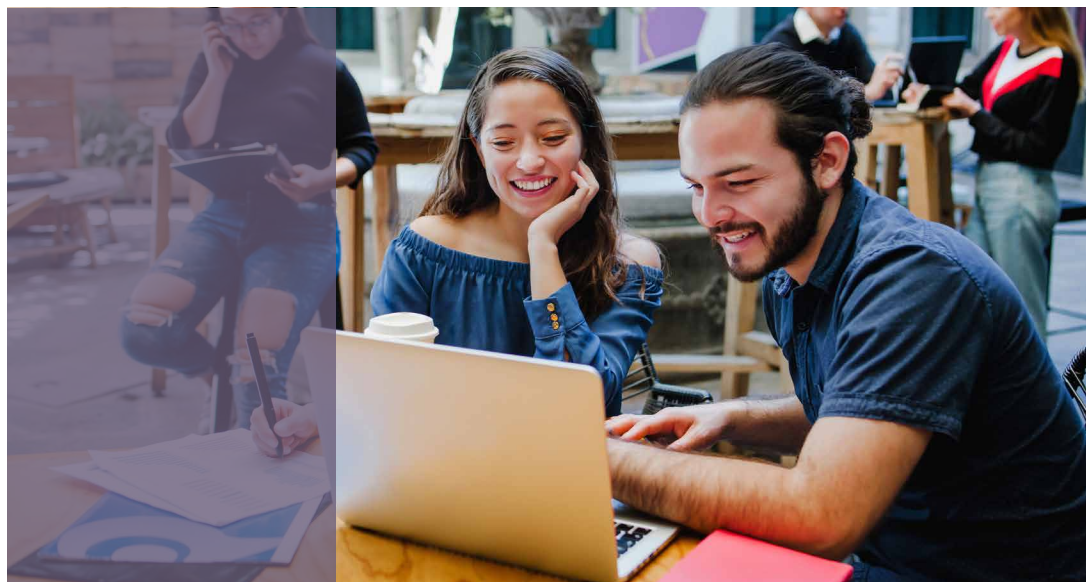


Career Services *and* College-Employer Partnership Practices *in* Community Colleges



COLLEGES IN CALIFORNIA,
OHIO, AND TEXAS

Rita T. Karam • Charles A. Goldman • Monica Rico



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About This Report

In this report, we systemically examine the type of career services and partnership practices in science, technology, engineering, and mathematics (STEM) fields across three states—California, Ohio, and Texas—and the community colleges that operate within them. We investigate how current career services and partnership practices facilitate student employment and identify the challenges that these colleges face in offering student employment support and the ways in which state policies may have influenced practice. The findings and recommendations will be of interest to community colleges and systems, program developers, federal and state policymakers who are focused on workforce development and higher education, and other researchers in these areas.

RAND Education and Labor

This study was undertaken by RAND Education and Labor, a division of the RAND Corporation that conducts research on early childhood through postsecondary education programs, workforce development, and programs and policies affecting workers, entrepreneurship, and financial literacy and decisionmaking. This study was sponsored by the U.S. Department of Education’s Institute for Education Sciences, grant R305A180377. More information about RAND can be found at www.rand.org. Questions about this report should be directed to Dr. Rita Karam at karam@rand.org, and questions about RAND Education and Labor should be directed to educationandlabor@rand.org.

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Summary

Background

Community colleges play a key role in driving talent development in the United States, producing workers with the kinds of training that employers need while enhancing economic mobility for students. These institutions serve 43 percent of all U.S. undergraduates (measured by a 2019–2020 12-month head count in Jenkins and Fink, 2020). In recent decades, there has been substantial growth in the number of middle-skill jobs in science, technology, engineering, and mathematics (STEM) and STEM-related fields that require credentials but not a four-year college degree (Kennedy, Fry, and Funk, 2021; Holzer, 2015). Although the share of employment represented by middle-skill jobs (approximately 10 percent) is less than that of bachelor’s jobs (24 percent), community colleges are critical in preparing their students to fill workforce needs in middle-skill jobs (Bureau of Labor Statistics, 2021).

Further, there has been a push among policymakers at the federal and state levels to hold community colleges accountable for the employment outcomes of their students, with funding and legislation that endorses models that strengthen college partnerships with employers. With this new emphasis on student employment outcomes, policymakers and practitioners seek to better understand what is being done among colleges to support transitions into employment and whether there are promising practices that might be adopted to improve employment outcomes.

Research in this area tends to focus on the misalignment in regard to community college programs, job-seeker skills, and employer needs. Less work has been done on career services, employer-college partnerships, and other mechanisms that can help match students with jobs.

In this report, we systemically examine the type of career services and partnership practices in order to fill this gap.

Study Questions

For this study, we drew on the literature to identify promising practices in career services and building partnerships among organizations to frame our investigation. The study questions are presented in Figure S.1.

Approach and Data Sources

To investigate the study questions, we used an embedded case study approach based largely on qualitative interviews. This study was implemented in three states—California, Ohio, and Texas—and the community colleges that operate within them. These three states offer a wide range of community college settings that provide an opportunity to explore these research questions across varying contexts, with variation in college size, student population, and location (urban, suburban, or rural).

We selected 16 colleges that represent a variety of contexts within these three states. We varied the colleges by urbanicity/rurality and size and selected colleges that reflect a variety of local employment contexts. Within the colleges, we selected STEM or STEM-related programs (excluding transfer programs) that vary in size.

We investigated the research questions at the state, college, and program levels. To do so, we reviewed state policies and collected interview data from 134 participants, including state and system leaders, college leaders, program heads and faculty, career service leaders and staff, and employers.

FIGURE S.1
Seven Guiding Research Questions

1	State policies and incentives	What types of policies and incentives are states putting in place to encourage community colleges to facilitate student employment?
2	Career service initiatives and support	What types of initiatives and supports do career services at community colleges have in place to help students find employment? Do services vary by student groups? To what degree do college staff perceive these services as being utilized and achieving their intended results?
3	Employer-college partnerships	In what ways are community colleges partnering with employers to support their needs for skilled workers in STEM or STEM-related fields? How strong are these partnerships?
4	Responses to and use of state policies and incentives	How are colleges and/or employers responding to these state policies and incentives? In what ways are the state efforts helping and/or hindering student transition into jobs and meeting employer needs?
5	Challenges to career service provision and partnerships	What are the challenges for providing career services and for establishing and maintaining partnerships? How has the COVID-19 pandemic affected services and partnerships?
6	Strengths and gaps	What are the strengths and gaps in partnerships and career services?
7	Ways to improve effectiveness	What policies, practices, and resources are needed to improve career services and increase the effectiveness of the partnerships?

As with any study of this kind, we faced limitations. The case study findings reflect a specific set of colleges and selected fields and cannot be interpreted to represent practices across all community colleges in the states. We enhanced the validity of our findings by interviewing multiple staff members at each college who represented college leadership, career services, and programs. We observed common themes regarding how institutions established partnerships and provided career services from various data sources and across sites, which increased our confidence in the results.

Findings

In this section, we present key findings in relation to research questions one through six. Research question seven is addressed in the following section in which we present our recommendations.

States Specify Funding and Other Policies That May Affect Career Placement and College-Employer Partnerships

- 1** **State policies and incentives** Each of our states has funding policies that sometimes allocate a portion of community college funding according to student employment outcomes or other alignment between programs and labor markets. They also have policies governing program advisory committees and tools that could assist colleges in scanning their labor markets.
- 2** **Career service initiatives and support** All study colleges offer a variety of services, from the early stages of career exploration through the later stages of preparing students to search for jobs and matching students with specific job openings. The career service structure and extent to which services are provided and linked to program and labor market needs varied across colleges.

Colleges Adopt a Variety of Models to Deliver Career Services

The career service models adopted by colleges range from being centralized to being integrated into guided pathways or workforce development programs. The centralized model provides a common set of career services to students, no matter which program they study. As the models become less centralized, career services become more customized to meet the needs of students as they progress in their programs.

Depending on the Model Adopted, Colleges Vary in the Extent to Which They Provide Connected Career Services

Colleges with centralized offices have more difficulty implementing career services as a set of connected activities that are program- and industry-specific.

Colleges that adopted less centralized models reorganized the process by which they help students explore, connect with, plan, and gain early momentum in a program of study. Students connected their careers with their academic goals and engaged with faculty and employers in their career area.

Marketing for Career Services Appears Limited, Affecting Student Uptake

Student use of career services appears generally to be low. Colleges lack consistent marketing strategies to ensure student uptake of the services being provided.

Very Few Colleges Designed Services Targeting Specific Student Groups

Colleges typically made the same career services available to all students. We identified very few services that had a specific equity focus or targeted certain student groups.

Colleges Provide Some Opportunities for Meaningful Work Experience

Colleges incorporate work-based learning into curriculum and short experiences, including practical, industry-related class projects; job-shadowing opportunities; and facilities and labs that mimic the workplace environment to practice industry-needed skills.

Internship and Apprenticeship Opportunities Are Inadequate

Internship opportunities are inadequate in number and tend to be optional. Apprenticeship opportunities are even less available because they require stronger commitments from employers. Some of the colleges have a dedicated office to support internship development, but most rely on individual career service staff, faculty, or deans to find such opportunities.

Colleges Use Few or No Monitoring Accountability Practices

Most colleges do not systematically track data about students accessing career services or about employment outcomes, limiting their ability to engage in service improvement and address gaps in services.

Colleges Experience Difficulty Developing Strategic Relationships with Industry

The most common approaches to partnership-building lead to loosely coupled partnerships with industry. Colleges mostly rely on advisory committees for partnership development. However, the terms of membership and the frequency of meetings limit the ability of advisory boards to get involved in a meaningful way

3 Employer-college partnerships

beyond providing input on curriculum or feedback regarding needed skills. Further, colleges rely on a variety of individual staff and their personal connections to build partnerships, leading to a diffused approach and a lack of coordination.

A Few Colleges Adopt Strategic Approaches to Building Partnerships with Industry and Share Their Resources

These colleges prioritize strategic partnerships and employment outcomes in their overall strategic vision and conduct a formal assessment of needs using data to inform decisions about the workforce development areas for which they will focus on developing partnerships and investing their resources. They restructure advisory committees to ensure employers' continued involvement, establish industry partnership offices for strategic partnership development, and establish a consortium of colleges, employers, and workforce development boards to serve a specific region determined by industry and economic patterns. They also share resources with industry to strengthen the partnerships.

Partnership Activities in Most Colleges Often Focus on Short-Term Needs Rather Than Building a Longer-Term Partnership Vision and Strategy

Most community colleges and employers engage in coordinated activities. But the types of activities tend to be distinct and designed to meet very short-term outcomes instead of aiming at a strategic vision for promoting student employment.

There Is Little Evidence of Establishing Formal Systems to Hold Industry Partners Accountable

There is a lack of clear and consistent measures for partnership accountability and performance assessment and little in the way of established infrastructure or protocols for data reporting, monitoring, and sharing.

State Incentives Appear to Be Weak in Terms of Encouraging Colleges to Emphasize Employment Outcomes

4 Responses to and use of state policies and incentives Of the three study states, only California allocated a small portion of its funding (17 percent) to colleges according to student outcomes. However, the allocation method is opaque, and the allocation portion related to employment outcomes is small, limiting the extent to which colleges are incentivized to change their approaches to improving student employment. Funding mechanisms in Ohio and Texas are not tied directly to employment outcomes.

State Accountability for Partnerships and Services Is Absent

Although states are funding community colleges to build partnerships with industry, they do not hold colleges accountable in regard to a college's partnership efforts.

There Is Limited Evidence That State-Provided Labor Market Tools Are Used

There is no evidence that the state-provided labor market tools are used at any of our colleges for partnership strategic planning to understand labor market demand and supply. Colleges use licensed commercial tools,

which they find much easier to use, to consider opening new programs and to expand, reduce, or close existing programs.

Availability of Employment Data Is Limited

5 Challenges to career service provision and partnerships

Study states have employment data available for colleges if such data are requested. But these data are limited because they are not comprehensive (especially in California, where a student's social security number is not required) and lags in time.

Study colleges across the states face several challenges that affected their partnership-building and provision of career services.

Colleges Face Tensions Between Their Transfer and Workforce Development Missions

College leaders tend to place greater focus on students who are preparing to enter a four-year institution rather than those who are seeking employment while enrolled at the community college. Thus, career services may not be seen as a campus priority.

Colleges Increasingly Are Competing to Build Industry Partnerships, Especially in Urban Locations

Colleges are competing for workforce training, not only with each other but also with training centers and private training companies that can respond to employers' needs with relevant training faster. They are also competing with four-year institutions, which are adding workforce development to their academic programs.

Partnerships Are Overly Dependent on Individuals

Colleges tend to rely on personal connections to build strong partnerships with industry instead of adopting long-term structural approaches. Such personal relationships are important to open doors but will not sustain the relationship because of turnover at both the colleges and the employers.

Limited Staff Capacity and Resources Reduce Partnership-Building and Delivery of Services

Colleges do not have adequate dedicated staff and resources to build strong partnerships with employers: specifically, to support planning, the development of strategic approaches, multiple meetings, and significant consensus-building. Similarly, career services teams are small, resulting in a small proportion of students served and less time spent providing services to them.

Bureaucratic Structures Slow Responses

Bureaucratic structures at community colleges hinder the hiring of the staff needed to develop partnerships and provide career services. They also slow the colleges' responsiveness to employer requests.

COVID-19 Affected the Delivery of Career Services to a Great Extent and Partnerships to a Lesser Extent

For many colleges, the coronavirus disease 2019 (COVID-19) pandemic affected their career-related services as they shifted to an online format. Students with no or unreliable access to computers and the internet were likely to be the ones most affected. The availability of internships is reduced, although it varies by industry, because employers for many industries are not amenable to having students conduct their internship online. However, advisory committee member participation increased, since many employers were working from home and could find the time to connect over the internet.

