RESEARCH AND PRACTICE SUMMARY

Apprenticeship and College: Complementary Approaches to Youth Education and Training

Evidence and Action for Youth Workforce Development Service Providers

Daniel Kuehn and Jincy Wilson

JULY 2025

*Apprenticeship is a work-based approach to learning that **complements rather than substitutes** for college.*

Apprenticeship program sponsors can implement training models that ensure apprentices have access to high quality college training. These strategies include dual enrollment, degree apprenticeships, and stackable college credentials.

Colleges and universities can integrate work-based learning into existing postsecondary offerings. Colleges can provide related technical instruction (RTI) for an apprenticeship program, or sponsor an apprenticeship program themselves.

Apprenticeship programs provide education and training that enable workers to build skills and climb up the career ladder to good jobs. An apprenticeship program combines at least a year of paid on-the-job learning (OJL) with related technical instruction (RTI), which is often delivered in a classroom setting. The US Department of Labor (or an approved State Apprenticeship Agency) registers apprenticeship programs that meet these training standards.

There is a common misconception that apprenticeship training and college are substitutes for each other, when they are in fact complements. Two- and four-year colleges are already active apprenticeship partners—frequently as RTI providers—and serve as apprenticeship program sponsors. In many cases, apprentices are already college students.

Colleges Are Sponsoring Apprenticeship Programs at Higher Rates

In 2024, over 550 registered apprenticeship programs were sponsored by colleges or universities. Over the last four years, the number of apprenticeship programs sponsored by a college or university has grown by 65 percent, from 339 programs in 2020 to 558 programs in 2024. Apprenticeship program sponsors are responsible for the operation of the program and make key decisions about program design and partnerships.

The number of youth ages 16 to 18 who are registered in an apprenticeship program sponsored by a college or university more than tripled over the last five years, from 538 in 2020 to 1,730 in 2024. The number of youth ages 19 to 24 in an apprenticeship program sponsored by a college or university almost tripled, growing from 3,750 in 2020 to 10,414 in 2024. Despite these gains,

WorkRise

most apprentices in college-sponsored programs were not youth. In 2024, 31,037 apprentices were active in programs sponsored by a college or university.

Even more colleges provide related technical instruction for apprenticeship programs. Colleges play an even larger role in providing classroom-based related technical instruction, although not always for academic credit. A survey of federally supported apprenticeship grantees found that 57 percent used local community or technical colleges to provide RTI, the most common of any RTI provider type (Gardiner et al. 2021). Even before recent federal grant and contract investments in apprenticeships, 31 percent of registered apprenticeship programs partnered with community colleges and 27 percent with public technical colleges (Lerman, Eyster, and Chambers 2009).

TABLE 1

Participation in Apprenticeship Programs Sponsored by Colleges, 2020–2024

	Youth ages 16 to 18 (at start) registered in college-sponsored apprenticeship programs	Youth ages 19 to 24 (at start) registered in college-sponsored apprenticeship programs	Apprentices of all ages registered in college-sponsored apprenticeship programs	Registered apprenticeship programs sponsored by a college or university
2020	538	3,750	10,740	339
2021	601	5,236	15,104	398
2022	807	7,170	21,101	431
2023	1,191	9,228	27,330	502
2024	1,730	10,414	31,037	558

Source: Authors' calculations from the Registered Apprenticeship Partners Information Database System, the federal administrative data system for registered apprenticeship programs. Apprenticeship programs and states are regularly updating their data. This version was accessed February 6, 2025.
Notes: Apprenticeship programs are identified as sponsored by a college if their program name or organization type includes permutations of "college," "technical college," "technical cc," or "university."

Dual enrollment policies can provide a bridge for young apprentices to college pathways.

Some youth apprenticeship sponsors have leveraged dual enrollment policies to provide more robust RTI for prepared high school students. Apprenticeship Carolina's™ youth apprenticeship programs in South Carolina are operated by the state's regional technical colleges, which recruit local high schoolers and provide RTI through dual enrollment.

Degree apprenticeships provide learners with a college degree through a registered apprenticeship program.

