

Creating Credentials of Value: Three Recommendations for Policymakers



May 2026 | Harry Holzer, Georgetown University; Amy Feygin, American Institutes for Research¹

Workforce Development in Community and Technical Colleges

How do we prepare learners for high-wage, high-demand careers? Answering this question is more important than ever, given stagnating earnings and declining labor force participation among workers without bachelor's degrees.² With more than one thousand community and technical colleges³ across the United States, they are the only institutions that operate at sufficient scale to prepare millions of students for careers in high-demand occupations. Yet they have mixed records of success. Less than one third of community college students go on to earn a credential. And those who do beat these odds often struggle to become employed in high-wage jobs.⁴

Research on community college student outcomes has traditionally focused on understanding the reasons that so few students complete credentials and the effectiveness of interventions meant to address low completion rates.⁵ We know much less about why community college students who do make it to the finish line seldom earn credentials of value—that is, credentials worth at least \$45,000 to \$50,000 in annual salary.⁶

LEARN MORE

Read the full reports *Creating Credentials of Value in Community Colleges: Lessons From High-Performing Colleges* and *Creating Credentials of Value in Community Colleges: Correlates of High Performance* as well as our companion practice brief *Creating Credentials of Value: Five Recommendations for Community College Leaders* at <https://www.air.org/PROPEL/identifying-best-community-colleges-workforce-training>.

¹ We thank the Smith Richardson Foundation, Harvard University, and the AIR Opportunity Fund for their financial support. We also thank Rachel Cook, Anna Jefferson, Elizabeth Zachry Rutschow, Paul Bailey, Gordon Hanson, Rohan Sandhu, Adam Hearn, Jiashan Cui, Sara Sharick, Sanya Malhotra, Katie Allen, Jasmine Howard, Sherri Miao, and Siddharth Gulati for their contributions.

² Nunn et al. (2019). Labor force participation among male workers ages 25 to 34 without bachelor's degrees has increased since the COVID-19 recession but continues on a downward trend overall. For women of the same age without bachelor's degrees, labor force participation has risen (Fry et al., 2024). In addition, since the COVID-19 recession, there has been pronounced wage growth among workers without a bachelor's degree, leading to a compression of the wage differential between workers with and without bachelor's degrees (Autor et al., 2024). However, wage inequality remains high.

³ Hereafter, we use the term "community colleges" to refer to both community and technical colleges.

⁴ Holzer and Baum (2017).

⁵ See Bettinger and Feygin (2025).

⁶ In this brief, "value" refers specifically to wages. There are many ways to value credentials, and value may mean different things to different individuals. Workers may take into account other aspects of jobs when determining value, such as benefits and job satisfaction.

**REIMAGINING
THE ECONOMY**

MALCOLM WIENER CENTER FOR SOCIAL POLICY

This brief shares recommendations for increasing the number of students who earn credentials of value based on the research described in our *Creating Credentials of Value in Community Colleges* series (see inset for more information). We used national data sets to identify community colleges that are relatively more successful at creating credentials of value and examined college characteristics and contextual factors associated with creating credentials of value. Building on this analysis, we interviewed leaders at 35 colleges to learn more about their practices and begin to understand why some colleges have more positive outcomes than others. Among the 35 colleges, we spoke to leaders from 25 *excelling* colleges and 10 *aspiring* colleges. Excelling colleges are relatively successful at creating credentials of value, whereas aspiring colleges are relatively less successful.

The study findings on which the recommendations are based reflect the characteristics associated with high-performing or low-performing colleges as well as the priorities and perspectives shared by the leaders we interviewed; they may not capture the full range of college characteristics or practices associated with success. Further, the results should not be interpreted as causal but, rather, as a starting point for understanding some of the practices of community colleges that may be associated with successful outcomes for students.

METHODS

Using data from the Integrated Postsecondary Education Data System and the American Community Survey, we identified workforce credential completion rates and average earnings for all fields of study at all public community and technical colleges in the United States from 2011 to 2021. Using these data, we created an index that allowed us to rank colleges on the basis of their relative success at producing credentials of value, controlling for college enrollments and local factors (for example, population sizes and unemployment). We examined community and contextual factors associated with producing more credentials of value, such as whether a college was technical or nontechnical, the size of the college, and the state in which the college was located. We also used the rankings to identify colleges for further qualitative study to better understand why some community colleges are more successful than others. This brief draws on the findings from these analyses and interviews with leaders at 35 colleges—including 25 colleges that are relatively successful at producing credentials of value (*excelling* colleges) and 10 colleges that were less successful at producing credentials of value (*aspiring* colleges).