We Observed Strengths in Partnerships and Career Services

6 Strengths and gaps Increasing student employment outcomes requires the development of strong partnerships between colleges and employers and the improvement of career services. These two aspects of community colleges are interrelated: Strong and sustainable partnerships with employers are likely to improve career services provided to students.

We observed a few colleges that have adopted promising structures and initiatives for improving partnerships and career services, including the following:

- the organizational restructuring of advisory boards, establishment of offices for partnership strategy development, and establishment of a multi-college and multi-employer consortium for the purpose of creating a strong and sustainable partnership that is responsive to college, employer, and student needs
- embedding career services within meta-majors or career communities so students can explore career and program options, building relationships with faculty and industry professionals in fields of interest, and creating an education plan that is connected to their career goals
- the expansion of internships and experimentation with early internship models as a strategy for student onboarding and connection to employers
- shared financial and in-kind contribution among colleges and employers.

We Also Observed Gaps in Partnerships and Career Services

We also identified gaps to which colleges should be attentive in order to improve student employment outcomes, as follows:

- Most colleges engage in coordinated activities that are not driven by a strategic vision. These activities are limited in duration and depth and address only short-term goals.
- Most colleges struggle in developing strong, sustainable partnerships with external organizations, partly because of limited resources and capacity.
- Most colleges do not have structures in place that define and lead partnership development. They use a diffused approach that lacks coordination and defined roles and responsibilities, leading to weak engagement and a lack of sustainability.
- Some colleges continue to use traditional models of career services, leading to disjointed services that are disconnected from meta-majors and workforce development programs.
- Although colleges invest in technology tools developed by vendors for student onboarding, such tools do not reflect the lived experience and real-world needs for advising local students because they do not lay out a concrete roadmap of employer-vetted career pathways.
- Colleges fall short in their career service marketing efforts and in customizing their services to specific student groups.
- Colleges lack the infrastructure for monitoring partnerships and career service provision.

Recommendations

7 Ways to improve effectiveness In this section, we frame a set of recommendations for improving practices to establish and sustain partnerships and to provide career services under the following headings: develop partnerships, enhance career services, optimize structure and capacity, establish a data infrastructure system for monitoring and accountability, and support the system with state policy.

Develop Partnerships

Develop a strategic vision for partnerships. We recommend colleges develop a strategic vision for employer partnerships. This vision must be linked to business planning and articulated throughout the college to ensure a shared understanding and to help inform the selection of partners with adequate capacity.

Include all partners in strategic planning. Community colleges should engage employers in strategic planning to lay out the components of the partnership, including a vision of the partnership and benefits, activities to achieve the vision, and specific roles for partners. Having employers involved in meaningful ways increases the likelihood that they will be motivated to sustain the partnership and engage in activities that are central to improving career services and employment outcomes.

Inventory current and potential partners. A cornerstone of a strategic vision for partnerships entails a strategic review of current partnerships to identify which ones have been most significant in the college's efforts and what types of new relationships need to be cultivated. Taking steps to nurture these relationships is critical to ensure that partners can be engaged in a timely manner.

Develop a rubric for managing future partnerships. Developing and managing strong partnerships is likely to be a continued desire and challenge for colleges. Colleges would benefit from developing a simple rubric that includes the dimensions of effective partnerships to assess and monitor the development of future partnerships.

Develop procedures for systematically documenting partnership activities. Because of staff turnover, community colleges would benefit by implementing a system that documents each initiative and the summaries of partner discussions and activities. This document would provide replacement staff with key information about ongoing partnership initiatives.

Invest in activities to promote employer buy-in. We recommend colleges adopt more-proactive approaches to communicating with employers to understand the importance of partnerships, how these partnerships work, why they are mutually beneficial, and how they could strengthen the talent pipeline for employers and the local economy in which they operate. This will promote buy-in and support, which are critical because of increased competition, to gain employer attention.

Enhance Career Services

Design and market services to reach students, including low-income students and students of color. We recommend colleges increase their efforts to design and market their services in a way that distinguishes between the needs of different student groups. We recommend investing more in coordinating the marketing of and referral to career services among career services offices, other student services, and pathway or program staff and faculty.

Create career road maps that delineate career-related activities. To increase student uptake of services, we recommend colleges develop career road maps that list various career-related activities that students are encouraged or even required to participate in at different stages of their programs.

Develop new financial models to institutionalize partnerships. We recommend colleges invest in new models with employers to finance education for students who are interested in workforce development edu-

cation programs that lead to jobs that are in high demand. Such investments will benefit students, colleges, and employers—and promote partnership growth and sustainability.

Invest in new approaches to onboarding. We recommend colleges invest in innovative ways to explore careers that provide a tighter link between programs of interest, industry-specific career pathways, and the work students will perform in their chosen careers. These investments could include

- new technology-based tools that include career pathways information, defined through strong partnerships between community colleges and industries
- guided pathways or similar models that link academic and career communities to meaningfully integrate career service functions in students' career exploration process and progression in their academic programs
- additional one-on-one mentorship support for first-generation or low-income students to explore career options
- early internships or work-based learning opportunities that new students would undertake just before or during their first semester to gain firsthand experience regarding the types of jobs and related work they will perform after graduating.

Optimize Structure and Capacity

Organize for success. We recommend that colleges assess their structures and make intentional modifications that support partnership development and the provision of career services. Colleges should also be attentive to the staffing that would be involved in these modifications. For partnership development, we recommend designating or hiring administrators who (1) complement the college's relationship-building efforts, (2) are well versed in strategic planning, (3) can lead conversations about opportunities for collaboration with different types of organizations, (4) understand both college and industry organizational cultures, and (5) have political clout.

Consider establishing regional collaboration. We recommend colleges consider establishing regional consortia that include employers and in which all partners jointly articulate the vision. We recommend that the consortium director be independent of the institutions, understand both college and industry organizational cultures, and have extensive experience in leadership to facilitate conversations among the partners.

Build capacity. We recommend that colleges analyze their bureaucratic structure and how such structures might pose a risk to building partnerships or to providing career services to students—and investigate ways to mitigate such risks.

Establish a Data Infrastructure System for Monitoring and Accountability

We recommend colleges implement a formal system for monitoring and accountability for partnership and career services that clearly defines performance measures and produces automated, easy-to-use, and relevant reports.

Support the System with State Policy

States have the responsibility of supporting colleges in their efforts to improve student employment. Specifically, states could establish state standards and assistance for effective college-employer partnerships, provide technical assistance for colleges to increase work-based learning opportunities, and develop systems to measure employment outcomes and assist colleges in collecting employment data.

Conclusion

Because colleges are lessening the distinction between workforce development and transfer programs through their adoption of such reforms as guided pathways, this report highlights lessons that apply for broader institutional strategy. Colleges could reinforce and support study recommendations through institution-wide change that places employment centrally within all programs and pathways.

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Introduction

Community colleges play a key role in driving talent development in the United States, producing workers with the kinds of training that employers need while enhancing economic mobility for students. These institutions serve 43 percent of all U.S. undergraduates (measured by a 2019–2020 12-month head count in Jenkins and Fink, 2020). More than 40 percent of these undergraduates are students of color and low-income students (Davidson et al., 2019). In recent decades, there has been substantial growth in the number of middle-skill jobs in science, technology, engineering, and mathematics (STEM) and STEM-related fields that require credentials but not a four-year college degree (Kennedy, Fry, and Funk, 2021; Holzer, 2015). Although the share of employment represented by middle-skill jobs (approximately 10 percent) is less than that of bachelor’s jobs (24 percent), community colleges play an important role in preparing their students to fill workforce needs in middle-skill jobs (Bureau of Labor Statistics, 2021).

Community colleges have been expanding their STEM and STEM-related workforce development education programs and aligning them with labor market needs (Carnevale, Rose, and Hanson, 2012; Carnevale et al., 2020). In 2019–2020, these fields accounted for 38 percent of all degrees and certificates awarded by U.S. community colleges (Fink, 2022).

However, community colleges are having difficulty meeting critical labor demands. Employers continue to struggle to fill jobs that require technical competencies, such as those gained through programs that offer subbaccalaureate credentials. For example, sectors such as manufacturing and logistics are booming and are especially in need of skilled workers (Hartman, 2021). During the coronavirus disease 2019 (COVID-19) pandemic, the shortage of workers increased by 7.5 million (Hartman, 2021). Estimates suggest that there are 5 percent more job openings than there are workers to fill them; for skilled occupations, the estimates are higher, at 13 percent (U.S. Chamber of Commerce Foundation, 2017). But labor shortages are not simply a result of an inadequate number of people seeking work.

Community colleges are central to helping students transition into employment. In fact, there has been a push among policymakers at the federal and state levels to provide guidance and incentives that encourage community colleges to pay more attention to employment outcomes and build partnerships with employers. For example, federal legislation has formally endorsed models that strengthen community college partnerships with employers to facilitate employment through competitive grants, such as the Trade Adjustment Assistance Community College and Career Training grant (U.S. Department of Labor, Employment and Training Administration, undated). States have also been encouraging changes to address job attainment through performance-based funding and new funding mechanisms, such as California’s Career Pathways Trust in 2015 and 2017 and, more recently, its Strong Workforce Program.

Policymakers and practitioners seek to better understand what colleges are doing and whether there are promising practices that might be adopted to improve employment outcomes. Research in this area tends to focus on the misalignment between community college programs, job seeker skills, and employer needs. Yet there is limited evidence in terms of how community colleges are approaching career services, employer-college partnerships, and other mechanisms that can help match students with jobs. In a review of the literature, we found few studies or reports that identified promising practices for partnership-building and/or

specific aspects of career services (e.g., the 2021 Institute of Education Sciences practice guide for designing and delivering career pathways and the 2019 Aspen Institute guide on delivering career technical education).

With this report, we continue to fill this knowledge gap. We systematically examine the type of career services and partnership practices across three states—California, Ohio, and Texas—and the community colleges that operate within them. In addition, we investigate the challenges that these colleges face in offering student employment support and the ways in which state policies may have influenced practice. Our goal is to identify areas of strength, areas in need of improvement, and whether successes or challenges exist at the program or organizational level. Our aim is to inform the literature on student supports in postsecondary institutions. Our findings and recommendations will be of interest to community colleges and systems, program developers, federal and state policymakers who are focused on workforce development and higher education, and other researchers in these areas.



Research Questions and Methods

In this chapter, we first present the questions that guided our research. We then provide detailed information on the approach, methods, and indicators used to judge colleges’ career service provision and their efforts toward building partnerships with employers. Finally, we discuss the limitations of the study.

Research Questions

We developed seven research questions to guide this work and enable us to achieve a robust understanding of community college career services, employer-college partnerships, and other mechanisms that can help match students with jobs. We present these questions in Figure 2.1 and work toward answering each in the remainder of this report.

We used an embedded case study approach to answer these questions. We chose this approach because it allowed us to “investigate a contemporary phenomenon in-depth and in its real-life context” (Merriam, 2001). Specifically, the embedded case study approach allowed us to understand how career services and

FIGURE 2.1
Seven Guiding Research Questions

1	State policies and incentives	What types of policies and incentives are states putting in place to encourage community colleges to facilitate student employment?
2	Career service initiatives and support	What types of initiatives and supports do career services at community colleges have in place to help students find employment? Do services vary by student groups? To what degree do college staff perceive these services as being utilized and achieving their intended results?
3	Employer-college partnerships	In what ways are community colleges partnering with employers to support their needs for skilled workers in STEM or STEM-related fields? How strong are these partnerships?
4	Responses to and use of state policies and incentives	How are colleges and/or employers responding to these state policies and incentives? In what ways are the state efforts helping and/or hindering student transition into jobs and meeting employer needs?
5	Challenges to career service provision and partnerships	What are the challenges for providing career services and for establishing and maintaining partnerships? How has the COVID-19 pandemic affected services and partnerships?
6	Strengths and gaps	What are the strengths and gaps in partnerships and career services?
7	Ways to improve effectiveness	What policies, practices, and resources are needed to improve career services and increase the effectiveness of the partnerships?

partnership-building practices are structured and implemented by community colleges and the employers in their surrounding communities. In addition, we examined the role of the state in which the community colleges and employers are embedded to understand the incentives for colleges and employers to partner on the issue of employment. The strength of this approach is in its ability to combine a variety of information sources, including documentation and stakeholder interviews.

Study Settings and Samples

We studied community colleges in California, Texas, and Ohio. Together, these three states cover a variety of industry, policy, and employment contexts. These states also offer a wide variety of community college settings, which provides an opportunity to explore the research questions across variations in college size, student population, and location (i.e., urban, suburban, or rural). We selected a total of 16 colleges that represent a variety of contexts within the three states. Colleges varied by urbanicity/rurality and size (as shown in Table A.1) and were chosen to reflect a variety of local employment contexts, because these contexts might result in different types of career services and partnerships. For example, small colleges might have limited resources and thus might not be able to provide needed career services. On the other hand, colleges in rural areas might develop closer relationships with local employers because they have a much smaller number of employers and thus can focus their efforts more.

Whereas 15 of the study colleges are comprehensive community colleges that offer both general education (with the goal of transferring to a four-year college) and workforce development education, Texas State Technical College (TSTC) focuses nearly exclusively on workforce development education and receives all of its public funding based on the earnings of its graduates. In our study, TSTC serves as a point of comparison to the comprehensive colleges.

Program Selection

Colleges and policymakers use various terms to describe career-focused education, including *career-technical education* and *workforce education*. To reduce confusion, we use the term *workforce education development programs* to refer to all certificate and associate degree programs that are intended to prepare students for employment rather than transfer to a four-year institution for further study. We include programs with STEM or STEM-related content that lead to a certificate or associate degree and typically require one to two years of full-time study to complete. Although we permit noncredit programs that satisfy these requirements, almost all of the programs we include are for-credit programs.

