



INCREASING POSTSECONDARY ENROLLMENT TO BUILD A FUTURE-READY WORKFORCE AND STRENGTHEN PATHWAYS TO ECONOMIC MOBILITY

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The Challenge

Today's globally competitive environment is characterized by the ongoing shift from an industrial economy to a knowledge economy, and by rapid technological advancement. In this environment, the attainment of quality^b postsecondary credentials is critical to help Americans avoid unemployment and access good-paying jobs.¹ (Exhibit 1 illustrates the relationship between education and unemployment during economic downturns, including the COVID-19 pandemic.) Furthermore, the importance of postsecondary education in securing socioeconomic opportunity is only expected to grow. Currently, 80% of all "good" jobs^c require at least some education or training beyond high school,² and many of the fastest growing jobs require a postsecondary degree.³

Despite the current and growing importance of postsecondary education, only 46% of Americans aged 25 to 64 had an associate's or bachelor's degree in 2017. Attainment rates among more recent generations of Americans are only slightly better (48% and 50% for those aged 25 to 34 and 35 to 44, respectively).⁴ While postsecondary degree attainment in the United States is about 10 percentage points higher than it was in 2000, we have not kept pace with the rest of the world.⁵ The United States ranks

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^b The Lumina Foundation is a prominent funder and leader in postsecondary education. It defines quality credentials as "degrees, certificates, industry certifications, or other credentials that—at a minimum—have clear and transparent learning outcomes and that lead to meaningful employment and to further learning" (<https://www.luminafoundation.org/news-and-views/lumina-quality-credentials-task-force-unveils-new-approach-to-assure-quality-of-post-high-school-learning>).

^c Georgetown University's Center on Education and the Workforce defines these "good jobs" as those that pay at least \$35,000 for workers age 25 to 44, and at least \$45,000 for workers age 45 to 64.

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11th in the percentage of 25- to 34-year-olds with a postsecondary degree, with a rate of 48%; Canada's rate for the same age group is 61%.⁶ Moreover, the United States exhibits large gaps in educational attainment by race and socioeconomic status. In 2017, about 62% of Asians and 49% of Whites held an associate's degree or higher, compared with 35% of Blacks and 25% of Latinos.^d The likelihood of children enrolling in college and completing a credential is also strongly correlated with their parents' socioeconomic status.⁷

Potential Solutions

There are two main levers for improving postsecondary credential attainment: (a) increasing the number of Americans who enroll in a postsecondary institution, and (b) increasing the proportion of Americans who complete a postsecondary credential once enrolled.

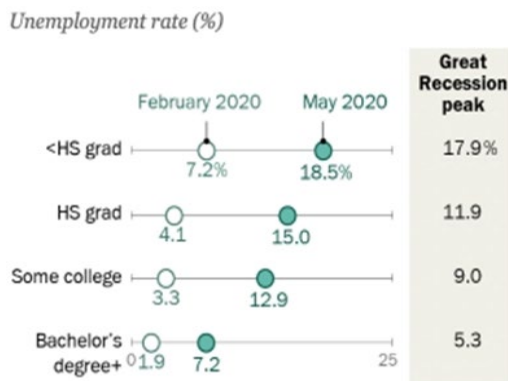
This research brief focuses on the first lever: enrollment in a postsecondary institution.^e A companion brief, *Increasing Postsecondary Completion to Build a Future-Ready Workforce and Strengthen Pathways to Economic Mobility*, tackles the second lever of completion.

Many things can be done to improve enrollment in postsecondary education. We can help Americans to better understand their postsecondary and career options and the likely educational, financial, and labor market outcomes of those choices. We can make attending postsecondary education more affordable. We can make the options for financing postsecondary education clearer and help students to optimize those decisions. We can also do more to facilitate adult learners' enrollment in postsecondary education for the first time, as well as their re-enrollment, especially among those who previously left postsecondary education without completing a credential.

In this brief, we focus on improving the transition from high school to postsecondary education as a key strategy to increase postsecondary enrollment. Since 2000, the proportion of high school graduates who directly enroll in postsecondary education has remained at about 67%.⁸ The proportion of Black high school graduates who directly enroll in postsecondary education has also remained fairly steady at 58%.⁹ Following high school students who were sophomores in 2002 and examining their postsecondary enrollment during a 10-year window also reveals equity gaps and opportunities for improvement. Among this cohort, 76% of Latinx sophomores enrolled in postsecondary education during this timeframe, compared with 86% of their White counterparts. Similarly, 72% of sophomores whose parents had no postsecondary education enrolled, compared with 93% of those who had a parent with

Exhibit 1. Unemployment by Educational Attainment

Less-educated workers are seeing higher unemployment in COVID-19 downturn, as in the Great Recession



Source: [Pew Research Center](#)

^d Calculated using 2017 CPS data from Figure 1.5 presented by ACE at https://www.equityinhighered.org/data_table_category/population-trends/

^e Initiatives that promote enrollment can sometimes also help with completion.

a bachelor's degree or higher.¹⁰ With these statistics in mind, we focus on two interventions that offer promising evidence of increasing college attendance among high school students: (a) dual enrollment programs, and (b) Early College High Schools (ECHS).

