Search and Upward Bound TRIO programs, the results have been mixed. A 2004 large-scale study of Talent Search, for example, uncovered "no solid evidence on which to judge" the program's success.[50]

The Department of Education, however, has reported some positive preliminary data on GEAR UP. While the final evaluation results have yet to be published, the most recent Program Performance Plan reports that 84 percent of the second class of GEAR UP students graduated from high school in 2006.[51] Comparatively, about 64 percent of low-income students graduate from high school each year.[52] A study of GEAR UP conducted by researchers from Pennsylvania State University and the University of Wisconsin found that California middle school students who participated in the program demonstrated significant gains on state reading and math assessments.[53] While GEAR UP has some structural challenges and is currently limited by its inadequate funding, it appears to provide the most promising model for future federal college-readiness interventions (see text box for more information on GEAR UP).

Attempts at College Remediation

State Efforts

A 2008 report by the Lumina Foundation found that until recently postsecondary institutions treated remedial students as an afterthought, charging them full tuition for non-credit-bearing classes and failing to provide them with additional supports beyond their "developmental" course work. This situation has begun to change and there are now several promising practices supported by state, postsecondary, and foundation resources.[54]

Several of today's most promising college remediation practices are based at two-year public institutions.

Several of today's most promising college remediation practices are based at two-year public institutions. Valencia Community College in Orlando, Fla., has transformed office spaces into learning spaces, incorporated study and career skills into its academic curriculum, and begun to aggressively use data to identify and track student performance. Valencia also grants academic "college prep" credit for supplemental math and reading courses, removing the stigma from remedial coursework.[55]

Cabrillo College in Aptos, Calif., has created the Digital Bridge Academy (DBA), which seeks to encourage learning in high-risk students via an accelerated remediation track. Working in small groups referred to as "learning communities," students start with an accelerated all-day foundational course that runs for nine days. They then spend the rest of the semester focusing on computer sci-

GEAR UP

The Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) provide seven-year grants to states and school-college partnerships to fund support services for middle and high schools that serve large low-income student populations. GEAR UP provides services during regular school hours to entire grades, or cohorts, of students to help improve college readiness and enrollment rates. Current research suggests that GEAR UP is a promising early intervention program.

Researchers attribute the positive GEAR UP findings to several key program features. First, it is primarily administered by school-college partnerships that are required to serve whole classes of middle school students by seventh grade and to continue working with them through high school graduation. Many higher education researchers believe that the middle school years are a crucial period for students to develop college aspirations and to start taking appropriate coursework.[1]

Second, GEAR UP delivers services to students in their classrooms as part of the regular school day, creating a coherent and integrated approach to increasing college readiness. GEAR UP provides counseling, mentoring, academic support, and college outreach services to entire grades of disadvantaged students. This is in contrast to other intervention programs, which focus on only the most academically promising individuals.

Third, GEAR UP aims to improve the performance of the entire population of a particular school. For example, it encourages schools to provide students with the skills needed to complete Algebra I by the end of the ninth grade.[2] As a result, GEAR UP attempts to transform the way schools educate students, while also trying to improve overall achievement.[3]

Fourth, GEAR UP operates at a relatively modest cost and leverages support from grantees. GEAR UP partnerships are not allowed to annually spend more than $800 in federal money per participant. While this is more than double what the TRIO Talent Search program spends per student, it is less than 20 percent of the total spent on students in TRIO Upward Bound. Unlike the TRIO programs, however, the federal government leverages its investment in GEAR UP by requiring grantees to match at least 50 percent of project costs.

Despite some positive outcomes and programmatic strengths, GEAR UP's success is limited by its lack of adequate funding and structural flaws. Under Department of Education regulations, GEAR UP partnerships are required to continue serving students at high schools that enroll a "substantial majority" of the students in a given cohort.[4] The cohort approach—one of the most promising aspects of the program—is lost as students disperse into different high schools, some of which may have few GEAR UP participants. This is a particular challenge in large urban areas. In New York City, middle school students that participated in the City University of New York's GEAR UP project in the 2000–01 academic year went on to 140 different high schools when they entered the ninth grade.[5] Without the regular support of GEAR UP program staff and classmates, students' motivation may decline and reverse many of the gains made in middle school.

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1 Alberto F. Cabrera and Steven M. La Nasa, Understanding the College Choice of Disadvantaged Students: New Directions for Institutional Research (San Francisco: Jossey-Bass, 2000). See also Laura W. Perna, "Pre-college Outreach Programs: Characteristics of Programs Serving Historically Underrepresented Groups of Students," Journal of College Student Development 43 (January/February 2002): 64-83; and Sharon J. Camblin, "The Middle Grades: Putting All Students on Track for College," Pacific Resources for Education and Learning Briefing Paper, April 2003, 2.