For each study college, we typically selected two or three programs in conjunction with college leadership, although we only included one program in a few cases. The fields of the programs we studied are summarized in Table 2.1, reflecting our broad view of STEM and STEM-related areas. When reviewing a program, we included the highest available degree or certificate and all shorter, related certificates as a single program.

Measures and Data Collection

For this study, we used qualitative methods and collected data from multiple sources. These sources included (1) reviews of literature to identify promising practices at community colleges in career services and college-industry partnerships, two areas that facilitate employment; (2) a review of website information (community college career services websites, state websites) and policies; and (3) online video interviews with college

TABLE 2.1
Selection of Programs Included

Field of Study	Number of Programs
Advanced manufacturing	5
Energy	4
Computer information science and information technology	4
Allied health and nursing	4
Engineering technology	3
Automotive	3
Fire science, EMS, EMT	2
Petrochemical and process technology	2
Mechanical agriculture	1
Industrial maintenance	1
Welding	1
Electric power and control	1
Total	31

NOTE: EMS = emergency medical services; EMT = emergency medical technician.

presidents, provosts, directors and staff of career services and student affairs, deans, faculty, navigators and counselors of workforce development education programs, employers, regional coordinators, and state policymakers (see Table A.2 for an overview of the respondents). We also asked for quantitative data to complement the interviews, but very few colleges had such data available; therefore, we did not include such data in the report. We collected these data between May 2020 and November 2021.

Promising Practices in Career Services and College-Employer Partnerships

We began by identifying promising practices and a list of core employment transition supports that promote student employment at community colleges. These fell into two areas: (1) career services and (2) community college partnerships with employers.

Career services traditionally have provided support to students to help them explore careers, prepare for job interviews, and connect with employers. *College-employer partnerships* can also facilitate student employment in a variety of ways (Cotner et al., 2021; McLaughlin, Groves, and Lundy-Wagner, 2018). For example, such partnerships can support the design and delivery of programs that align with labor market needs. They can also improve career services, because such partnerships keep information on local and regional labor market need up-to-date and could increase opportunities for work-based learning, internships, clinical placements, or apprenticeships, which are gateways to employment. Employers and industry partnerships can also play a critical role in delivering job search and placement supports to students in workforce development education programs.

The literature that addresses both areas is predominantly descriptive in nature. It is difficult to identify which policies and practices directly led to improved student employment outcomes, because very few studies included experimental designs, and those that did focused on curriculum alignment and were unable to

isolate which aspects of the services or partnerships led to student academic outcomes. However, the literature does identify promising practices, and we drew on this literature to guide our research.

We present the findings for promising practices in both areas in Tables 2.2 and 2.3. We provide the literature review on which these tables are based in Appendix B.

Interviews and Interview Protocol

We developed a set of interview protocols to gather information about the extent to which colleges are implementing promising practices and about challenges they face in establishing partnerships with employers and providing career services. To cover these topics but also allow for new features to emerge, we used semistructured, in-depth interviews that included open-ended questions with supplemental probes to examine specific topics. The protocols were common across the sites but differed for each type of interviewee. A total of 134 individuals were interviewed. As part of the interviews, we asked for additional quantitative data from community colleges, including the number of students participating in the various career services provided. But, as discussed in the findings, most colleges in our sample had difficulty collecting this information.

Data Analysis

We analyzed the interview data to examine the ways in which colleges promote student employment. To do this, we created specific indicators from the literature (see Tables 2.2 and 2.3). These indicators characterize promising practices in the provision of career services and the establishment of collaborative college-industry partnerships.

We then identified practices from the college, regional, state, and employer interviews. We organized the data within each promising practice for each site (state and employer). We next compared the practices for each site (and programs within a site) with the promising practice indicators. Then, we analyzed the inter-

TABLE 2.2
Career Services Promising Practices

Career Services Component	Promising Practices
Career services structure facilitates linkages to workforce development	<ul style="list-style-type: none"> • Create structural linkages between career centers, workforce development education programs, and other key offices involved in career development and employment services for service alignment and coordination.
Provision of localized career services	<ul style="list-style-type: none"> • Embed career services in guided pathways or workforce development programs (e.g., embed career exploration topics in guided pathways or programs, provide services to specific students to succeed along a specific career pathway, personalize information regarding career and education). • Provide services throughout a student’s tenure at college. • Promote career-related student-faculty and/or student-counselor dialogue.
Career services are marketed for optimal reach	<ul style="list-style-type: none"> • Engage intentionally in student marketing efforts. • Ensure that the majority of students access services.
Exposure of students to meaningful work experience	<ul style="list-style-type: none"> • Strategically expand opportunities for experiential learning, including internships and apprenticeships.
Monitoring and accountability	<ul style="list-style-type: none"> • Put in place a system that tracks students who receive career services and support, as well as internship and apprenticeship placement (e.g., track student group differences). • Regularly review service quality and incorporate accountability measures. • Analyze data to examine student group differences. • Collect data from multiple stakeholder groups (e.g., students, counselors, faculty, employers).

TABLE 2.3
Promising Practices for Building College-Industry Partnerships

Strong Partnership Component	Promising Practices
Strategic partnerships between colleges and industry	<ul style="list-style-type: none"> • Establish formal structures for college industry engagement. • Have a structure in place to promote continuous communication between college and industry (e.g., CEO advisory boards with college leadership). • Develop a shared vision, shared goals, and mutual benefit that address labor market needs. • Select partners according to their capacity to carry out the work required to achieve those goals. • Define roles and responsibilities.
Inclusive leadership	<ul style="list-style-type: none"> • Ensure colleges and industries participate equally in decisionmaking.
Coordinated activities between colleges and industry	<ul style="list-style-type: none"> • Engage in activities and develop programs cooperatively to promote a strategic vision that aligns with employer and market needs. • Jointly design activities and programs (or at least activities) and implement them with a high level of coordination.
Use combined resources	<ul style="list-style-type: none"> • Use combined resources, such as grant money, personnel time, and other funding sources, to pursue partnership goals.
Sustainability and institutionalization	<ul style="list-style-type: none"> • Have the appropriate structure to sustain partnerships. • Integrate partnership activities into organizational structures. • Have adequate staff time and resources in place to build and sustain employment-focused partnerships.
Monitoring and accountability	<ul style="list-style-type: none"> • Have a mechanism for monitoring partnership and program outcomes. • Regularly review partnerships and adjust partners and programs to ensure labor market outcomes.

NOTE: CEO = chief executive officer.

view data for cross-site and cross-program patterns to address common themes and lessons learned and identify deviations in practices and exemplary practices.

When discussing interview results, we use the term *most* to indicate that respondents from more than half of the colleges who were asked the question had comparable responses or views. Similarly, the term *some* represents respondents from 20 percent to 50 percent of colleges, and the term *few* reflects respondents from less than 20 percent of colleges. Variation among the sites provided us with the means to draw interesting contrasts that could help educators and policymakers understand how contextual differences might affect the provision of services to community college students to facilitate their employment.

We do not identify individuals and generally do not identify institutions in our reporting. To highlight examples of strategies or practices, we identify colleges in specific examples with their permission.

Limitations

As with any study of this kind, we faced limitations. For the case studies, we collected information from a sample of 16 colleges in three states, representing various peer groups and geographic areas. Except for our purposeful inclusion of TSTC, the institutions did not appear to be atypical of other community colleges. However, we note that the case study findings reflect this specific set of colleges and selected fields and cannot be interpreted to represent practices across all community colleges in the state.

Although the case study data were self-reported, we enhanced the validity of our findings by interviewing multiple staff members at each college who represented college leadership, career services, and programs. Obtaining data on quality from multiple sources is a method commonly used in qualitative research to obtain reliable information for complex issues. Furthermore, we observed common themes regarding how institu-

tions established partnerships and provided career services from various data sources and across sites, which increased our confidence in the results. We requested quantitative data to use to substantiate some of our findings, but such data were not available for most colleges.



State Policies and Incentives

1 State policies and incentives

What types of policies and incentives are states putting in place to encourage community colleges to facilitate student employment?

In this section, we address the first of the seven research questions guiding this study. To provide context for our findings and analysis, we examine some state funding approaches, policies, and tools that might play important roles in shaping community college practices related to student employment. We began by reviewing state documents and websites to gather information on these policies. We then asked our participating college leaders and state officials to identify additional policies that are relevant to this question.

Below, we start by providing some background on the public institutions that provide subbaccalaureate credentials in each state, followed by a discussion of the funding programs, policies, and tools we identified.

Subbaccalaureate Landscape

All three of our states have public community colleges (116 in California, 63 in Texas, and 23 in Ohio). They also host public universities, as well as a variety of private postsecondary career training institutions. Community colleges in all three states offer both workforce development education and education for students who seek to transfer to four-year institutions.

Ohio and Texas both have an additional type of public institution aside from community colleges that offers workforce development education.

Texas operates TSTC, a single statewide college with ten campuses around the state, particularly in rural areas (Texas State Technical College, undated). TSTC almost exclusively offers workforce development education programs at the certificate and associate degree levels rather than general academic programs that are intended for transfer to a four-year institution (transfer programs are offered in one community that does not host a traditional community college). TSTC complements the state's large array of more-traditional community colleges. TSTC's funding relies heavily on employment outcomes. As we mentioned earlier, we include TSTC in our study as a comparison to comprehensive community colleges.

Ohio also has a significant number of separate public workforce development education institutions, called Ohio Technical Centers, with some 70 locations around the state (Ohio Department of Higher Education, undated). These centers offer workforce-focused training that typically lasts between one month and one year. Although many programs are not for college credit, there are processes to apply learning at the Ohio Technical Centers to credit-based certificates and associate degrees at Ohio's community colleges.

Funding

Most states fund community colleges through local property or other taxes and through state allocations, student tuition and fees, state and federal grants, and (often) other sources. Federal Perkins funds are also available and are granted to states to support workforce development education at the secondary and post-secondary levels. Federal law sets standards for the use of these funds, which are updated from time to time. The most recent renewal in 2018 emphasized the development of flexible career pathways in each state to address state labor market needs and provide multiple entry and exit points for students (U.S. Dept. of Education, Office of Career, Technical, and Adult Education, undated).

As part of the response to the COVID-19 pandemic, states received Coronavirus Aid, Relief, and Economic Security (CARES) Act funding to address workforce development; in some cases, states allocated this funding to community colleges to increase enrollment in short-term workforce development education programs—e.g., through the Texas Reskilling and Upskilling through Education grants (Texas Higher Education Coordinating Board [THECB], undated b).

Next, we describe the state allocation formulas used in our three study states, as well as other significant sources of funding related to workforce development education programs, when appropriate. We also note where these policies might provide incentives to improve student outcomes, including job placement.

California

Recently, California moved from a traditional enrollment-based state allocation formula to a “Student-Centered Funding Formula.” The aim of this formula is to align state funding with student success at community colleges rather than simply with the number of students enrolled. Most of this allocation (70 percent) continues to be based on enrollment, but there is now a 30 percent share related to student success. The student success portion allocates funds according to the number of students who (1) complete associate degrees and certificates, (2) transfer to four-year colleges, (3) complete at least nine credits in career education, and (4) equal or exceed the living wage in their region after graduation (California Community Colleges Chancellor’s Office, undated). This fourth allocation holds the promise that the funding formula could provide an incentive to colleges to focus students on completing workforce development education programs with good prospects in the labor market. The fraction of the allocation distributed according to this factor is currently small but increasing this allocation over time would strengthen this incentive. Colleges are also currently “held harmless” using the prior enrollment-based formula and cannot receive a reduction in real, inflation-adjusted state support from 2017–2018 until at least 2023–2024, a date which may be extended further.

Aside from this funding formula, California has a specific funding stream, called the “Strong Workforce Program,” that is allocated to community colleges and regional consortia to support various aspects of workforce development education. Since 2017, Strong Workforce funds have also been allocated according to a formula. This formula allocates 83 percent of funds according to enrollment in workforce development education and 17 percent according to various student success measures. Within the allocated amounts, 60 percent of funds go to community college districts, while 40 percent of funds are used to fund regional consortia of community colleges to pursue common projects. California colleges benefit from this significant funding stream. Moreover, the colleges receive Perkins funds and grant funding from time to time to support more-specific workforce initiatives, such as educating more nurses.

Texas

Texas allocates its state share of funding to community colleges using a formula that includes student “success points,” which reward various accomplishments, such as enrollment in key courses and graduation.

None of these points relate specifically to job placement. Formula funding for community colleges provides extra funding in “critical fields,” which include many STEM and STEM-related fields (THECB, 2020). This funding is also not related to job placement but provides extra funding in fields with strong labor market demands.

As a statewide single institution, TSTC does not receive local property tax revenue. Its state funding is based heavily (53 percent in 2021–2022) on the earnings of graduates, measured through labor market data over the first five years postgraduation.

Texas also has Perkins funds and occasionally has access to other state sources of funding. Our review of recent Perkins grants indicates that a few of the Perkins Leadership Grants relate to career placement or career advising in some way. This suggests that some grants are connected to student job placement (THECB, undated a).

Ohio

As with California and Texas, Ohio uses a formula to allocate state funding to community colleges. The most recent (2014) formula allocates the greatest weight to enrollment, with smaller allocations for “success points” (similar to the Texas approach) and course completions (Ohio Department of Higher Education, 2013).

Like Texas, there are no specific elements of the formula related to job placement. Funding is, however, adjusted for the statewide average cost of instruction in the field of study, so fields with higher costs of instruction receive greater weight in the formula. Unlike Texas, these differentials are not based on labor market demand in the state. Some of our interviewees mentioned that they thought employment outcomes would be considered as part of the formula in the future.