What We Learned About High-Performing Community Colleges

Using regression models, we examined which college characteristics and contextual factors were associated with earning credentials of value. First, we found that technical colleges generally outperform comprehensive community colleges. In several states—including Georgia, Kentucky, Indiana, and Wisconsin—the public community college system is primarily composed of technical colleges. Technical colleges put more emphasis than traditional community colleges on preparing

students for direct entry to the labor market, particularly in high-demand fields such as health care, information technology, and advanced manufacturing.

Second, we found that large colleges outperform small colleges.⁷ Because of low economies of scale, colleges with lower enrollment often have to spend more per student than colleges with higher enrollment to provide the same programs and support services to students. As a result, larger colleges may be able to provide a more robust array of services to support students as they prepare for careers. Further, they may have more visibility among employers as well as the resources they need to effectively engage with employers (for example, through dedicated employer relations positions or liaisons to specific sectors).

Third, colleges in regions with fewer bachelor's degrees among adults tend to generate more workforce credentials of value than those in regions where more adults have bachelor's degrees. The educational attainment of adults in a region may reflect varied factors, such as individual preference, the concentration of jobs in specific sectors, the availability of programming within a commutable distance, and migration patterns. If more adults in a region have bachelor's degrees, there may be less demand among their children for community college programs that offer associate degrees or certificates (and more demand for programs that provide a pathway to a 4-year degree). Alternately, if community colleges in these regions offer few workforce programs, students may be more likely to pursue liberal arts degrees to transfer to a 4-year college or university or go directly to a 4-year college.

Finally, we found large average differences across states in workforce outcomes, suggesting that state policy matters for producing credentials of value.⁸ States differ enormously in community college funding and governance (with very different policies regarding faculty tenure and voice in curriculum design), performance requirements and incentives, and how they interact with other workforce or economic development agencies. We do not know exactly which policies matter most for creating credentials of value, but differences across states are important and merit further exploration.

There are likely other factors besides these that explain variation in performance across community colleges and states. To gain a deeper understanding of community college practices that may be associated with credentials of value, we also conducted interviews with leaders at 35 colleges, including 25 excelling colleges and 10 aspiring colleges. We looked at differences in practices in three categories based on a framework described by Rutschow et al. (2024): occupational skills training, employer involvement, and support services and advising. We found the following:

⁷ We defined large colleges as those with 9,000 or more students and small colleges as those with fewer than 2,700 students.

⁸ For each community or technical college in the United States, we calculated a measure of their relative success at producing high-wage workforce credentials, also referred to as credentials of value. The measure we used is a college's "fixed effect," which is a coefficient for each college derived from a regression model in which the dependent variable is the number of graduates in high-wage workforce fields in a given college and year for the years 2011–21. The regression model controls for the population of the county, the unemployment rate of the county, and a college's full-time equivalent enrollment. To estimate state effects, we then regressed several college and regional characteristics (including the ones described earlier) and an indicator variable for each state on the college fixed effects. The resulting coefficient for each state represents the state effect.

- Although nearly all colleges adapted their programs to meet workforce needs, excelling colleges distinguished themselves through deliberate efforts to align program offerings with jobs that are in demand in the local economy and that pay family-sustaining wages. Further, they integrated an explicit focus on career readiness in all facets of training.
- Being responsive to local industry needs was a dominant theme across interviews, with leaders at nearly all colleges reporting using advisory boards to inform program development. However, leaders from excelling colleges described deeper two-way relationships with employers. College leaders and employers had regular touchpoints beyond statutory meetings, with employers codeveloping programs, providing input on decisions about equipment, and participating in reverse job fairs and other career exploration activities.
- Across all colleges in the study, there was a shared emphasis on helping students address academic challenges, prepare for employment, and meet basic needs. Leaders from excelling colleges described a broader range of advising supports, although many practices were common in all colleges and differences were often incremental rather than foundational.

Policy Recommendations

In the sections that follow, we offer three recommendations for state policymakers to consider when making decisions about community colleges' policy and funding. In a separate brief, we provide practice recommendations for college leaders.