2 Nadia L. Ward, "Improving Equity and Access for Low-Income and Minority Youth Into Institutions of Higher Education," Urban Education 41 (January 2006): 61.

3 The TRIO programs "often remain on the periphery of education reform initiatives operating within the school district and the local community that could potentially enhance program efforts and increase the number of students served," according to Nadia J. Ward ("Improving Equity and Access for Low-Income and Minority Youth into Institutions of Higher Education," 58).

4 U.S. Department of Education, 34 CFR Part 694, "Gaining Early Awareness and Readiness for Undergraduate Programs: Final Regulations," Federal Register, April 27, 2000.

5 Donna Linderman and Corrine Baron-Donovan, Collaborative Programs Research Report: CUNY GEAR UP (City University of New York, June 2006), 23.

ence, self- and team-management skills, stress management, literacy, and career planning.[56] Students who pass move on to their regular community college classes. An evaluation by Norena Badway of the University of the Pacific found that on average students enrolled in DBA increased their grade point average from 1.7 to 3.0, and increased the number of units they completed each semester from 5.8 to 10.2.[57]

Achieving the Dream, a national effort whose mission is to improve success rates among community college students, has attracted more than $100 million, some of which has gone toward the design of "developmental education" projects. Research-driven coaches and expert staff work with campus leaders in 10 states to collect and analyze data to identify gaps in student achievement and implement appropriately tailored strategies to close them.[58] Ultimately, Achieving the Dream promotes a student-centered vision, a culture of accountability and a commitment to equity and excellence. Member colleges provide academic and personal advising, tutoring, and supplemental instruction for at-risk students. They enhance student support services, use data to monitor student outcomes, and strengthen K-14 links to improve high school students' preparation for college.

Federal Efforts

In order to constrain the extent to which students accrue debt to pay for non-credit remedial classes, the Department of Education currently limits the use of federal student aid (grants and loans) to no more than one year of remedial coursework. Apart from this restriction, the federal government has not created a specific funding stream for the support of college remediation.

Recommendations

Students must clear a minimum bar of preparedness to succeed in college or the workforce. To ensure that this occurs, the federal government has an important role to play in graduating secondary students ready for the rigors of college and beyond. Our recommendations follow.

Improve the Pk-16 Pipeline

Most states have yet to develop a system that assesses student academic knowledge and skills at every grade level and enables a smooth transition from high school into college. To create an efficient and effective Pk-16 education system, policymakers must set clear and attainable standards, place all students on a path to meet those standards, and do so within a larger high school/higher education framework that ensures and inspires eventual success. In order to build such a system, we should:

To create an efficient and effective Pk-16 education system, policymakers must set clear and attainable standards, place all students on a path to meet those standards, and do so within a larger high school/higher education framework that ensures and inspires eventual success.

Create incentives for national college readiness standards. The standards, benchmarks, and measures for academic achievement in the United States vary greatly. Currently, there are at least 50 different sets of math, science, and language arts standards to go along with a multitude of definitions of proficiency under NCLB. As a result, America's highly geographically mobile student-aged population progresses through the nation's schools without consistent expectations for knowledge, skills, and preparedness. This is especially troubling because our global leadership and economic competitiveness rest on our commitment to educate and prepare our youth to succeed in the 21st-century economy.

To ensure that we adequately prepare students for current and future global challenges, the federal government should give states reason to come together with institutions of higher education, business representatives, and the wider education community, to create and adopt a core of national college- and work-readiness standards in math, science, and the language arts. States that choose to adopt such standards would be granted funds to bring their current education, teacher licensure, and professional development standards in alignment with this core. Upon adoption and alignment, the federal government would then grant participating states additional funds to strengthen or revamp their current NCLB data systems.

States that successfully adopt the core standards should also be given the option to administer NCLB assessments

that are federally designed and proctored. As with the core national standards, the assessments would be developed in partnership with states, institutions of higher education, and representatives of the business and education communities. The federal government would bear the entire cost of developing, administering, and reporting the results from the assessment, as well as the cost of accommodations for students with disabilities and English Language Learners. States who participate in the national assessment would be allowed to divert the dollars they are currently using to pay for state assessments to turn around low-performing schools.

Ultimately, national standards and a national assessment will enable parents, educators, policymakers, employers, and higher education officials to meaningfully compare students' academic achievement across states, and ensure that students are academically qualified to enter college or the workforce. With a set of world-class national college and work readiness standards and a rigorous national assessment in place, a high school diploma earned by completing coursework tied to these standards would—by definition—signal college readiness. Students that do not go on to pursue a college education would at least graduate with the skills needed to secure initial employment in our 21st-century economy.