Ohio also offers grant funds periodically to support delivery of workforce-aligned programs. The 2019 Regionally Aligned Priorities in Delivering Skills grant program allocated funds by state region to purchase equipment needed for workforce development education programs with the greatest regional need for workers. As in other states, Perkins funds are also available to some community colleges in Ohio and Ohio Technical Centers to support workforce development education programs.

Other Policies

Several other policies aside from funding may be related to student employment. For instance, states with a program approval process often require evidence of labor market need and employer interest in proposed programs (e.g., Texas, as described in Goldman et al., 2015). One policy topic that arose in almost every one of our case studies is program advisory committees, so we briefly review the policy basis for these committees here.

Receipt of federal Perkins funds carries an obligation that the programs funded must use an advisory committee to gain industry input (U.S. Department of Education, Office of Career, Technical, and Adult Education, undated). Many states have their own laws or policies that require community colleges that offer workforce development education programs to appoint advisory committees. These committees are expected to provide recommendations for each program at least once per year. For example, California has a law that requires committees to include *members of the public*: usually employers and sometimes other knowledgeable individuals (California Education Code Sec. 8070, 2001). Texas has similar requirements enacted through agency policy and specifies more detail on the composition and functions of the committees (THECB, 2021). Although several of our respondents said that Ohio also had a state policy, we did not locate a specific state source that requires advisory committees.

More broadly, we did not identify any state-level policies that hold community colleges accountable specifically for the formation of employer partnerships or the delivery of career services across the three states we studied.

Tools and Information

All three of our states provide some tools or information that can help their community colleges target their efforts in workforce development education. We briefly describe these resources in this section.

California

The California Employment Development Department (in cooperation with the chancellor's office) provides a tool that can help community colleges look at jobs in demand (Employment Development Department, 2021). In a 2015 RAND report, we examined the use of this and other tools. We found little evidence that such tools are widely used (Goldman et al., 2015).

As part of the Student-Centered Funding Formula initiative, California colleges also can receive data about the job placement rates and earnings of their students. These data are generated using unemployment insurance records. The chancellor's office also provides funding to one college to survey workforce development education program graduates from all community colleges in the state on their employment status and earnings. Program-level data from this survey are provided to each college.

Texas

In Texas, statewide and regional occupation need projections are produced to guide community colleges in developing programs to meet labor market needs (Goldman et al., 2015). The state also supports workforce development education by publishing the Workforce Education Course Manual, which provides community and technical colleges with a web-based inventory of courses in a variety of technical fields that have already been approved by THECB and a statewide advisory committee (THECB, undated c). The Workforce Education Course Manual is intended to promote greater standardization of workforce development education offerings and to lower the local effort required to update programs or develop new ones to meet labor market needs.

Ohio

Ohio offers colleges several tools to examine labor market supply and demand, including the Workforce Supply Tool (Ohio Means Jobs, 2021b). It also offers tools to students to learn about labor market demand and search for internships and cooperative education placements through customized Monster.com portals (Ohio Means Jobs, undated; and Ohio Means Jobs, 2021a). The Ohio Department of Higher Education helped colleges compile a handbook of promising practice examples, some of which relate to career services.

Services



Providing Career Services

2

Career service initiatives and support

What types of initiatives and supports do career services at community colleges have in place to help students find employment? Do services vary by student groups? To what degree do college staff perceive these services as being utilized and achieving their intended results?

To answer the second research question, we rely on college interviews and reviews of their career service documents and websites. We present our findings about the career services that community colleges provide to facilitate employment. This section begins with a brief description of the career services offered by the colleges in our study. We then present analyses related to the key indicators of promising practices highlighted in Table 2.2.

Colleges in the Study Offer a Variety of Career Services

The study colleges offer a variety of services, from the early stages of career exploration through the later stages of preparing students to search for jobs and matching students with specific job openings. As we note below, colleges often use technology tools, as well as interactions with staff and faculty, to deliver these services.

Colleges emphasize career exploration. Many of the colleges we studied spend significant effort allowing, or requiring, students to explore careers. Colleges implement technology tools (such as YouScience, O*Net, Focus, and Career Coach) that use videos that provide an overall exploration of careers, regional salaries for the occupations, and available positions. Our review of these tools indicated that they are designed for students to view the first job they are likely to obtain after graduation, but they lack a full view of potential career ladders, including any additional education and training they need to progress to higher-paying jobs on the ladder.

Colleges also offer counseling meetings to help students explore their interest in careers. Most of the colleges build these types of career exploration, including the use of tools, into required or optional courses about college skills, as we discuss later. Colleges also offer other forms of familiarization, including inviting guest speakers from employers to raise awareness about specific careers and offering field visits to local companies or on-campus simulations of work experience.

Colleges offer some work-based learning opportunities. Colleges typically offer work-based learning opportunities (which we discuss more below). Although some of these opportunities are intensive, such as internships and apprenticeships, the most common offerings appear to be lower intensity opportunities to gain some work skills. These include conducting class projects that aim to meet industry needs and job shadowing, in which students follow a professional for a day (or sometimes longer) to learn about their work up close.

Colleges help students prepare for the job market. Colleges offer students assistance with preparing for the job market, often through career counselors, program faculty, or navigators. Specifically, colleges help

students prepare their resumes and practice interviewing; in some cases, colleges also help through donations of professional attire for interviews and for starting a new job.

Colleges help employers and students connect to fill job vacancies. Colleges typically offer a blend of technology and personal service to connect employers and students. Career services centers often provide a central point of contact for employers seeking to fill vacancies, although these relationships at some colleges are managed exclusively by individual programs or guided pathways. With employer participation, colleges offer virtual or in-person job fairs. Most of the colleges in our sample offer employers and students access to a job portal: typically, a licensed edition of a commercial system, such as JobSpeaker, LinkedIn, or Monster.com.

Some colleges offer employers assistance with creating their profiles and advertising jobs, whereas others seem to leave employers largely alone to navigate their system. Student and employer use of these systems appears to vary greatly across colleges. Interviewees indicated that they struggle to get employers to enter jobs into their system. When employers are not entering relevant jobs, interviewees said that students do not tend to use these systems, limiting their value.

Colleges Adopt Four Models with Different Structures to Deliver Career Services

Promising Practice
Component: Career
Services

*Career service structure
facilitates linkages to
workforce development*

Colleges structure their career service in varying ways. Specifically, we observe four main structures for the provision of career services. In many cases, differences in these structures seem to be associated with the degree of coordination and integration of career services into students' progression in their programs. Consistent with promising practices in the literature, some colleges embed their career services within programmatic contexts. That is, career services are delivered by faculty, navigators, and counselors within guided pathways or individual workforce development education programs. For example, states

increasingly are adopting the *guided pathways* initiative, a reform in which programs and support services are designed with student employment in mind (Jenkins, Lahr, and Pellegrino, 2020). The guided pathways initiative organizes courses within meta-major or career community frameworks to fulfill academic requirements for a broad discipline or program grouping. Such frameworks group academic programs (certificates and degrees) within a career area that has related courses.

Model 1: There is a centralized career services office that is located within student affairs. This model treats career services as a common set of offerings that are available to students no matter which program they study. One disadvantage of this approach is that career services are not tightly linked to students' academic programs. Nor does the model account for students' changing needs as they progress through their programs. Interviewees at several colleges that place these services in student affairs reported that the services were poorly coordinated with the workforce development education programs and often were perceived as generally ineffective. Leaders of one college, however, saw real benefits from this approach. They felt that the close connection between enrollment and career services exposes students early to these services, thus increasing students' use of career services and helping many undecided students make choices of pathways and careers to pursue early on.

Model 2: There is a centralized career services office that is located within academic affairs or workforce development education. Some study colleges locate career services within their workforce development education structure, which is either part of the college's overall academic affairs or a separate division (see Box 4.1). By offering services from within the education delivery organization, these colleges aim to

BOX 4.1

Locating Career Services Within Academic Affairs and Workforce Development Education: West Hills College Lemoore

Around 2016, West Hills College Lemoore decided to establish the Workforce Internship Network (WIN) Center within its academic affairs program. The college moved these functions from their more traditional location in student services in order to (1) bring career services closer to the workforce development education programs, (2) better coordinate the services with the students' academic progression, and (3) engage program faculty more fully in placement. Respondents from the college told us that this shift represented a cultural change, in that members of the college community no longer see these services as student services but rather as instructional services. Respondents reported that, because of this shift, they were more easily able to integrate career content into program course delivery, working closely with program faculty.

Through course integration, separate workshops, and one-on-one interaction, the WIN Center offers students assistance with developing their resumes, planning their job search, using the college's online job search platform, and preparing for interviews. In terms of relationships, the WIN Center and its supervising dean help programs develop employer relationships when they perceive that those programs could use extra assistance.

foster close connections between the services and the students' workforce development education programs. Career services are, thus, viewed as part of the college's holistic support for students, combining curricular and co-curricular services. Interviewees at these colleges tended to see the services as more coordinated and more integrated with the education programs in comparison with the first model.

Model 3: There are two centralized career services offices that oversee different parts of career services. Colleges following this model offer a variety of career services, divided between two offices. The first office often operates within student services. This side focuses on career exploration and assessment. The second office often is located within workforce development education. This office focuses on employer relations and job placement.

Coordination is a real concern among staff at colleges that have adopted this model. However, few of the colleges have found ways to bring the two sides together to operate more effectively. At one such college, staff indicated that the two offices previously were "working in silos" with little coordination. Over time, the two offices began to meet and coordinate through regular meetings and embark on collaborative projects that drew from both offices. Through this process, they have had discussions about combining the functions into one office.

Model 4: There is no centralized career services office, with services instead delivered through pathways or programs. Colleges using this model do not support a separate, central career services office. Instead, career services are embedded entirely within workforce development education programs, guided pathways' meta-majors, or career communities (see Box 4.2). These pathways or programs incorporate customized career services that their students need, ranging from career exploration to finding jobs. At a few other colleges, limited central services are offered but reportedly are used by only a small proportion of students.

Some colleges follow other structures than those described in these four models. Some have developed additional offices in workforce development education or college leadership divisions, such as those that deal with internships. Such offices are tasked with expanding internship opportunities and providing support to program deans to identify such opportunities. Also, some colleges tasked career service offices with providing support to workforce development education programs or guided pathways, if needed, but otherwise left many of the career services up to programs to deliver. One college established a new office to support its guided pathways in providing career-related services and building partnerships (see Box 4.3).

BOX 4.2

Integrating Career Services into Pathways: Sinclair College

Sinclair College adopted a guided pathways model that identified five career communities, or meta-majors. The college does not have a centralized career services center and has embedded services within each career community, along with other student support service offices. Each community provides a variety of career-related activities, such as bringing employers to campus. These activities help students connect their careers with their academic goals and engage with faculty, staff, and employers in their career area.

The goal of this redesign is to address inefficient advising models by aligning academic advising to each career community. Specifically, this model increases the interaction among advisers, faculty, professional staff, and deans within a career community, resulting in more-sustainable relationships. In the process, the academic advisers become experts with their assigned community in terms of its academic programs and how such programs link to multiple career opportunities, improving conversations with students.

Under this model, the Office of Work-based Learning supports the deans and faculty in expanding work-based learning opportunities and professional development for students and companies. Additionally, job placements and career fairs are offered through the Student and Community Engagement Office. Because advisers are embedded within career communities, they are aware of these opportunities and refer students to the appropriate service office to assist with such opportunities and have additional conversations about apprenticeships, internships, and careers.

Undecided students follow a different path until they decide on a career community. For example, undecided students participate in a deciding day, during which they get an opportunity to talk to faculty, advisers, and staff from each career community about the programs. Undecided students are also assigned career advisers to help them explore different careers and take the appropriate assessments.

BOX 4.3

Providing Career Service Support to Pathways: Los Angeles Trade Technical College

Los Angeles Trade Technical College is increasingly focusing on improving student employment outcomes. The college has embedded many of the career services into its meta-majors and hired industry-specific navigators to deliver services in order to meaningfully connect student curricular and co-curricular services. In addition, as part of regional Strong Workforce funds, the college hired staff to help students find employment in some areas. The college, however, recognized the limitation of such an approach because it did not address the varying capacities of pathways to deliver meaningful career services. In 2019, the college conducted a self-evaluation of career services that were provided by the career service office, as well as those provided through their guided pathways. This self-evaluation identified needs and gaps. The college established a new Employment and Career Success Pathway initiative located within its Pathway Innovation and Institutional Effectiveness Division to fill the gaps in career services provided to students. This new office is designed to provide services to students that might not be provided through guided pathways to improve their employment outcomes. The office is also tasked with providing support, when needed, to meta-major deans and navigators to establish partnerships with industry and is developing an inventory of all employers that are being contacted by various entities at the college.

Colleges Varied in the Extent to Which They Localized Their Career Services

Promising Practice Component: Career Services

Provision of localized career services

The expert literature notes that, to be effective, career services need to be specific to students' programs or pathways. We found variation in the extent to which career services are embedded within programs, depending on the models they adopted. As noted above, our study colleges offer some career services through one or two central offices (one located in workforce development) or through guided pathways.

Those with centralized offices have more difficulty implementing career services as a set of connected activities that are program- and industry-specific. Students are often left to seek out generic career services on their own. For example, one interviewee reported that although their central career services office helps students prepare resumes, this support is not industry specific. Other program-level interviewees indicated that such generic supports are not helpful and that they do not refer students to them.

On the other hand, we found evidence that colleges with less centralized career services, such as those that adopted Model 4, embed career services into their programs and customize them to the needs of specific programs.

Some colleges incorporate career services into guided pathways. Some colleges in this study implement guided pathways models. In such models, many career services are the responsibility of the pathway or meta-major navigator or faculty. In some cases, colleges assign one or more dedicated counselors to provide services within the pathway. In other cases, program faculty deliver some services directly, often by embedding them in program courses.