In many cases, college-based RTI may provide an apprentice with industry-recognized certifications or certificates. However, some colleges have built "degree apprenticeships," which align two- or four-year college degree programs with an apprenticeship program so that a successful completer is both a journeyperson and holds a college degree. Degree apprenticeships are well suited to occupations where workers are typically expected to hold a college degree, such as in IT and health care. Even programs that do not culminate in a degree may offer academic credit for RTI, making it easier for apprentices to earn their degree by complementing their apprenticeship coursework with general education or other requirements.

Colleges Develop and Expand Innovative Models of Apprenticeship

Colleges can integrate apprenticeship training into their programs in different ways, and many have experimented with innovative models of delivering apprenticeship, including:

- The University of Cincinnati leverages its over 100-year-old cooperative education model[1] to offer their NEXT Apprenticeship program[2] as a part of their computer science and IT programs. In the cooperative education model, degree-seeking students spend alternate semesters in instructor-led courses and learning by doing paid work at a job site. Integrating the cooperative education model with apprenticeships provides a pathway for both degree students and incumbent workers. Around 55 percent work for their co-op employer full-time after graduation.
- Pennsylvania College of Technology's Modular Industry-Driven Apprenticeship Strategies (MIDAS) program offers four stackable, one-year, advanced manufacturing apprenticeship programs. It takes four years to complete all of the MIDAS programs, resulting in a journeyman's credential. RTI is provided virtually at the employer's job site.
- Columbus State Community College offers students in select IT associates degree or certificate programs a two-year IT Flexible Apprenticeship (ITFA) program. The first year of ITFA is focused on coursework. In the second year, qualified students who pass interviews with employer partners can join as apprentices. About 60 percent of the students qualify to enter the apprenticeship and around 80 percent convert it to full-time employment.

Youth Experiences in College-Sponsored Apprenticeship Programs

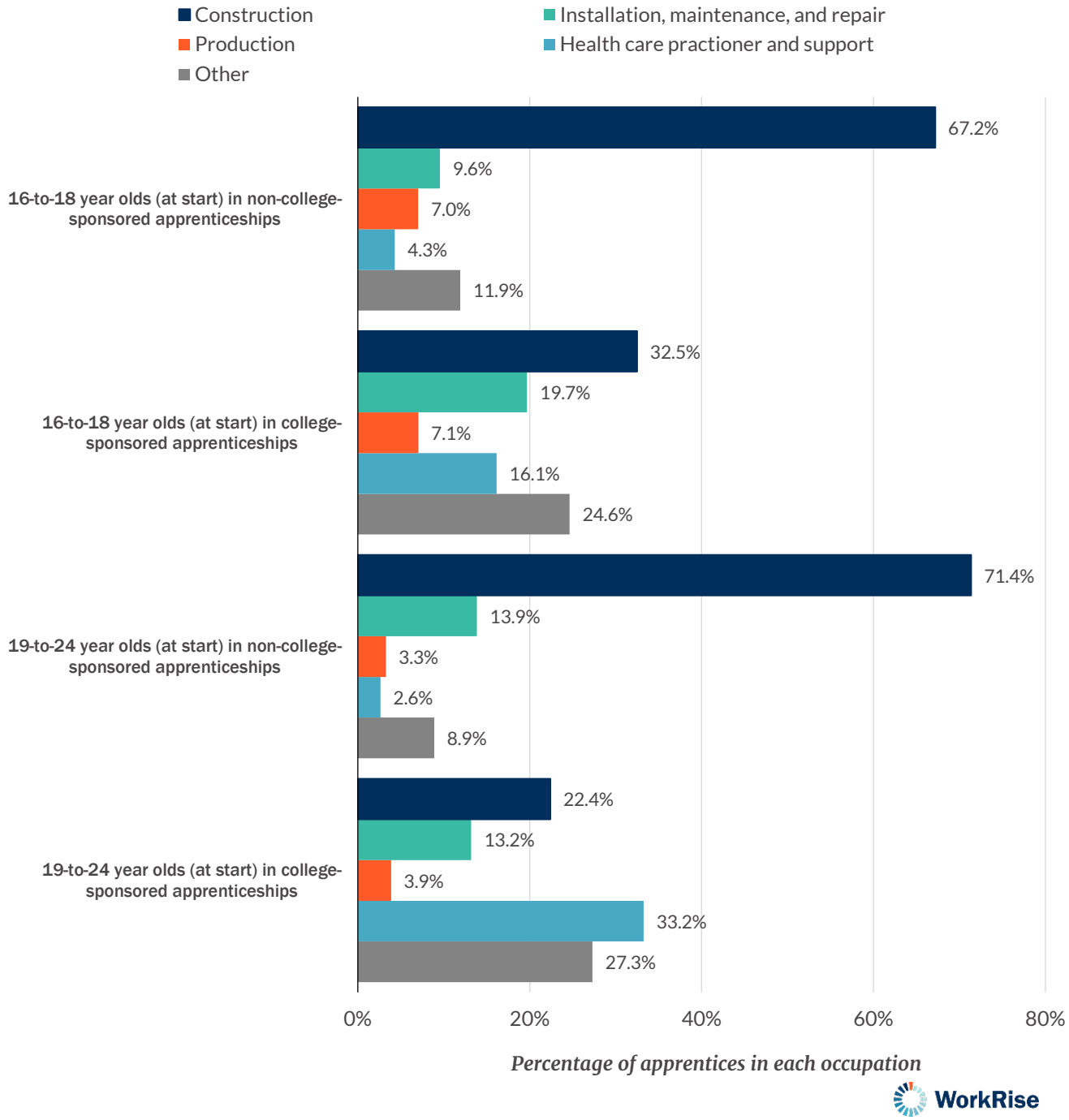
To better understand the value of college-sponsored apprenticeship programs, it is useful to compare the experiences of youth in those apprenticeship programs to youth in non-college-sponsored apprenticeship programs. Ideally, college-sponsored apprenticeship programs would open a variety of occupations to youth, deliver high wages, and maintain high completion rates. Analysis of national administrative data on registered apprenticeships shows that college-sponsored apprenticeship programs do provide training in a wider variety of occupations and have higher completion rates than non-college-sponsored apprenticeship programs. However, wages in college-sponsored programs are lower.