Dual Enrollment Programs

Dual enrollment education is one alternative to the business-as-usual approach (i.e., attending high school exclusively, and then attending college following high school graduation) and has the potential to better integrate the secondary and postsecondary sectors, widen college opportunities, and boost college completion as a result. Dual enrollment programs, which are jointly delivered by high schools and postsecondary institutions, often award both high school and college credit to high school students who enroll in college coursework.^{f, 11}

While originally developed to provide academically challenging content to high-achieving students,¹² dual enrollment programs across the United States now enroll high school students with varying degrees of academic preparation, exposure to college, and postsecondary education goals and expectations. In the fall of 2013, 92% of public high schools offered a dual enrollment program,¹³ illustrating the extent to which access has become widespread. However, few students take advantage of these programs. While participation varies widely by state, nationally only 11% of public high school graduates earn any dual enrollment credit. To provide some points of comparison, nearly four times as many public high school graduates (42%) earn either Advanced Placement or International Baccalaureate credit.¹⁴

There is also evidence that participation in dual enrollment programs increases postsecondary enrollment (in addition to directly and indirectly improving other factors related to postsecondary attainment). Of the 35 eligible dual enrollment studies reviewed by the What Works Clearinghouse (WWC), three used quasi-experimental designs that met WWC criteria with reservations.¹⁵ We identified one additional recent study that has not yet been reviewed by WWC but appears to meet WWC standards, as well as our standards for inclusion in this review.¹⁶ Appendix Table 1 and the text box on this page summarize these studies' positive findings, including positive effects on college access, enrollment, credit accumulation, and degree attainment.

Evidence Summary

- *Goal:* College credit accumulation at low or no cost
- *Population:* High school students
- *Key Components:*
 - Exposure to the academic and social aspects of college while in high school
 - Tuition that is often free or discounted; does not typically include books/supplies and transportation
- *Major Findings:* Positive effects on college access and enrollment, postsecondary credit accumulation, and postsecondary degree attainment
- *Methodological Approach:* Propensity score matching

^f Sometimes high school students participating in dual enrollment may just earn college credit.

Early College High Schools

ECHSs were created as part of the Early College High School Initiative (ECHSI), established in 2002 by the Bill & Melinda Gates Foundation, along with the Carnegie Corporation of New York, the Ford Foundation, and the W.K. Kellogg Foundation. The explicit goal of the initiative was to increase opportunities for disadvantaged students to earn a postsecondary credential. To achieve this goal, ECHSs partner with colleges and universities to offer students an opportunity to earn an associate's degree, or up to 2 years of college credits toward a bachelor's degree, during their regular 4 years of high school at no or low cost to their families.

ECHS can be considered a relatively intensive model within the broader field of dual enrollment programs, which also allow students to take college classes while in high school. The ECHS model offers a more comprehensive experience than dual enrollment programs—for instance, by providing more personalized instructional support, academic tutoring, and advising; fostering a college-going culture; and assisting students with preparing for and completing college entrance exams, application materials, and financial aid forms.¹⁷ Another key difference is that ECHS programs were originally designed to focus on underrepresented students, while dual enrollment is typically open to all students who qualify.

A Path Forward

Key takeaways. Dual enrollment and ECHS programs show great promise for jumpstarting students' postsecondary experiences, particularly in course taking and more broadly in acclimating students to college. Both programs have positive and significant impacts on students' postsecondary access and enrollment, credit accumulation, and degree attainment. Of the two, ECHS programs have stronger impacts than dual enrollment programs. However, fewer students have access to ECHS programs, possibly due to their higher intensity and therefore higher costs. Dual enrollment programs are widely available but are still enrolling limited numbers of students.

Evidence Summary

- *Goal:* Earn an associate's degree (or up to 2 years of college credit)[§] while enrolled in high school
- *Population:* Traditionally underrepresented students
- *Key Components:*
 - Exposure to academic and social aspects of college
 - Rigorous academics
 - Academic and social supports
 - College credits at no or low cost to families
- *Major Findings:*
 - High school: Positive effects on attendance, persistence, grade point average (GPA), and completion
 - College: Positive effects on access and enrollment, readiness, and degree attainment
- *Methodological Approach:* Randomized control trial
- *Cost:* \$6,400–\$16,000 per student

[§] Note that some ECHS within-school programs have lower credit requirements (e.g., 12 credits in total) but have intentional career pathways to make sure those 12 credits count.

Proposed next steps to boost high school students' enrollment in postsecondary education. The American Institutes for Research (AIR) has noted experience in researching dual enrollment programs and ECHS programs in particular.¹⁸ We can build on this deep research experience and the evidence reviewed here to help fill key research gaps in this space. The ultimate goal is to inform the design and implementation of evidence-based programs to help maximize their impact. Four key elements of a learning agenda will help to accomplish this.