Representatives of one college that was about six years into its implementation of guided pathways explained that students within the meta-major

engage with employers, industry representatives, faculty, and staff who are experts in their fields, to give students guidance on program and career selection, and to answer questions about the best pathways to reach their goals. [These] communities also provide a venue for students to interact with peers who have similar interests.

Even among colleges that are not implementing guided pathways, some also deliver services through individual programs using similar approaches, especially in health care and fire science.

Most colleges embed career services in required or optional courses. Respondents from several colleges described efforts to embed career services into credit-bearing courses that were either required or optional within program pathways. In colleges that implement meta-majors (often a part of guided pathways), all career exploration is conducted through the meta-major, either in courses or through other activities. Students at these colleges who have not selected a meta-major are assigned to an exploration (undecided) meta-major through which they can learn about multiple pathways in order to make their selection.

In some cases, these services and learning opportunities form a part of general (not program-specific) "college success" courses that students are either required or encouraged to take. Such courses can include career exploration, such as interviewing professionals, or other methods of learning about a set of specific careers that interest the student. The courses can also include practical job search skills, such as preparing a resume, organizing a job search, and completing job applications. At least one college's career services representatives said that they developed two such general courses, one basic and one advanced. Although that college does not require all students to take either of these courses, career services staff were coordinating

with program directors so that programs would gradually add either or both courses to the list of required courses, program by program, expanding coverage of students over time.

Other colleges take a more flexible approach. One college offers an online, self-paced series of modules that helps students navigate the process from being a student to becoming a professional. These modules address professional relationships and communications, including how to talk to supervisors, navigate hiring, and seek and achieve promotions. Students receive a certificate of completion after finishing the module series. Although this online series generally is optional for students, some faculty at the college have reportedly embedded the modules within their credit-bearing courses; students in these courses must complete the modules as part of their workload.

As an example, students at one college that uses guided pathways must complete a course that requires them to conduct labor market research, take a personality assessment, and collect other information related to a career for the program they selected. Students must conduct an analysis of the prospects for this career and whether it is a good fit for them. During this process, counselors guide students in the pathways, helping them explore other careers or pathways if the student did not initially select their best fit. Respondents said that the ability to align students with appropriate pathways is a strength of the system but also noted that contact with counselors was not well-maintained throughout the program. In addition, respondents raised concerns that students sometimes select pathways with low earning potential, although they often are expected to examine labor market data, such as average wages. In these cases, respondents said the counselors did not have honest enough student conversations to encourage the pursuit of a more financially rewarding pathway.

Marketing for Career Services Appears Inconsistent and Limited

Promising Practice
Component: Career
Services

*Career services marketed
for optimal reach*

The literature emphasizes that marketing college services is important to reach students and encourage the use of the services.

Marketing career services appears to be a shared responsibility between career services staff (if the campus has a central office) and program faculty and staff. Although career services office staff mentioned advertising their services through their websites, orientation sessions, and event communications, few respondents highlight these approaches as particularly effective in engaging students. Interviewees

across many of our colleges said that faculty in the programs were largely responsible for referring students to career services, regardless of whether those services were provided by faculty and staff within the program or more centrally.

Use of services appears to be low, except in colleges that require related activities, such as career exploration in foundational courses. Overall, we find that few colleges make significant efforts to monitor student use of career services or to systematically evaluate these services. As a result, it is difficult to tell how widely students access these services. Moreover, it is difficult for college leaders to improve the marketing and quality of their services. For colleges that provide some sort of centralized services, the impressions that respondents shared with us typically point to a rather small fraction of students accessing the services. For example, at one college that did not seem to track systematic data about service use, a respondent estimated that perhaps 500 students per year use at least one centrally provided service, out of an estimated college enrollment of 9,000. Although the respondent characterized the fraction of students served as somewhat low, they also noted that students' goals differ, saying

We want to open the doors to anyone who walks in the [workforce career services center]. We understand every student doesn't want a job, we understand they have different goals and [some] just want to transfer.

Some colleges have developed required or optional courses in which career services (specifically, career exploration) are delivered through the courses. The enrollment data related to these courses provide some data pertaining to students using the services in these cases.

Requiring these activities for all students or otherwise embedding them in holistic reforms (such as guided pathways) are promising approaches for engaging students, who otherwise tend not to use the services.

A few colleges focus specifically on equity. Although most college representatives do not speak about equity in planning or marketing their services, representatives of a few of the colleges mentioned that they specifically apply “an equity lens” to planning and delivering career services. In other words, they seek to make services accessible and relevant to students from a wide variety of backgrounds, including low-income students, who may face barriers in seeking and preparing for employment. We observed a few services that colleges specifically target to improve equity in workforce development education.

One college in the study specifically targets low-income students for career exploration. Here, students are matched to a faculty member in the program of their interest. Students visit a class and an employer site with the faculty member to confirm their interest in the field. If the student realizes that their choice may be a poor fit, staff identify other programs that may be a better fit. In this way, the college aims to improve the decisionmaking of lower-income students, who may lack the experiences and resources to make more-informed choices.

A few of the college or program representatives noted outreach efforts, through grant funding, that are meant to interest women in technical trades, such as advanced manufacturing and automotive repair, where they are underrepresented. Also, in support of equity, staff from a few colleges described their career or professional clothing “closets.” In these closets, staff make donated professional attire available to students who lack such attire (or the personal resources to purchase it). Students can receive gifts of this attire to help them succeed in interviews and the early days of their first career-related job.

Colleges Provide Some Opportunities for Meaningful Work Experience, but More-Intensive Experiences Are Limited

Promising Practice
Component: Career
Services

*Exposure of students
to meaningful work
experience*

The expert literature demonstrates that providing students with real work experience allows them to expand their understanding of careers and learn practical job skills and (sometimes) provides direct pathways to employment (see Appendix B). Most colleges in this study offer some work-based learning through courses and short-term experiences. Many also offer student internships. A few offer apprenticeships or other forms of work experience.

Colleges incorporate work-based learning into curriculum and short experiences. Representatives of most of our colleges described ways that they incorporate elements of work-based learning into their courses or other opportunities. One approach is to assign practical class projects that address industry needs, sometimes involving industry members as judges or coaches. Other approaches include job shadowing.

One college is piloting a simulated work experience prior to students starting a program. During the summer or intersession before starting their programs, students enroll in a 40-hour experience related to their chosen meta-major. In a classroom setting, faculty guide students to perform selected tasks within jobs related to their program to ensure early on that students are committed to and fit for the program and career they selected.

Programs often use industry professionals, embedding informal career learning and connections to employment. Regulated or licensed fields in our study seem to have especially close relationships between college programs and employers. For example, in fire science, representatives of one college described how they use working professionals, including fire chiefs, to deliver the introductory, practical courses in the program. These professionals' skills are well suited to delivering such hands-on content, and they can introduce students informally and organically to the types of job openings and the culture of the fire and rescue agencies in their region. Furthermore, these fire chiefs and other leaders are working directly with the students in the program, building relationships that can lead to specific job offers, in some cases.

Nonlicensed fields also bring practical knowledge of industry and the world of work into the curriculum, although less consistently and less thoroughly than the licensed fields. In the nonlicensed fields, we observed that the main approach is to hire adjunct faculty whose primary work is in a related industry or full-time faculty who previously held such professional positions.

Most colleges offer internships. Most of the colleges studied appear to require or encourage students to pursue internships only after they have taken one or two semesters of courses in the program. In part, these policies appear to prioritize the goal of making sure that the student has some concrete skills that can be applied in a work setting and has greater maturity than freshly entering students. But one college reverses this traditional approach, enrolling students in internships during their first semester of the program in order to increase their exposure to relevant careers and better motivate students to stick with the program over time instead of dropping out or switching fields.

Internships include both paid and unpaid opportunities. Unpaid internships typically are accommodated through enrollment in a specific internship course that grants college credit.

Colleges typically require a faculty member to supervise for-credit internships by helping to define and approve the student's learning objectives and by broadly monitoring the internship experience. At most of our study colleges, this internship course does not seem to go beyond this basic supervision. But a few of our colleges employ specific work experience faculty to supervise internships. These faculty meet with students once per week or a few times per semester to help the students reflect on their experiences, navigate issues that arise, and focus on the agreed learning objectives.

Outside certain health care fields, internship opportunities are often limited and optional. Program leaders often said there are not enough paid internship opportunities to serve all students. Although unpaid internships seem to be more available, respondents indicated that unpaid internships are less attractive to many students because students find it burdensome and even costly to work without pay (e.g., if they have to pay for transportation to a distant workplace).

In Texas, college representatives mentioned that the state limits the number of credits that can be included in associate degrees, so adding an internship course requires the program to remove some other course in compensation. This policy might limit internship opportunities in that state.

Many program leaders indicated that internship opportunities are optional and that it is the student's responsibility to search for, apply to, and secure an internship if they are motivated and interested. In other programs, we heard about closer collaboration between faculty and students, in which faculty members actively assist students in locating internship opportunities and often field internship inquiries from employers that they match to appropriate students.

Licensed health care fields, such as nursing and allied health fields, typically require some amount of clinical practice under supervision as part of their license standards. As a result, every student in these programs must complete clinical rotations in order to graduate and become licensed. In these fields, we generally heard about close connections between programs and local employers that provide clinical opportunities. Students receive broad, real-world exposure to the types of facilities and patients that they might encounter in their careers; sometimes, these placements can lead directly to offers of employment. Several faculty members in

these fields also reported that there can be intense competition from programs at other colleges and universities for clinical spaces, which can constrain how many students the program can accommodate.

To overcome barriers to expanding internships, a few of the colleges constructed laboratories or simulated plants to provide their students with hands-on experience in work duties, even if the setting is at the college rather than at an employer.

A few colleges offer apprenticeship programs. In these programs, a student is typically employed by an employer continuously during the student's program, blending on-the-job practice with classroom learning during each semester. In many cases, students can be hired as regular employees following the completion of the apprenticeship. One college's staff described significant coordination with local unions to place students in internships and employment. Some college faculty and staff indicated interest in moving toward federally registered apprenticeships for students.

Most colleges lack strategies to expand internship opportunities. Some of the colleges have a dedicated office to support internships, which brings a degree of coordination to developing internships. As we discuss in the next section, some of our colleges show evidence of a college-wide strategy to expand work experience in priority sectors. But at most of our study colleges, we do not perceive a coordinated strategy to expand internships or other forms of work experience. Therefore, although respondents at most of our study colleges described their internship arrangements, it is unclear whether the colleges are able to offer sufficient opportunities to benefit the majority of students or to grow these opportunities over time.

Colleges Use Few or No Monitoring and Accountability Practices

Promising Practice
Component: Career
Services

*Monitoring and
accountability*

The literature emphasizes that monitoring the use of services and employment outcomes is important to enhancing the quality of career services through improvement activities and accountability.

We observe only a few efforts to measure the use of services. Staff from just a few of the study colleges indicated that they systematically track data about students accessing career services. Similarly, our interviews indicated few efforts to evaluate the quality of services provided or student and employer satisfaction with them. As a result, college

leadership lacks important information that could be used to redesign and improve these services over time. Also, because of the lack of systematic data collection and analysis, few colleges are able to examine whether certain groups of students have less access to the services or greater challenges in benefiting from them. Even marketing the services suffers from a lack of straightforward use metrics that could inform and better target marketing efforts.

Some colleges have access to student employment data, and a few use such data for monitoring program outcomes. Respondents from a handful of colleges indicated that they systematically analyze job placement data to identify programs in which students were experiencing poor placement rates. Some colleges did this analysis on their own. Others, especially some in California and Texas, take advantage of state-organized student employment data analysis provided to colleges, although they are concerned that by the time they receive the analysis, it covers students who graduated several years earlier, limiting its usefulness for making timely changes. In addition, several California respondents indicated that these data provide only partial coverage because community colleges cannot require students to provide their Social Security numbers for matching to unemployment insurance records, and Social Security number collection practices vary widely across colleges. The California Community Colleges Chancellor's Office attempts to provide more-current employment outcomes through a survey conducted by one community college, but our respondents said this survey was not useful because of low response rates and unverified self-reported earnings. A few colleges are

in the process of designing and implementing their own system to collect employment outcome data more systemically using technology-based tools, such as Gradcast, and surveying students regarding their employment outcomes during their graduation ceremony.

Several colleges that use employment data undertake further investigation to assess the potential causes of poor outcomes. Such causes may include the quality and relevance of curriculum, relationships between faculty and employers, and the quality and accessibility of career services. Such analyses can identify improvements needed for career services, even though the assessment is considerably wider. Among this group of colleges, TSTC operates a particularly extensive monitoring and accountability system, described in Box 4.4.

Such colleges form a small minority in our sample. Most of our study colleges do not seem to devote effort to monitoring these services.

BOX 4.4

Program Accountability Dashboard: Texas State Technical College

TSTC is unique among our study colleges in that its public funding comes from a formula that is almost entirely based on the earnings of its graduates. Unlike community colleges in Texas and other states, TSTC does not receive public funding based on enrollment or credit hours taught (except for high school dual credit enrollments). According to our interviews, all faculty at the college are aware of the funding arrangement, and many systems at the college are geared to improve performance along dimensions that get more students to graduate and find good jobs in their fields.

The college has developed its Program Compass dashboard to present indicators of performance for each program. In 2021, the college was on the third iteration of this tool, which is available to all faculty and staff in the college for all programs. The college thus operates with a high degree of transparency.

Dashboard indicators include the outcomes of student completions, job placement rates, and earnings after graduation. The dashboard also reports indicators of demand, such as the number of students applying and enrolling, and financial indicators, such as the revenue attributed to the program and the resources consumed by the program. If programs perform poorly on these metrics, the program faculty are given a period of time to improve their metrics. If they are not able to improve, the college is willing to close the program. According to our interviews, the college has closed 14 programs over the past few years in response to indications from this tool (and earlier versions). In such cases, faculty are terminated or reassigned if they are able to teach in other programs. The college has also allocated more resources to programs that are performing well if they make a case that there is unmet demand they could serve with similar graduation and placement rates.