College-sponsored apprenticeship programs train youth for a wider variety of occupations than programs not sponsored by colleges.

In 2024, two–thirds of youth in apprenticeship programs not sponsored by colleges were training in construction occupations (figure 1). Apprenticeship training in construction was still common for college-sponsored apprenticeship programs, but much lower. In college-sponsored apprenticeship programs, 32 percent of 16- to 18-year-olds and 22.4 percent of 19- to 24-year-olds were training for construction occupations. Youth in college-sponsored apprenticeship programs were more likely to be training for non-construction occupations, including health care and production (i.e., manufacturing) occupations, than their counterparts in programs not sponsored by colleges. In this way, colleges play an important role in broadening the types of training provided through the registered apprenticeship system.

FIGURE 1

Occupations of Youth Apprentices in College and Non-College Programs, 2024



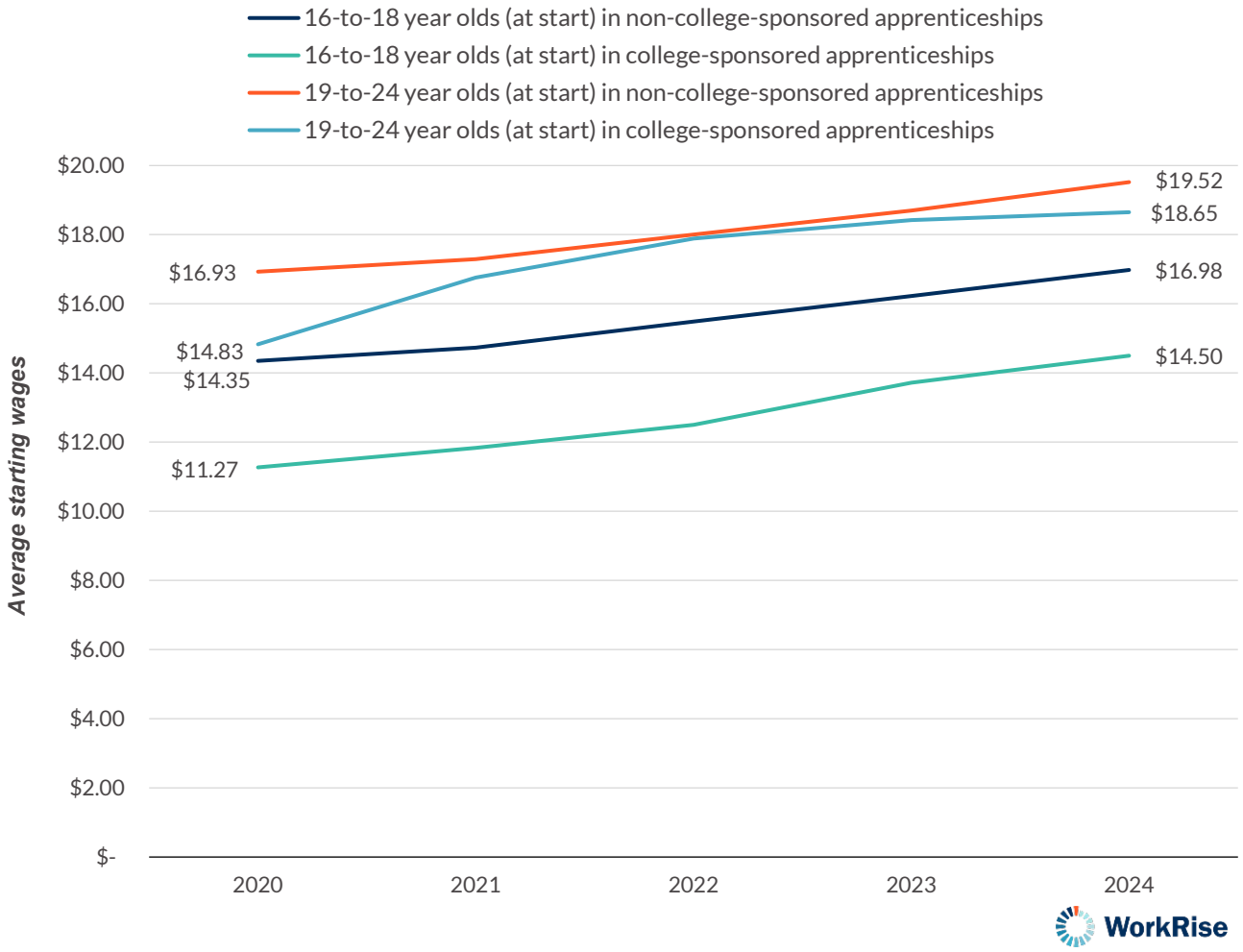
Source: Authors' calculations from the Registered Apprenticeship Partners Information Database System, the federal administrative data system for registered apprenticeship programs. Apprenticeship programs and states update their data regularly. This version was accessed February 6, 2025.
Notes: Apprenticeship programs are identified as sponsored by a college if their program name or organization type includes permutations of "college," "technical college," "technical cc," or "university". Occupational programs categorized by Standard Occupational Classification codes.

Starting wages in college-sponsored apprenticeship programs are lower than starting wages in non-college programs.

Youth in college-sponsored apprenticeship programs consistently earned lower starting wages than youth in apprenticeship programs sponsored by colleges (figure 2). The average starting wage for 16- to 18-year-olds in apprenticeship programs sponsored by colleges grew from $11.27 in 2020 to $14.50 in 2024. Youth in the same age bracket training in programs not sponsored by colleges had starting wages of $14.35 in 2020 to $16.98 in 2024. Apprentices aged 19 to 24 at start in college sponsored programs had average starting wages that were much closer to their counterparts in programs not sponsored by colleges. The federal government does not collect wages records on apprentices after they complete their program, so these differences in starting wages may not persist later in an apprentice's career.