Require a high school graduation plan for every student and provide schools with the staff and resources they need to create and monitor them. Most students who enter high school believe that they will go to college, but few know exactly what it takes to do college-level work. To resolve this disconnect, the federal government should provide states and districts with resources to ensure that every student has a high school graduation plan in place by the ninth grade. Students would develop their graduation plans with their guidance counselors, teachers, and parents or guardians. These plans would set out the types of classes and programs students need to be prepared for admission to a two-year or four-year college or university by the time they graduate high school. Plans would be updated annually with the help of the students and their families, guidance counselors, and teachers, and would provide detailed evidence of academic progress from year to year.

Providing every student with a high school graduation plan would require significant support from educators at the local level. States and school districts should be allowed to use Title I funds to cover the cost of creating the infrastructure needed to implement the plans. To facilitate this, the federal government should require school districts to allocate an equitable share of Title I resources to high schools, and then increase overall Title I funding so resources to elementary and middle schools are not reduced. Secondary schools should be permitted to use a portion of Title I funds to pay for additional guidance counselors and support staff, or to provide increased compensation for teachers who serve in counselor roles. Added staff would allow for closer monitoring of students' academic progress.

Encourage states to partner with institutions of higher education to develop and replicate models that successfully link Pk-12 and higher education. States must work to create a structured system that builds on student academic knowledge and skills at every grade level and enables a smooth transition from high school into postsecondary education. Ultimately, high school academics should provide a foundation for the freshman year of college.

To help ensure that a high school diploma reflects a student's readiness for the academic challenges of higher education, the federal government should offer a small number of competitive grants to states, school districts, and institutions of higher education to collaborate on implementing innovative models that bridge the academic divide between high school and college. While there are efforts to strengthen the link between Pk-12 and higher education currently under way, the enormity of the problem requires additional innovation and resources to take successful models "full-scale." Rather than fund one model, the federal government, working through the Department of Education's Fund for the Improvement of Postsecondary Education or the Office of Innovation and Improvement, should support multiple promising strategies that form partnerships across sectors.[59] Partnership grants could help recipients work with reform groups like Achieve, Inc. to benchmark current standards to college readiness, raise the overall rigor of the high school curriculum, or create data systems that allow states to track students' progression from high school to college.

Refocus, Strengthen, and Finance Programs that Improve College Readiness

Giving all students equal opportunity to succeed requires leveling the currently uneven academic playing field. Today's low-income and minority students often attend

disadvantaged schools that lack adequate resources, such as highly qualified teachers. Students enter school academically behind and are rarely given the tools they need to catch up. While these disadvantages often begin before students enter school, the government can and must do more to improve college readiness in middle and high schools. The federal government should significantly restructure its approach to early intervention college readiness programs and leverage current investments in alternative programs based at the state and local level. Specifically, the federal government should:

Refocus federal efforts. Overlap in federal efforts should be eliminated to allow the Department of Education to further focus its funds, research, and energy on developing highly effective early-intervention programs. A unified and less redundant effort would create a community of practice, allowing program administrators across the country to share promising tactics and provide for a dialogue about improving high schools and the high school to college pipeline. All early intervention programs should be rigorously evaluated and administered through the same office in the Department of Education, allowing for greater coordination of services.

Students enter school academically behind and are rarely given the tools they need to catch up.

While GEAR UP does have deficiencies, existing research suggests that it is the most promising of all federal college readiness programs. Expanding its reach to ensure that low-income students are adequately prepared for college would, however, likely require significant restructuring. Regardless of which program the federal government chooses to build, grow, or improve upon, its efforts should be focused and coherent.

Build on promising models. The more promising early-intervention college readiness programs include a whole-school and whole-grade, or cohort, approach to serving students in middle and high school. Successful programs provide academic support to students and assist them as they consider higher education options, apply to college, and fill out financial aid forms. These interventions are integrated into the regular school day and do not require students to stay after school or work over weekends.

Successful programs also leverage funds from their service providers, require partnerships between schools and colleges, and match grants from community organizations or foundations. Finally, they necessitate communication and collaboration between middle schools and high schools, colleges, and community organizations. Programs that share these attributes should provide the foundation on which to build a more effective and coordinated early-intervention college readiness effort partially funded with federal dollars.

Provide adequate funding. The federal government should significantly increase its investment in early intervention college readiness programs. Current federal programs have suffered from largely stagnant funding levels. Funding for these programs has decreased by more than 5 percent after accounting for inflation from 2001 to 2008. Because of eroding financial support, existing programs have been forced to significantly scale back their services. For example, GEAR UP's creators envisioned that grantees would work with all students and grade levels in a particular school to effect change. Inadequate funding, however, has undermined this mission, forcing many grantees to serve only one grade level in a school, rather than multiple cohorts.