Establishing, Organizing, and Supporting Partnerships

3 Employer-college partnerships

In what ways are community colleges partnering with employers to support their needs for skilled workers in STEM or STEM-related fields? How strong are these partnerships?

Building on the promising practices of strong partnerships supported by our literature review and documented in Table 2.3, we use college interview findings to answer the third research question. We report what we learned about partnerships between community colleges and employers to facilitate employment.

Community Colleges Develop Partnerships with Industry, but Very Few Approaches Are Strategic

Promising Practice Component: Partnerships

Strategic partnerships between colleges and industry

There is consensus in the literature that strategic partnerships are critical for promoting student employment. The literature emphasizes having a structure in place to facilitate strategic partnership-building and to promote continuous communication and engagement. An important aspect is selecting the appropriate partners with the necessary capacity to jointly create a shared vision and shared goals and to jointly define roles and responsibilities to achieve these goals.

Most Common Approaches to Partnership-Building Led to Loosely Coupled Connections with Industry Partners

Colleges rely on advisory committees for partnership development. As required by state laws and policies, all participating colleges have advisory committees for workforce development education programs. The exact membership of advisory committees varies but typically includes faculty and industry representatives. Thus, much of the feedback colleges or programs receive from employers regarding curriculum, alumni performance, and hiring and recruitment relies on advisory committee meetings. The feedback is then channeled through program heads. Many program heads consider having such committees to be an indication of strong partnerships with industry. However, advisory committees vary greatly in size, employer representation, function, and engagement with community colleges. Employers on advisory committees, in some cases, are opportunistically selected (e.g., willing to show up, showed interest, had a personal connection with program directors or faculty) and are not vetted for their capacity to engage strategically in employment-focused initiatives.

Advisory boards are not always good for developing [strong partnerships]. They vary in membership and function. It is important for colleges to reach out including to intermediary organizations, then use such connections [and their knowledge of employer capacity] to cherry pick who should be serving on the advisory board. (Interview with a guided pathways dean)

Respondents also indicated that employer voices during committee meetings are not heard enough. This issue is caused by a lack of employer capacity, as well as inappropriate representation of employers. In these cases, faculty tend to dominate the discussions.

I think too many advisory committees do not have the right membership. Employers serving on advisory committee are not aggressive telling faculty that they need to change the curriculum, or their program is not meeting their [employment] needs. (Interview with a program dean)

Further, advisory committees only meet twice per year or once per quarter and for a few hours, limiting the extent to which they can be engaged strategically. For example, there is very little evidence of advisory board meetings that are designed to include program data review, an action-oriented set of goals, the development of career pathways, or a commitment to pursuing next steps for program and employment outcome improvement. Advisory committees do not have focused time that connects colleges with multiple industry actors in service of a mission of strong workforce development. Advisory board meetings, in general, are used for program leaders and faculty to showcase their programs and elicit feedback from employers regarding skills needed, hiring, and input on curricula.

We have an advisory committee we consult with and show our CIS [computer information systems] courses and curriculum to cater to the local job market. We talk to seven or eight employers every time we meet so all programming languages are relevant, not just the global market but also local. (Interview with a program dean)

I am on the advisory committee. I tour facilities and I give input to what helps the businesses the most and what would help students get into the workforce. Sometimes faculty bring in students for us to interact with. It is typically a dinner for some kind of meet event or question-and-answer session. (Interview with an employer representative)

Recognizing the limitations of advisory committees, some colleges and programs take more-selective approaches to which employers they include on advisory committees and how to engage them. For example, the president of one college created a “guaranteed interview program” that encourages program deans to seek industry partners who guarantee student graduates an interview. At this college, the STEM programs we studied are quite selective on employer committee representation. They focus on inviting human resource managers to facilitate hiring. One program dean indicated that such committee members are more involved, which has contributed to a high student employment rate.

In addition to having the committee provide feedback, [advisory committee industry members] donated equipment such as engines or provide equipment to our labs for a reduced price. The employers invited to an advisory committee are the managers and have final say for hiring. They show up to class asking for potential employees and asking students to submit their resume. Seventy percent of students in the program end up being employed by advisory committee industry partners. (Interview with a program dean)

Sometimes, program leads use informal self-assessments of their needs and scan the environment to identify industries to participate on their advisory committees. For example, one of the directors of an energy and engineering program approached one of the largest employers in the area to help the programs recruit

advisory committee members who represented all the big employers in the industry to increase job placement rates. Another college approached an industry-specific association to access employers and elicited association support to help vet employers. However, colleges or programs that are small or embedded in a context (e.g., rural areas) in which there are not adequate businesses struggle to find appropriate employers, such as businesses that are large enough to hire students or have the capacity to engage on committees. Their advisory committees are used minimally to keep the programs up-to-date.

One program leader indicated that it is common for colleges to market their programs to businesses even if the programs are not viable within the businesses' contexts (e.g., because of low needs in the labor market). He attributed this approach as one of the reasons why it is difficult for some programs to find appropriate industry partners and have them engaged strategically.

Something that bothers me is community colleges want to develop a program and then sell it to the businesses. That is backwards. You should work with employers to begin with. If you begin by asking employers what their employees trained on, you get a vested and interested party in the employer. (Interview with a director of energy programs)

Colleges often rely on personal connections and informal mechanisms to build partnerships. Aside from the advisory committees, our interviews suggested that most colleges lack structures to formalize and institutionalize relationships with employers, which leaves the partnerships highly dependent on individuals. Colleges tend to rely on individuals' personal relationships with industry to build partnerships, rather than having a strategic approach for the purpose of aligning programming with local and regional economic need.

Many workforce development education program leads and faculty are hired from the industry as a way to connect to industry. Similarly, staff or directors of career services or internship offices, with few exceptions, also tend to rely on their expertise and personal relationships with industry. Such individuals have an existing relationship that they can leverage. Other approaches mentioned in interviews include having faculty conduct training in the community for the purpose of networking with industry or having a program lead or faculty join industry associations or serve on workforce or economic development boards. Although these personal or informal relationships are important to initiating connections with industries, interviewees indicated that such one-on-one informal relationships lack effective college-employer engagement. Instead, interviewees emphasized the need to focus on building employer knowledge about the local and/or regional youth the colleges or programs are serving or actively marketing pathways as an approach to workforce development that can benefit employers, students, and the community.

It comes from every way, informal conversation with someone, formal conversations. I get approached [by employers] a lot and they tell us what they need. With age I become more cynical, companies promise something and don't deliver. We needed [job positions], hundreds of them, we figured out curriculum, met with [employers] and told them what colleges offered and then they selected things. I did that because they were promising hundreds of jobs, but they did not deliver. (Interview with a program lead)

Partnership-Building Is Distributed at Different College Levels, and the Extent of Coordination Varies

Colleges' approaches to building partnerships with industry tend to be diffused throughout the various organizational levels. Almost all program areas are involved in developing their relationships with employers. As mentioned earlier, this tends to be done through advisory committees and individual program dean and faculty initiatives. College leaders also recognize that industry culture varies across workforce development education program areas and that they need flexibility in how to approach specific industries. Thus, some

colleges in our study that adopted guided pathways (e.g., meta-major models) established new sector-specific positions, such as navigators, to support (or be responsible for) program-level industry partnership-building.

Some colleges also expect other offices—such as college career services, student affairs, or work-based learning offices—to also have a role in developing relationships with employers. At some colleges, we found that the roles and responsibilities were not clearly defined. Interviewees at those colleges suggested redundancy in activities. For example, we find that, in some colleges, both career services and workforce development education program heads, faculty, or navigators were tasked with identifying work-based learning opportunities. In those colleges, there is a lack of communication among various offices regarding their efforts and a lack of knowledge regarding which and how employers are being approached.

The decentralized approach, however, has potential benefits when roles and responsibilities are clearly defined and communication between the various stakeholder groups is clear and frequent. Different offices, then, can emphasize their strengths and support each other in building partnerships with industry in areas that are lagging. For example, career services or internship offices at some colleges are tasked with assisting the program deans or navigators in establishing partnerships with industry. Their role is not to establish partnerships but to cultivate existing ones developed by the programs for the purpose of increasing work-based learning, the number of employers posting jobs, and employment opportunities.

We [at career services] had very fluid interaction with those programs especially since co-ops and internships are embedded within the program curricula. We assist those program coordinators . . . we constantly connect [employers] to those programs. Program coordinators work with us so when they are out in the community or they are talking [to employers] they are giving feedback to us so that way we can make sure feedback is being implemented with our meeting with those students, because we want to have the employer voice heard. (Interview with career services leader)

Those colleges have established a structure to ensure continued communication among the various entities and have put in place (or are in the process of implementing) a unified system for all employer partners that the various college stakeholders interact with (see Box 5.1). The purpose is to document who initiated the contact, the purpose, and the main employer leader or staff contacted.

BOX 5.1

Promising Practices for Coordination: Clark State College (Ohio)

Clark State College is focused on workforce development, especially in the areas of information technology, business, and engineering technologies. As part of this focus, the college leadership for these programs created workforce committees that included members from noncredit workforce development programs, specific technical academic programs (program deans and coordinators), and career services. The committees meet once or twice per month to discuss employment-focused initiatives and support needed. During the meetings, messaging to employers is discussed to ensure common understanding and uniformity. Workforce development and technical program deans and coordinators also discuss the type of support needed from other offices to cultivate industry partnerships. According to staff, this structure brings communication “full circle” and overcomes the siloed nature of colleges. An important aspect of this model is that meetings with employers are coordinated so that representatives from each of the offices represented on the workforce committee attend the meetings, reducing employer burnout and ensuring a clear message. The college is also working on an inventory list to include all employers in a college database that will be accessed by the college community.

A Few Colleges Are Restructuring Their Approaches to More Strategically Approach Partnerships with Industry

Colleges recognize that past approaches to engaging employers have limitations and no longer suffice. Interviewees identified approaches a few colleges have taken to overcome the limitations discussed above for engaging with industry partners. As a first step, those colleges and their boards clearly articulated in their strategic vision documents that workforce and economic development and the prioritization of strategic partnerships and employment outcomes were some of their primary goals. To realize their strategic vision, they conducted a formal assessment of needs and mapped their programs into technical and workforce development areas. Using available data (e.g., state data, Burning Glass analytics, job opening advertisements), they evaluated whether their corresponding certificates and degrees were leading to family wage employment or had the potential for upward career mobility. They restructured their programs and consolidated or closed programs that were not meeting the criteria. This evaluation also helped them identify the workforce development areas in which to focus the partnerships and invest their resources (see Box 5.2).

Those colleges also restructured their institutions to facilitate better partnerships. One college redesigned its advisory committees, starting with the workforce development education program areas that were identified as priorities. The college created two-tiered advisory committees that are implemented in a few programs, but it has plans to expand this structure to all programs over time. This two-tiered system is designed to engage the CEOs of companies in developing a strategic vision and allows company staff to collaborate with faculty on implementing the strategic vision. To engage employers strategically, the college created a document that clearly describes, step-by-step, how to select advisory committee members (both at the executive and operational levels), the appropriate size of committees, and how to conduct meetings and achieve the most-productive meeting outcomes. The college also built industry-specific facilities on campus to meet labor market needs with close collaboration from its two-tiered advisory committees. Another college established an office that reports directly to college leadership (see Box 5.3). This office is tasked with developing a stra-

BOX 5.2

Building a Simulated Plant: San Jacinto College

San Jacinto College in Texas strategically invested in petrochemical programs to meet labor market needs. There are 130 petrochemical facilities and 80 companies within 12 miles of the campus. Working with multiple employers, San Jacinto College devised an innovative approach: on-campus facilities with 35 labs, outfitted exactly like the industry workplaces where graduates would work after graduating. To build the labs, San Jacinto College rallied employers and passed a multimillion-dollar bond to build facilities and make campus improvements. The college restructured its advisory committee to a two-tiered model to ensure a common strategic vision, shared goals, and continued communication. The first tier, the Chancellor's Advisory Council, is made up of CEOs of prominent petrochemical and contractor industry employers. The council meets regularly with the chancellor to jointly define and develop a strategic vision that is mutually beneficial. The second tier, the operational advisory committees, includes operational staff identified by the petrochemical CEOs, who are charged with working with college faculty to implement the strategic vision. The operational advisory committees helped design the facilities, courses, and content. Employers on the committee were also involved in hiring faculty. The college invested in building industry-specific facilities that have the same specifications as employer facilities. This investment will ensure that students receive the appropriate work-based learning opportunities and will provide incumbent workers with training while growing partnerships with employers. These facilities enable instructors to teach the important skills that the students will use in the workplace. In addition, employers use the labs to help incumbent workers train and upskill. The labs are open 24 hours per day to accommodate employer needs.

BOX 5.3

Strategic Partnership Office: Austin Community College

Austin Community College in Texas created a Strategic Initiatives office to help focus on business and industry partnerships. The office's primary responsibility is not to develop relationships with employers but to understand college and industry needs and the structures that would need to change at the college (e.g., how to align for-credit and noncredit programs) to develop better regional partnerships that are mutually beneficial and meet labor market demands. Working in this manner, the office has aligned with instructional program leads to accelerate and scale critical industry partnerships with Tesla, Army Futures Command, Toyota, Samsung, Baylor, Scott & White, VMware, Dell, and many more. The office helps deans navigate and communicate with other administrative offices to accelerate certain activities needed for building partnerships. This includes, for example, accelerating budget approvals, creating new expedited administrative processes, and structuring new training programs or modalities to meet industry timelines and need.

tegic vision for the establishment of sectorial partnerships with industries for career pathways and employment opportunities, advises the chancellor on structures that need to change for partnership-building, and provides input on which partnerships to target, given limited resources. The office also strategically involves intermediaries, such as industry-specific associations, to help leaders (1) develop an understanding of long-term trends and labor market needs and (2) develop and maintain relationships with critical employers in the region.