FIGURE 2

Starting Wages for Youth Apprentices in College-Sponsored and Non-College-Sponsored Apprenticeship Programs, 2020–2024



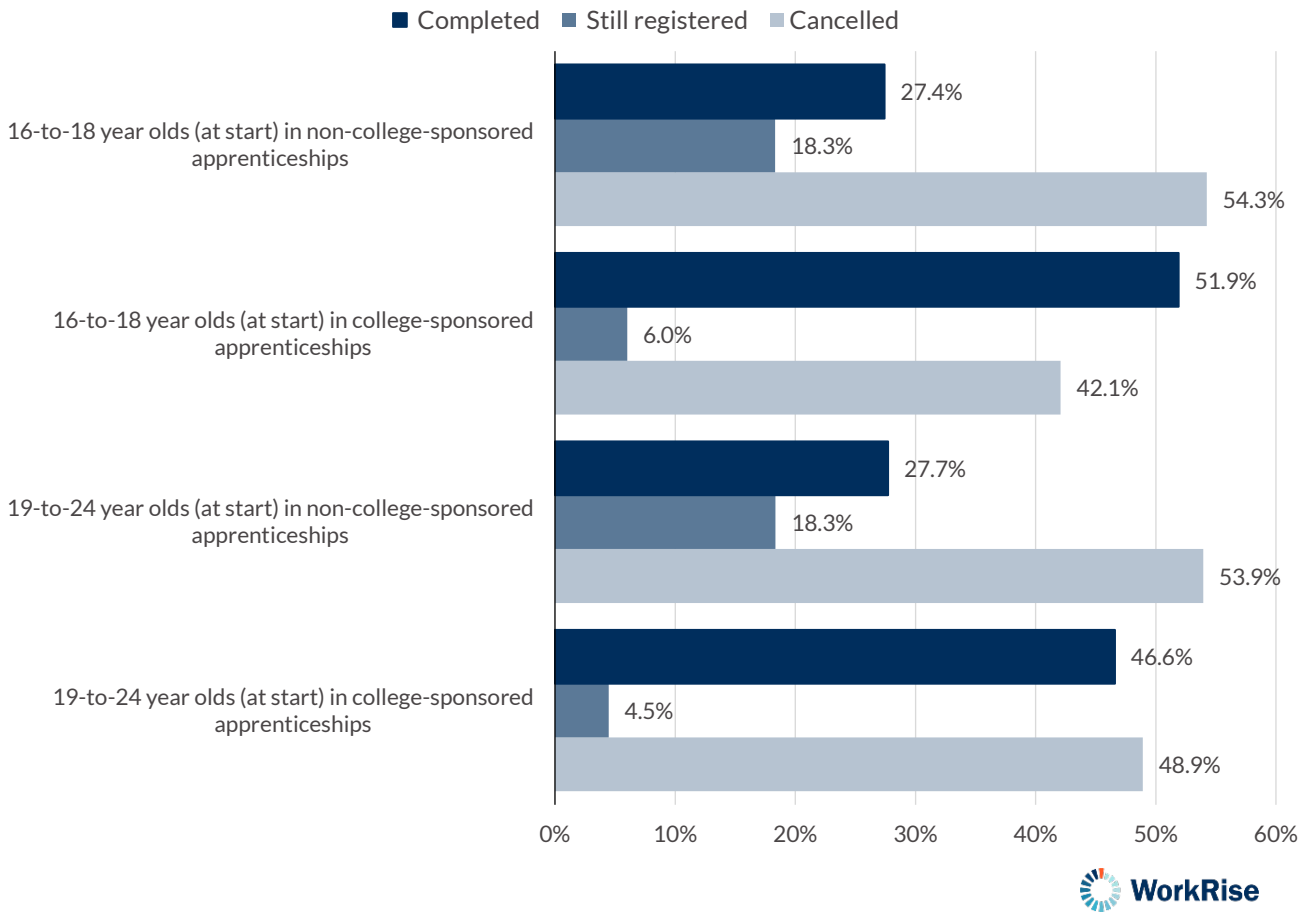
Source: Authors' calculations from the Registered Apprenticeship Partners Information Database System, the federal administrative data system for registered apprenticeship programs. Apprenticeship programs and states update their data regularly. This version was accessed February 6, 2025.
Notes: Apprenticeship programs are identified as sponsored by a college if their program name or organization type includes permutations of "college," "technical college," "technical cc," or "university." Restricted to apprentices paid at least the minimum wage. Nominal dollars reported.