Recommendation 1: Incentivize Community Colleges' Economic Alignment and Performance Through Outcomes-Based Funding (and Evaluate Its Effects)

As of 2024, approximately 28 states use outcomes-based funding to allocate some portion of state funding to community colleges, but the percentage of funding allocated based on performance varies widely (State Higher Education Executive Officers Association, 2024). Texas is one state that has undergone significant restructuring of its higher education finance system in recent years. Prior to 2024, Texas allocated 82% of funding for community colleges based on the number of credit hours that students attempt each year and only 12% based on performance tied to meeting academic milestones.⁹ In 2024, House Bill 8 amended Texas's higher education finance system to allocate approximately 95% of state funds based on performance. Community colleges in Texas earn funding when students complete dual credit hours, transfer to a 4-year college, or earn a credential or degree with high earnings (with more weight for earning a credential of value in a high-demand field). Other states that allocate funding to community colleges primarily based on meeting measurable milestones or outcomes include Ohio, Tennessee, and North Dakota.

⁹ The remaining 6% of funds comprised a core operations allocation and other items (Texas Association of Community Colleges, 2020).

More evaluation is needed to know whether and to what extent outcomes-based funding could increase the number of credentials of value earned in a state each year and the impact of that increased credential attainment on wages and economic mobility. In the meantime, states could consider options for increasing the portion of funding that they allocate to community colleges based on the number of students earning credentials of value. Importantly, performance incentives often lead organizations to “cream skim” in admissions, favoring those who will likely have better outcomes (Dougherty et al., 2016). Research also has found that outcomes-based funding benefits colleges that serve a more advantaged student population (Dougherty et al., 2016; Hagood, 2019). States can guard against cream skinning by including adjustments for factors that are associated with poorer outcomes like economic disadvantage, academic performance, and age. States also may consider including adjustments for enrollment size, consistent with the finding described earlier that small colleges tend to be relatively less successful at producing credentials of value.¹⁰

Recommendation 2: Provide Technical Assistance to Support Sustained Employer Involvement

Now more than ever, with artificial intelligence shaping workplaces and rapidly changing the skills that employers need, ongoing and regular engagement with employers is critical. Technical assistance organizations can help community colleges more deeply understand the local labor market and engage in meaningful, two-way relationships with employers to develop programs that are responsive to employer needs; they also might help comprehensive community colleges adopt at least some of the practices of successful technical colleges. For example, such organizations can help college leaders develop structures for regularly analyzing labor market and industry data to drive curriculum design and work-based learning opportunities; coordinate engagement with local industry leaders, sector-based employer partnerships, and individual employers to validate labor market data, learn about their nuanced and evolving needs, and create sustainable talent pipelines and education-to-career pathways; and implement professional development for faculty and staff to ensure that they maintain current knowledge of industry developments and trends (City Colleges of Chicago, 2024). States may consider allocating funding to community colleges to engage with organizations that can build their capacity for meaningful employer involvement.

Recommendation 3: Fund Robust Academic and Career Advising Plus Other Student Supports

Students need high-quality advising that extends beyond course placement to set them on a path to employment success. Advising can involve a wide spectrum of services that address the whole student, from entry to credential completion and beyond, including services that address academic challenges, provide career navigation support, meet students’ basic needs, and more. Increasingly, states are mandating that all middle or high school students have an individualized learning plan or student

¹⁰ Levin et al. (2022) found that Texas colleges with fewer than 4,001 students would need to spend 17% more to achieve adequate outcomes, whereas larger colleges had a smaller gap between their actual spending and spending needed to achieve adequate outcomes.

success plan that requires students to specify their skills and interests, match those skills and interests to college and career pathways, and choose an academic sequence that sets them on a path for success in such pathways. These plans are developed in collaboration with an advisor and are revisited regularly. States may consider adopting similar requirements and supports for college students, ensuring that all students have a robust plan in place and regular touchpoints with advisors to monitor implementation of their plan.¹¹ Further, states may consider setting maximum advising caseloads—or sharing nonbinding recommendations for maximum advising caseloads—to ensure that advisors have sufficient capacity to provide the level of support that students need for success. Setting maximum caseloads also has the potential to reduce advisor turnover by addressing burnout, a common challenge in community colleges. However, states that consider these options may need to provide additional funding to address the costs associated with hiring more advisors or adopting new technology to support advising processes. We are not aware of any states that have explicitly set maximum advising caseloads, but some states provide nonbinding guidance or pair grants with caseload maximums for the activities covered under the grant.

Additional Considerations for Federal Policy

In addition to the state policy recommendations that are the focus of this brief, the federal government plays an important role in shaping community college practices. For instance, additional funding for work-based learning options or more career guidance for community college students could be generated through the Higher Education Act or other workforce legislation. And as states get ready to award “Workforce Pell” grants later this year (which were included in the One Big Beautiful Bill legislation of 2025), the federal government should help them collect the necessary data to measure which programs will qualify and what more can be done to encourage such qualification (for instance, by “stacking” more noncredit programs into for-credit programs and providing support to focus on improving earnings outcomes).