Some Colleges Use Regional Consortia to Build Partnerships

Another approach is establishing an industry-specific regional consortium of colleges, industries, and workforce development boards. This approach could be promising for community colleges that might lack capacity or resources or that have difficulty connecting with the employers that would inform program development and use the community colleges for training.

In California, the regional component of Strong Workforce funding supports regional initiatives that link colleges. Some of these are broad, such as purchasing regional licenses to access job search websites. Others are tailored to particular sectors, such as assisting colleges with developing or revising their programs in priority sectors.

In addition to these regional initiatives, the California Community Colleges Chancellor's Office until 2021 used part of the Strong Workforce funding to hire several directors who were assigned to cover key industry sectors in predefined regions. According to our interviews, these positions were intended to help colleges make connections to industry in priority sectors for their region and to coordinate sector-related activities across colleges in the region. The California regions follow an administrative structure defined by the state government, rather than following geography defined by economic or industry patterns. Several of our California respondents said they thought this network was ineffective. In 2021, the chancellor's office terminated this program and is reallocating its funding to other regional activities through the main Strong Workforce funding streams.

In parts of Ohio, Pennsylvania, and West Virginia, the Tristate Energy and Advanced Manufacturing (TEAM) Consortium represents a different approach to regional collaboration. Unlike the California approach, this consortium is led by a small team that facilitates connections among colleges, employers, workforce development boards, and governments, but the organization is independent of those institutions. In addition, the TEAM region is determined by industry and economic patterns rather than state administrative divisions (see Box 5.4 for an overview of TEAM).

BOX 5.4

Tristate Energy and Advanced Manufacturing (TEAM) Consortium

The TEAM Consortium established a public-private partnership that connects 60 key stakeholders in southeast Ohio, southwest Pennsylvania, and northern West Virginia, including nine community colleges, 11 workforce and economic development boards, and various employers and state officials. This regional consortium is led by a director (independent of the colleges and industries) who was a workforce development professional and former state official, bridging the various stakeholder groups. The consortium is intended to reach an economy of scale across the tristate region that could help lower education and training costs and garner additional revenue sources for participating partners, as well as provide them with access to expertise and staffing capacity that would allow them to replicate best practices and help them be nimble service providers, responding better to their market's needs. TEAM defined the regional ecosystem and put in place a structure of communication between community colleges and industries through the establishment of affinity working groups to address education pathways, workforce development, and private partnerships in energy and advanced manufacturing. This structure is independent of any specific program and therefore is not vulnerable to the disruption that can happen with the loss of a single funding stream or program.

As part of this partnership, the consortium brought a data-driven, strategic, focused, and collaborative regional system of activities that were aimed at establishing dependable and meaningfully responsive programming to address shortages of skilled employers in energy and advanced manufacturing in the region. TEAM partners established recognizable and accessible educational pathways for the energy and advanced manufacturing sectors (specifically, among the nine community colleges in TEAM's core geographic footprint). Colleges aligned their programs with employers but also with each other to facilitate students taking courses at different colleges if certain courses or facilities were not available at a particular college. They also developed jointly targeted activities to help raise awareness about and interest in energy and advanced manufacturing occupations. TEAM is also establishing and supporting the development of defined local workforce ecosystems (LWFES), which are geographically anchored within the location of TEAM's nine community college partners. Each LWFE identifies and engages the relevant local education and workforce partners: i.e., education, workforce development, economic development, government agencies, nonprofit service providers, and employers. Having a clearly defined LWFE allows TEAM to help build local capacity to connect people with education, training, and jobs. It also helps build a local pipeline of informed candidates for these programs through direct marketing and by providing content for youth programming at K-12 schools and community-based organizations.

Community College–Industry Partnerships Are Mostly Led by the Colleges

Promising Practice
Component:
Partnerships

Inclusive leadership

The literature also emphasizes the importance of having an inclusive leadership approach that promotes consensus and supports partnership activities, including joint decisionmaking, regardless of whether leadership focuses on one partner or is distributed across partners.

As mentioned earlier, community colleges mostly built partnerships through advisory boards, individual program deans and faculty, or college leaders. With few exceptions, program heads and faculty usually lead the advisory committee because most committees are designed to elicit feedback from industry instead of working on a strategic vision and partnerships. In the few instances in which colleges have taken a more

strategic approach to building partnerships, we find that although such colleges still led the partnerships, they adopted an inclusive approach for decisionmaking.

Industry are equal partners in making decisions in the two-tiered advisory committee design. Faculty take a back seat and are expected by college and program leaders to be responsive to industry needs. (Interview with a college leader)

In fact, one college not only created a manual to train its staff on how to engage industry in a meaningful way and have them engage in decisionmaking but also created a form that requires advisory committee facilitators to document who attended, discussion with employers, what employers proposed, what action was agreed to move forward, and whether and why the action was implemented.

Interviewees from another college indicated that they select advisory committee members carefully, with inclusive leadership in mind. That is, they assess an individual's capacity to engage in decisionmaking and be responsible for implementing what was agreed on.

We put people on committee to make a decision and charge them with solving a problem quickly. We do not use it to diffuse the risk among others. One is accountability – individual and corporate level – so people are accountable but have responsibilities and authority to make decisions. (Interview with a college leader)

The few colleges that have implemented inclusive leadership reported that their relationships with employers were well-maintained and that all stakeholders, college leaders, program heads, faculty, and employers are candid in their discussions, which benefits both the colleges and industry. Colleges get fresh insights that allow them to keep pace with a constantly evolving industry landscape. Likewise, industry—via frontline managers, human resources representatives, and others—can quickly access information about students, allowing them to fill talent needs quickly.

Community Colleges and Employers Coordinate Their Activities

The literature emphasizes meaningful coordinated action among partners as a promising practice and a sign of a strong partnership. Effective partners develop activities together and implement them jointly, or at least with some robust level of coordination.

Promising Practice
Component:
Partnerships

*Coordinated activities
between colleges and
industry*

Partnership Activities Often Focus on Short-Term Needs Rather Than Building a Longer-Term Partnership Vision and Strategy

Community colleges and employers engage in coordinated activities. But the type of activities tends to be distinct and designed to meet very short-term outcomes instead of a strategic vision for promoting student employment. Some of the activities employers engage in at the request of colleges include recruiting students; providing work-based learning experiences for students, such as simulations, labs, field trips, internships, clinical rotations, and paid and unpaid work experience; helping find certified instructors; participating in career day; serving as guest speakers in the classroom; provisioning equipment; discussing hiring needs, skills, and competencies; and reviewing curriculum. Many of the activities (such as career fairs and workplace tours), although relevant, address short-term goals and seem limited in duration and depth. This may be because colleges and employers (with few exceptions) do not clearly define the overall mission and goal of the partnerships, the changes to be accomplished locally, and how such partnerships fit into the full spec-

trum of community college and employer local and/or regional activities. Few community colleges work with intermediary organizations that are experts on the local business landscape to receive assistance for developing and maintaining relationships with employers. It is difficult to determine the extent to which these efforts (1) translate into coherent and sequenced activities that work toward strengthening the partnership and (2) result in improving employment outcomes.

The Few Colleges That Adopted a Strategic Approach to Building Industry Partnerships Jointly Developed and Implemented Activities with an Eye to Improving Employment

Those colleges with strategic approaches involve employers in a more meaningful way and in activities that are likely to affect employment outcomes. For example, the petrochemical program curriculum at San Jacinto College was revamped as part of the college's efforts to make the programs premier and to develop the facility. Eighty people from the college and industry worked together to customize the 35 facilities and develop 77 courses. Industry members were on the ground daily during the development and implementation phases. Industry partners also worked with the math department to redesign math courses to make them relevant to the program and ensure student attendance and success. This involvement and alignment, according to one college director, has led to 70 percent of the students being employed in the field. The remaining 30 percent are employed in a different field, not because of lack of skills but because some younger students change their mind about the career that they want. At Austin Community College, the school's strategic vision to focus on partnerships with high demand industries resulted in the development of its Career Scholars program, in which companies and the college jointly pay student tuition. The companies give a \$2,000 scholarship, and the college matches with \$3,000 to cover its two-year associate degree tuition. The companies not only are providing financial commitments but also are making hiring commitments. Although the program is still small, there is a vision to increase it over time. Other internships at the college are also evolving into part of a hiring sequence for companies.

One College Developed a Technology-Based Tool to Engage Employers as Partners

In one case, we observed a college that developed a more-rigorous and more-formal process for engaging employers: TSTC's SkillsEngine Calibrate tool, which engages industry subject-matter experts in web-based validations of the skills required in their industry (SkillsEngine, undated). College faculty and employers can then review programs against these skills to identify gaps and recommend updates to align programs with industry needs. This more-detailed and more-accountable system complements the use of advisory committees and other relationship-building strategies.

Colleges That Engaged in Strategic Planning with Employers Shared Their Resources

Promising Practice
Component:
Partnerships
Use combined resources

We observed that the colleges that were strategic in their partnership-building with employers shared or pooled their resources toward the partnership and activities. This includes, as discussed earlier, sharing resources and time to pay student tuition in programs that are designed to meet a high industry need or sharing resources with employers to help with the design of facilities or labs and to help revamp curricula.

Colleges Vary in the Extent to Which They Engage in Efforts to Sustain Partnerships with Industry

Promising Practice
Component:
Partnerships

*Sustainability and
institutionalization*

Other promising practices found in the literature are to sustain collaboration between the partners, institutionalize practices that result from the partnerships, and have adequate staff and resources to ensure sustainability.

As discussed earlier, many of the partnerships between colleges or programs and industries rely on an individual's connection to an employer. This is likely to limit the ability of partnerships to develop or even cause partnerships to atrophy, especially in cases in which the partnership may be new. One reason partnerships may be vulnerable to staff turnover is that tasks within the partnerships often fall to specific individuals, and when they leave the organization or assume different roles, relationships between partners can languish.

Making partnerships has not been institutionalized. We are working on ways to improve that. We had someone who helped with making employer connections . . . but she has been away a year now. The efforts for partnerships are due to existing efforts from faculty. (Interview with a college leader)

The colleges that took more-strategic and more-regional approaches to building industry-specific partnerships were successful in maintaining and growing the relationships. These colleges and consortia developed (1) a structure of ongoing communication with industry that led to industry support and (2) a shared vision of the partnership. Jointly, they developed and successfully implemented such initiatives as building industry-specific facilities, aligning curriculum and credentials with industry needs, and establishing scholars programs. Although these initiatives might have started by passing bonds or securing seed money, the initiatives and communication structures were institutionalized so that their continuation was not dependent on seeking new funding sources.

We also saw a few programs succeed in sustaining partnerships with employers. Those programs tended to be customized to employers. For example, the automotive program at one of the participating colleges structured its stackable credentials around specific motor companies that served the local area and region. These partnerships are sustained through memoranda of understanding.

Finally, respondents from a few colleges in California indicated that the Strong Workforce Program provides them with a continuous funding stream to build partnerships or maintain some of their partnership activities. However, the colleges do not have clear plans on how to continue with their activities if such state funding were no longer available.

Colleges Employ Informal Monitoring Activities, but There Is Little Evidence of Establishing Formal Systems to Hold Industry Partners Accountable

Promising Practice
Component: Partnerships

Monitoring and accountability

There is a broad consensus in the literature that the development of mechanisms for accountability is essential for a partnership's success because such mechanisms give all partners a stake in the outcome and enable midcourse corrections when and where necessary. During interviews, we asked respondents to describe any mea-

asures and reporting systems they used to promote accountability among the industry partners that colleges engage with. Although those interviewed recognized the need to monitor and track partnership outcomes, interviewees pointed to a lack of clear and consistent indicators for holding industry partners accountable beyond examining employment outcomes (if data are available). However, monitoring industry partners for the purpose of reassessing the appropriateness of the partnership goes beyond looking at employment data. It requires collecting data on (1) the partner's agreed-to involvement with and implementation of activities and (2) the outcomes that are predefined by the partnership goals. Our interviews indicated that there is little in the way of established infrastructure or protocols for reporting, monitoring, and sharing data. One of the colleges requires advisory committee members to use a template to document activities in detail, including whether they were implemented and their progress. A few other colleges are in the process of establishing a central system that documents all industry partners across all offices and programs as a first step toward getting a sense of who the partners are. However, there was no mention of putting in place a system for monitoring those partnerships in terms of how they are developing and whether they would need to be managed differently or even reassessed.



Response to State Policies and Supports

4

Responses to and use of state policies and incentives

How are colleges and/or employers responding to these state policies and incentives? In what ways are the state efforts helping and/or hindering student transition into jobs and meeting employer needs?

In an earlier section, we reviewed state policies and supports. Here, we address the fourth research question by reflecting on how colleges and employers are responding to these policies and supports.

Some State Funding Formulas Support Workforce Development Education, but Incentives Appear to Be Weak

California dedicates a specific funding stream, *Strong Workforce*, to support workforce development education. Colleges and regions have very wide discretion in terms of how they use the funds in support of workforce development education. For example, colleges use the funds to purchase equipment and to hire staff positions to provide career services or coordinate workforce development education more generally. Regional initiatives include shared professional activities and joint purchases of college licenses for job search platforms.

Although a small portion (17 percent) of this funding is allocated according to student outcomes, many of our California respondents told us they considered the allocation method opaque and did not seriously consider that their local actions to improve student job placement would result in increased funding in the future. As we discussed in the previous section, the fund also supported statewide and regional directors who were assigned to cover key industry sectors until 2021. These positions were viewed as ineffective and have been discontinued.