Apprenticeship programs sponsored by colleges have higher completion rates than programs that are not sponsored by colleges.

Youth apprentices in programs sponsored by colleges have higher completion rates than other youth. Less than half (45.7 percent) of 16- to 18-year-old apprentices in non-college-sponsored programs who started in 2020 completed their program or were still registered by the end of 2024 (figure 3). This "success rate" is much lower than 59.3 percent of community college students who completed, transferred, or were still enrolled in their program from the 2020 cohort.[3] However, 16- to 18-year-olds in college-sponsored apprenticeship programs had higher completion rates than community college students in the same cohort (51.9 percent compared with 34.8 percent), and similar success rates to community college students (57.9 percent compared with 59.3 percent). Apprentices who were 19 to 24 years old at the start of their program had similar experiences. Apprentices in college-sponsored programs had higher completion rates and lower cancellation rates than 19- to 24-year-olds in non-college-sponsored programs.

FIGURE 3

Completion Rates for Youth Apprentices in College and Non-College Programs, 2020 Cohort



Source: Authors' calculations from the Registered Apprenticeship Partners Information Database System, the federal administrative data system for registered apprenticeship programs. Apprenticeship programs and states update their data regularly. This version was accessed February 6, 2025.
Notes: Apprenticeship programs are identified as sponsored by a college if their program name or organization type includes permutations of "college," "technical college," "technical cc," or "university." Restricted to the cohort of apprentices who started their programs in 2020.

Key Takeaways

Apprenticeship and college are complements, not substitutes, in supporting successful youth transitions to adulthood and to quality jobs. Apprenticeship programs have developed strong partnerships with colleges, and colleges have even stepped in to sponsor apprenticeship programs. Apprenticeship programs that are sponsored by colleges provide apprentices with a greater variety of occupational training options than programs not sponsored by colleges, and have higher completion rates. Youth who are making the transition from high school to adulthood should be informed about these pathways and understand how college and registered apprenticeship can provide opportunities for educational and career advancement.

Notes

[1] "Co-op," Career Education, University of Cincinnati, accessed May 28, 2025, https://www.uc.edu/campus-life/careereducation/get-experience/co-op.html.

[2] "NEXT Apprenticeship," Career Education, University of Cincinnati, accessed May 28, 2025, https://www.uc.edu/campus-life/careereducation/get-experience/next.html.

[3] Kent Philippe, "DataPoints: Post-Covid Grad, Success Rates," *Community College Daily*, December 18, 2024, https://www.ccdaily.com/2024/12/datapoints-post-covid-grad-success-rates.

References

Gardiner, Karen, Daniel Kuehn, Elizabeth Copson, and Andrew Clarkwest. 2021. *Expanding Registered Apprenticeship in the United States: Description of American Apprenticeship Initiative Grantees and Their Programs*. Bethesda, MD: Abt Associates, and Washington, DC: Urban Institute.

Lerman, Robert I., Lauren Eyster, and Kate Chambers. 2009. *The Benefits and Challenges of Registered Apprenticeship: The Sponsors' Perspective*. Washington DC: Urban Institute.

About the Authors

Daniel Kuehn is a principal research associate, and **Jincy Wilson** is a research associate in the Work, Education, and Labor Division at the Urban Institute.

Acknowledgments

This summary was funded by WorkRise, a research-to-action network hosted by Urban Institute and supported by a multifunder collaborative. Our philanthropic supporters make it possible for WorkRise and Urban to advance their shared missions of bringing high-quality evidence to changemakers with the power to transform economic opportunity for all. This summary benefited from comments from Elisabeth Jacobs, Teresa Kroeger, Alexandra Mills, and Megan Tackney. The views expressed are those of the authors and should not be attributed to WorkRise or to the Urban Institute, its trustees, or its funders. Funders do not determine research findings or the insights and recommendations of Urban experts. Further information on the Urban Institute's funding principles is available at urban.org/fundingprinciples.