¹¹ A model of community college reform that depends heavily on more regular student guidance is the “guided pathways” model (Bailey et al., 2015). Each semester, students meet with advisers to carefully plan not only courses for that semester but whether a student should remain in that program or switch to one that is more manageable. But, to date, there are very few rigorous evaluations of the cost-effectiveness of this approach.

CONCLUSION

Although the study findings are not causal, much can be learned from an analysis of which community and technical college characteristics are associated with strong labor market outcomes; we also learned a great deal from interviews with their leaders, who described a wide range of approaches to ensuring that students complete college with a credential of value. Our findings led us to recommend strengthening the incentives of colleges to focus on labor market outcomes, holding frequent meetings with local employers in which each is expected to help the other, and funding more guidance and other supports for community college students. In the future, causal analyses of which college policies and practices improve workforce outcomes can further inform us of how to strengthen them.

References

- Autor, D., Dube, A., & McGrew, A. (2024). *The unexpected compression: Competition at work in the low wage labor market* (NBER Working Paper No. 31010). National Bureau of Economic Research. https://www.nber.org/system/files/working_papers/w31010/w31010.pdf
- Bailey, T., Jagers, S., & Jenkins, D. (2015). *Redesigning America's community colleges: A clearer path to student success*. Harvard University Press.
- Bettinger, E., & Feygin, A. (2025). College advising at the high school and college levels: A review of existing evidence. In A. Banerjee (Ed.), *Oxford research encyclopedia of economics and finance*. <https://doi.org/10.1093/acrefore/9780190625979.013.659>
- City Colleges of Chicago. (2024). *Centers of Excellence playbook*. <https://www.air.org/sites/default/files/2024-04/CCC-Centers-of-Excellence-Playbook-2024.pdf>
- Dougherty, K. J., Jones, S. M., Lahr, H., Natow, R. S., Pheatt, L., & Reddy, V. (2016). Looking inside the black box of performance funding for higher education: Policy instruments, organizational obstacles, and intended and unintended impacts. *RSF: The Russell Sage Foundation Journal of the Social Sciences*, 2(1), 147–173.
- Fry, R., Braga, D., & Parker, K. (2024). *Is college worth it?* Pew Research Center. https://www.pewresearch.org/wp-content/uploads/sites/20/2024/05/ST_2024.5.23_non-college-workers_REPORT.pdf

- Hagood, L. P. (2019). The financial benefits and burdens of performance funding in higher education. *Educational Evaluation and Policy Analysis*, 41(2), 189–213. <https://eric.ed.gov/?id=EJ1213938>
- Holzer, H. J., & Baum, S. (2017). *Making college work: Pathways to success for disadvantaged students*. Brookings Institution Press.
- Levin, J., Baker, B., Lee, J., Atchison, D., & Kelchen, R. (2022). *An examination of the costs of Texas community colleges* (REL 2023–142). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southwest. <https://ies.ed.gov/use-work/resource-library/report/descriptive-study/examination-costs-texas-community-colleges>
- Nunn, R., Parsons, J., & Shambaugh, J. (2019). *Labor force nonparticipation: Trends, causes, and policy solutions*. Brookings Institution, Hamilton Project. https://www.brookings.edu/wp-content/uploads/2019/10/ES_THP_labor-force-nonparticipation_final.pdf
- State Higher Education Executive Officers Association. (2024). *State higher education finance: FY 2023*.
- Rutschow, E. Z., Feygin, A., & Chavarria, M. (2024). *Ready for work: Adapting high-impact workforce training models in community college settings*. American Institutes for Research. <https://www.air.org/sites/default/files/2024-08/Ready-for-Work-Adapting-High-Impact-Workforce-Training-Models-Community-College-Settings-Aug-2024.pdf>
- Texas Association of Community Colleges. (2020). *Texas Success Points model*. https://tacc.org/sites/default/files/documents/2020-02/texas_success_point_model.pdf



1400 Crystal Drive, 10th Floor
Arlington, VA 22202-3289
+1.202.403.5000 | AIR.ORG

Established in 1946, the American Institutes for Research® (AIR®) is a nonpartisan, not-for-profit organization that conducts behavioral and social science research and delivers technical assistance both domestically and internationally in the areas of education, health, and the workforce. With headquarters in Arlington, Virginia, AIR has offices across the U.S. and abroad. For more information, visit AIR.ORG.