- *Identify critical program components.* Dual enrollment and ECHS programs exhibit great heterogeneity. To increase the effectiveness of both types of programs, the field would benefit from better understanding which programmatic components are most critical, as well as challenges to their implementation. For instance, we need to know more about how credit requirements and support practices influence effectiveness. It would also be valuable to investigate the outcomes of whole-school ECHS programs versus ECHSs that operate more as programs within schools, as well as the outcomes of dual enrollment programs delivered at high schools versus those delivered on college campuses. Given that ECHS programs have stronger impacts than dual enrollment programs but are also more complex and generally more expensive, identifying the ECHS components that most improve student participation and outcomes would allow us to better test, implement, and scale such practices within dual enrollment programs.
- *Determine costs and return on investment.* Dual enrollment and ECHS programs would benefit from a thorough cost-benefit analysis, including identifying ways to maximize return on investment. For instance, to help reduce the costs of ECHS programs (which range from \$6,400 and \$16,000 per student) and facilitate bringing them to scale, some states (e.g., Texas and Massachusetts) are actively promoting ECHSs as programs within a school (rather than as whole-school programs). It is also useful to note that ECHS programs that partner with 2-year colleges are less expensive than those that partner with 4-year institutions, and that the former have positive impacts on both associate's and bachelor's degree attainment.¹⁹
- *Explore equity issues in ECHS and dual enrollment programs.* In four out of five school districts across the United States, there is unequal access to dual enrollment programs for Black, Latinx, and other historically disadvantaged groups.²⁰ There are also geographic dimensions of inequality. For example, ECHS and dual enrollment programs are predicated on access to a nearby postsecondary institution; access to high-quality postsecondary institutions varies widely across the United States, with rural students more likely to live in "education deserts."²¹ To increase racial, socioeconomic, and geographic equity in access to these programs, it is critical that we better understand the availability and patterns of participation in ECHS and dual enrollment programs across varied settings, and that



we assess the viability of alternative models that have the potential to improve access (such as online postsecondary course taking).

- *Assess credit transfer policies.* We need further research into students' ability to transfer dual enrollment and ECHS credits to their postsecondary institutions; and into the subsequent impacts of credit transfers on persistence, credit accumulation, costs, debt, graduation, and return on investment. In theory, earning college credits in high school should reduce the number of credits a student needs to complete a postsecondary credential. This, in turn, should facilitate credential attainment and reduce the amount of time taken to earn a credential, reducing total costs for students.^h However, credits earned in dual enrollment programs do not always fully transfer or are not counted towards an eventual credential. Some states and regions continue to use the "articulated credit" model, in which credits are not necessarily transferrable. Such policies reduce the benefit of participation in dual enrollment programs, which may help to explain students' low participation rates despite widespread program access. In contrast, Massachusetts' ECHS programs designate the 12 college credits students are expected to earn as counting towards a specific college degree and have made them transferable to all public colleges in the state.

AIR is poised and eager to partner with programs and funders to answer these critical research questions. We seek to better understand dual enrollment and ECHS programs so that they can be improved and scaled to reach many more students, particularly those who are currently underrepresented in postsecondary education. Providing the rigorous research and evaluation that will enable these programs to most effectively scale will increase high school students' postsecondary enrollment and pave their way to attaining the postsecondary credentials that are so critical to their future economic opportunity and long-term success.

^h If credits are accumulated before paying postsecondary tuition, federal Pell Grants could potentially be used to cover a greater share of remaining courses. This could reduce the likelihood that a student will take out a federal or student loan to pay for postsecondary schooling.

Appendix Table 1. Programs/Interventions for College-Bound Students

Intervention	Features	Evidence
Dual Enrollment		
An, 2013 ²²	Propensity score matching using data from 8,800 students in the fourth follow-up wave (2000) of the National Longitudinal Study of 1988 and 5,680 students from the Beginning Postsecondary Study of 2004/2009	Positive effects on degree completion
Giani, Alexander, & Reyes, 2014 ²³	Propensity score matching using the population of 2000–01 public high school freshmen in Texas (more than 382,000 students), derived from the Texas statewide longitudinal data system	Positive effects on college access and enrollment, credit accumulation, and degree completion
Struhl & Vargas, 2012 ²⁴	Propensity score matching using data from 32,908 Texas high school seniors in 2003–04	Positive effects on college access and enrollment, credit accumulation, and degree completion
Miller et al., 2018 ²⁵	Instrumental variables combined with difference-in-differences on the impact of dual credit programs in traditional high schools, using data on up to 3.4 million Texas public high school students from 2001–17	Positive effects on college access and enrollment, credit accumulation, and degree completion
Early College High Schools (ECHS)		
Berger et al., 2014 ²⁶	Lottery-based random experiment on being accepted to an ECHS in 2005–06, 2006–07, or 2007–08, using data on 10 ECHSs and 2,458 students followed up to 4 years past high school (2013)	Positive effects on high school achievement, grade point average, and completion; and college enrollment and degree attainment
Edmunds et al., 2017 ²⁷	Lottery-based random experiment on 12 oversubscribed early colleges, using data on 1,651 high school freshmen who applied to these early colleges from 2005–09	Positive effects on high school attendance, persistence, course completion, and graduation; and planning to attend a 4-year college, being on track to attend college, and earning a college degree

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