With increased funds and improved resources, federal programs have the potential to help millions of students enroll—and succeed—in college. But the U.S. government's role should not be limited to enlarging federal programs. Federal dollars should be leveraged to identify and seed further growth of promising models currently being tested in states, in local school districts, and on college campuses.

Strengthen Opportunities for College Remediation

More than a third of all college students need remedial courses to acquire basic academic skills. In some states, such as Indiana and Oklahoma, more than 70 percent of students who attend community college need help with the basics.[60] Such high rates of remediation are unacceptable. To improve this situation, education leaders at the federal, state, and local levels must:

Collect better data. For the most part, neither states nor the federal government collect substantive data on college

remediation, and policymakers are not always able to trace college success and persistence back to individual high schools. This leaves no way to systematically address the sources of and solutions to the remediation problem on a broader scale. In fact, many experts believe that current estimates of remediation vastly understate the problem because many institutions of higher education title their remedial coursework "intermediate" rather than remedial.[61]

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We recommend that the federal government require institutions of higher education to fully report remediation rates and break out the rate at which students required to take college remediation or developmental classes later graduate or successfully transfer to other colleges or universities. Institutions of higher education should also be required to report the number of students required to take remedial coursework to the high schools from which they graduated. These schools should then have to report the total percentage of their graduates who are required to take remedial courses in college on K-12 school-accountability report cards. Such information would help policymakers better understand college readiness, remediation, and success. At the same time, it would hold high schools accountable for producing graduates who are not prepared for college-level work and institutions of higher education accountable for not graduating remedial students.

Although some states already have Pk-16 reporting and feedback systems in place, they are generally limited to public schools, universities, and colleges. To have the greatest effect on the college remediation crisis, all institutions of higher education receiving Title IV funds should be required to report this information. Regardless of how comprehensive a reporting system actually is, states must take steps to ensure that data collected are public and transparent, and provide adequate protections for student privacy.

Create a structure through which the states, institutions of higher education, and secondary schools can deliver remedial education at little or no cost to students. All stakeholders must share responsibility for providing remedial education. This includes: the school districts that have graduated underprepared students; the states, which have a constitutional responsibility to provide students with an adequate education; the colleges, which have an interest in a prepared student body; the students, who must do the work; and the federal government, which has an interest in an educated electorate and a highly trained workforce.

While researchers have yet to definitively map out what works in remedial education, there are a number of practices and programs that have shown results. The federal government can assist remediation efforts by conducting research on the types of programming that work, presenting states and colleges with best practices information, seeding efforts to launch such initiatives, and providing technical assistance to help ensure that such programs succeed. A number of promising models exist in our nation's community colleges and are being executed with support from private foundations. Private foundations should not be overlooked as a source of expertise and leveraged funding.

When assessing individual models, the federal government must pay special attention to who is shouldering the cost. States and institutions of higher education, in partnership with the federal government, should establish a system that provides high-quality remediation at little or no cost to students. To save time and money, states and school districts could work with institutions of higher education to provide remedial education online prior to a student's freshman year. A state-based online college remediation coursework system—developed in conjunction with public colleges and universities—would allow students to complete their coursework on their own time in a variety of venues (such as their homes or public libraries) before arriving on a college campus. The federal government could partner with states to cover the system's start-up and development costs. Ultimately, final exams for these remedial courses should be offered on-site at the student's graduating high school at no charge to the student. For students who prefer a more traditional experience, the same remedial coursework could be offered face-to-face on high school or community college campuses, again at little or no cost.

When remediation is provided on campus, colleges and universities should hire additional instructors and support staff, and make the programs as rigorous as every

other academic department in the institution. The classes should be based on best practices research in remedial education and should cover study skills and work habits, in addition to reading comprehension, writing, and math. For students who require more than one or two remedial classes, arrangements could be made with community colleges to offer remedial education at low cost and close to their homes.

Ultimately, institutions of higher education must be held responsible for the quality of the remediation they offer. As a condition for receiving Title IV funding or perhaps woven into the accreditation system, institutions should be required to report the pass rates for their remedial education courses based on objective measures, such as a standard cut-off score on a final exam. The basis for the achievement level should be made public so that expectations are clear. States should report remedial coursework passage rates in a similar manner if a state-based system is developed online.

There are currently a number of efforts underway to improve college readiness. But existing initiatives are not enough. The problem is too big and the system is too dysfunctional. It is time for the federal government to partner with key stakeholders, including states, colleges, and secondary schools, to address our nation's college remediation crisis.

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