In Texas and Ohio, each state makes some adjustments to community college funding in fields that may be in demand. However, these formulas are not based on student employment outcomes, so any incentives provided are likely to be weak. TSTC in Texas provides the only example of an institution that is funded heavily based on its graduates' labor market outcomes. As we discussed earlier, the effects of TSTC's funding formula seem to cascade across decisions and behaviors throughout the college.

COVID-19 Relief Grants May Stimulate Longer-Term Strategy

As we described in Chapter Three, states received CARES Act funding to address workforce development during the COVID-19 pandemic and, in some cases, allocated this funding to community colleges to increase enrollment in short-term workforce development education programs. Respondents from one of our Texas colleges indicated that they received such funding. That college applied these funds to reduce tuition for

certain continuing education programs that have a high relevance to local labor market needs. The college representatives indicated that they are seeking to develop a longer-term strategy to sustain such tuition reductions in the future.

Other colleges may also be thinking along similar lines, but because of the timing of our interviews and the evolution of responses to the COVID-19 pandemic, we did not address this issue specifically with most of our study colleges.

State Accountability for Partnerships and Services Is Absent

As noted in Chapter Three, we identified no policies on state-level accountability for the formation of employer partnerships or the delivery of career services across the three states we studied. We also did not observe even informal accountability mechanisms through our case studies.

Limited Evidence of State-Provided Labor Market Tool Use

We saw no evidence that the state-provided tools described in Chapter Three are used at any of our colleges to understand labor market demand and supply. Instead, representatives of some colleges said that they license commercial tools, which they find much easier to use. They use these tools to consider opening new programs and to expand, reduce, or close existing programs.

Employment Data Are Sometimes Available, with Limits

College representatives, especially in California, reported using state-provided data on employment outcomes. As noted earlier, much of these data come from matching student records to the state unemployment insurance system, which requires Social Security numbers. Because Social Security numbers are not required (and, for some students, are not available) for student records, these data represent partial coverage at best. By the time colleges receive the reports, they cover students who graduated four years earlier, limiting the value of making rapid program adjustments to meet labor market needs. To fill this gap, the California Community Colleges Chancellor's Office supports a survey of graduates from workforce development education programs at all state community colleges (noted in Chapter Three). Although several respondents said that they tried to use these data, they raised concerns that the survey has a low response rate, reports earnings using self-reporting with no verification, and has a one-year lag after graduation.



Barriers

5

Challenges to career service provision and partnerships

What are the challenges for providing career services and for establishing and maintaining partnerships? How has the COVID-19 pandemic affected services and partnerships?

Research question 5 prompted us to identify the barriers that institutions face when building partnerships and delivering career services. Our analysis revealed several challenges including competing missions, competition among colleges, staffing and turnover, capacity, bureaucracy, and COVID-19. We also found that community college capacities and resources, including staffing and administrative structures, can act as barriers to the implementation of the partnerships and the provision of career services.

Colleges Are Torn Between Transfer and Workforce Development Missions

Some of our study colleges appear to face tensions between their transfer and workforce development missions, in that college leadership places greater focus on students who are preparing to enter a four-year institution rather than seeking employment while enrolled at the community college. Indeed, some respondents highlighted that focusing on the transfer mission can make workforce development education and related career services seem like a lower priority for administrators and—through the example they set—for faculty, staff, and students. Career services may not be seen as a campus priority at these institutions.

Colleges Compete for Building Industry Partnerships

Colleges are competing for workforce training with private training companies that can pivot with relevant training faster and therefore respond to employer's needs faster, and colleges increasingly are competing with each other and with four-year institutions, which are recognizing the value of adding workforce development to their mix of offerings. In states such as Ohio, colleges also are competing with state-funded training centers. Thus, many institutions, especially those in urban areas, are approaching the same employers to develop partnerships. A nursing dean indicated that although they traditionally build relationships with hospitals, they expanded their reach to include private facilities in order to place students into clinical rotations as competition with other colleges and four-year universities increased in regard to accessing employers. Now more than ever, colleges must therefore offer a compelling value proposition for employers to want to engage with them, both at the outset of a relationship and as it evolves over time. They need to prove that the partnership can deliver the talent that employers need in an efficient and effective way and that the relationship will be mutually beneficial.

When Employers Do Not See Benefit from Relationships with Colleges, They Are Reluctant to Invest Their Time or Resources

Some employers do not perceive a mutual benefit from these relationships and are reluctant to prioritize engagement with colleges. As one program leader put it,

We try to work with our partners to help them appreciate that they have to show some value to our students ready for employment, they have to appreciate the program. That communication is not simple. We have had the conversation over and over again. The ones that get it are invaluable partners, the ones who don't get it won't even take our students as unpaid interns. (Interview with a program leader)

Another issue raised by a few employers is that educators sometimes speak “an education language,” making it more difficult to buy into the mission of the partnership.

Partnerships Are Overly Dependent on Individuals

A theme that emerged across many interviews speaks to the need for colleges to move away from relying on personal connections (in both directions) to build strong partnerships with industry. Although such personal relationships open doors, there is a risk that the relationships may eventually fizzle out if the individual at either the college or the employer leaves. One reason such partnerships may be vulnerable is that tasks within the partnerships often fall to specific individuals at the college and employers; when these individuals leave the organization or assume different roles, relationships between partners can languish. Turnover can also limit the ability of partnerships to develop or even cause existing partnerships to atrophy, especially in cases in which the partnership may be new and highly dependent on individuals. Without systemic documentation of what previous staff did to inform the staff hired in subsequent years, challenges mount for sustaining the partnership.

Limited Staff Capacity and Resources Reduce Partnership-Building and Delivery of Services

Building strong partnerships between colleges and employers creates pressure to dedicate staff, time, and other resources to numerous initiatives, entailing multiple meetings and significant coordination and consensus-building. Colleges vary in the extent to which adequate resources and staff are dedicated to building partnerships and connecting their students to jobs.

I would like to have a dedicated staff member to facilitate this work. In the past 10-15 years that man who ran it had a full-time secretary. Everything has been scaled down a bit which makes it challenging . . . there are not enough resources or clear leadership vision. (Interview with a program coordinator)

This lack of staff affected employer outreach and relationship maintenance. Further, most colleges do not have a system that enables people to be responsive to employers, such as a system that stores employer contact and background information, prompts staff to respond quickly to inquiries, and helps schedule regular touchpoints.

Career services interviewees also suggested a lack of adequate resources. Some colleges reported that their team is too small to serve students, which resulted in serving fewer students and spending less time provid-

ing career related services to them. This also affected the ability of career services to market itself to students and employers.

Bureaucratic Structures Slow Responses

Interviewees at a few colleges indicated that their bureaucratic structure is not conducive to the development of relationships with employers or the provision of career services. An interviewee at a college noted that their standard hiring processes sometimes create unnecessary delays in bringing in staff in a timely manner to support career-related services. A few other interviewees said that “red tape” slows how responsive they can be to employers in changing curriculum in a timely manner.

[Curriculum] has to go to a curriculum committee, academic senate, board of governors, and other groups for approval . . . that needs to change quickly [to be responsive to employers].” (Interview with a program dean)

If an industry partner wants to see a skill set or wants to see new equipment, unfortunately we do not have the ability to respond quickly . . . flow of feedback from employer to advisory committees is a loop where we adjust our course materials, but it is not instantaneous. (Interview with a college leader)

COVID-19 Affected the Delivery of Career Services to a Great Extent and Partnerships to a Lesser Extent

For many colleges, the COVID-19 pandemic affected their career-related services as they shifted to an online format. Some respondents indicated that fewer students are reached. For example, fewer students attend online job fairs. Other recruitment strategies, which involve employers coming to campus by themselves to hire students, slowed down. Interviewees reported that this resulted in fewer students hired. Other events that bring industry and community partners to the table to have conversations with faculty or that provide opportunities for students to tour facilities have also been curtailed. The availability of internships was affected because employers for many industries are not amenable to having students conduct their internship online. Of course, this also varies by industry. Internships were not affected for information technology programs because employers figured out ways for students to do their work from home. Similarly, automotive programs continued with their internships because automotive technicians are considered essential workers. For other programs, such as allied health programs, the availability of clinical rotations is reduced because hospitals do not allow students on premises. Some colleges use their simulation labs as a replacement for the internship; others create virtual projects with students.

Respondents from one college indicated that although student participation in employer-related events is reduced as a result of COVID-19, students are more able to make virtual appointments with career services because they do not have to worry about childcare.

Although our interviews did not highlight equity issues in terms of the effects of COVID-19 on access to career services, it may be that low-income students do not have reliable access to computers or the internet at home, thus affecting them disproportionately.

Finally, respondents from several colleges indicated that the COVID-19 pandemic resulted in increased advisory committee member participation, since many employers are working from home and are able to find the time to connect over the internet.



Summary of Strengths and Gaps

6 Strengths and gaps

What are the strengths and gaps in partnerships and career services?

Community colleges are tasked with both preparing students to transfer to four-year institutions and providing workforce preparedness to support students' pursuit of careers that meet regional and statewide employment needs. Although many colleges traditionally emphasize transfer programs, they are increasingly expanding their workforce education offerings, embedding them in career pathways, and aligning them with labor market needs. Colleges are also recognizing that they have an important role in connecting students to employment opportunities for upward economic mobility. To improve student employment outcomes, colleges need to develop strong partnerships with employers and improve career services. In fact, these two aspects of community colleges are interrelated. Strong and sustainable partnerships with employers are likely to improve career services to students. For example, good partnerships are likely to improve program relevancy and alignment with labor market needs, increase internship opportunities, and provide more up-to-date information on workforce needs and job availability as students are onboarded.

In our study, we found that the level of partnership development and career services programming varied substantially across our colleges. Some of the colleges have adopted promising restructuring approaches for building stronger partnerships with employers and for providing career services to their students for improving employment opportunities. These colleges reorganized structures and services at scale to benefit all students.

We did not observe many differences in building partnerships and the provision of services across fields, except for licensed fields, which are regulated by government or professional associations. For example, programs in nursing, physical therapy, and fire science have stronger partnerships with employers to provide the clinical rotations and field experience required for licensure. Without these partnerships, such programs risk losing their accreditation and closing.

We found that the drivers of good partnership and the provision of relevant career services rely on (1) the approach that college or program leaders take to engage the industry, (2) the capacities of colleges and industries to engage meaningfully with each other, and (3) labor market demand. Colleges in rural areas face more challenges in building strong partnerships because the number of businesses and job openings are small, and colleges have fewer resources and capacity to engage employers strategically.

Main Strengths We Observed

Many of the colleges struggled in building strong relationships with employers. But we observed a few that were successful and highlight their approaches in this section.

A Few Colleges Incorporate Workforce and Economic Development Priorities in Their College's Overall Strategic Vision

The few colleges we observed building strong partnerships with employers prioritize workforce and economic development as a first step and view employment outcomes as an indicator of their institution's success. These colleges include workforce goals in their college-level strategic planning and require that their graduates earn, at a minimum, a family living wage as one of their strategic goals.

These Colleges Establish College-Wide Offices for Strategic Employer Partnerships and to Support Partnership Development

These same colleges also created new offices that report directly to college chancellors and/or presidents to help leadership focus on the most relevant partnerships and to identify partnership gaps and new employers to approach. They recognize that the development of partnerships should be targeted because of limited resources. The offices are tasked with analyzing labor market needs and identifying which areas the colleges should support that would be mutually beneficial to the college and employers. They use data from their state agencies, third-party technology companies that provide labor market information, job postings, and interviews with employers. As part of this effort, such offices conduct analysis of their internal processes and capacities to ensure they can deliver what is needed to employers. The leaders of these offices are carefully selected. They have political clout, understand college and employer cultures, and have the capacity to navigate both cultures. They also provide support, when needed, to career pathway-level or program-level leaders to help them access strategic employers and develop partnerships at the program level.

One College Restructured Its Advisory Committees

We also observed one college restructuring its advisory committees to include a two-tiered structure; the first tier includes CEOs, and the second tier includes employer operational and human resource staff. The CEO committee has direct communication with college leadership and collaborates on developing a strategic vision of the partnerships, while the operational employer staff works closely with faculty to implement the vision agreed on by the college and CEOs. Employers under this restructuring are involved as strategic partners and are considered trusted providers and collaborators.

Regional Consortia Enable Strategic Approaches

A promising approach to restructuring that involves employers is the establishment of regional consortia. This approach includes multiple colleges and employers that serve a specific regional area with common labor market needs and similar contexts. Under this approach, we saw employers, workforce development boards, and colleges act as full strategic partners by (1) identifying industry-specific regional labor market issues, (2) agreeing on the approaches to take to solve the issues, and (3) creating a sustainable communication structure among colleges, industry, and workforce development boards, independent of programming or continued funding.

These different forms of restructuring have resulted in the closing or consolidating of certain workforce development education programs and in redesigning programs into career pathways and frameworks that provide students with a clear blueprint for both educational and employment advancement within their local and regional labor market.

The advantage of regional partnerships is that they allow colleges, especially those in rural areas, to pool resources with other colleges in the consortium to align their curricula and create pathways. Students then

can take courses across colleges to complete their program. This reduces competition among colleges, may reduce student access inequities, and avoids unproductive duplication of programs and courses.

Strategic Approaches Make Close Links Among Students' Programs, Their Career Decisions, and Labor Market Needs

We observed some colleges restructuring career services so they are embedded in guided pathways or workforce development programs or student affairs and enrollment offices. Career services at a few colleges were supported by their newly established offices for strategic employer partnerships development and internship expansion efforts.

A common objective of these redesigns is to ensure that students are provided with career services on the first day of enrollment and throughout their college experiences. For example, one of the colleges in our study moved career services functions under student affairs and enrollment. The college structured it that way because most students who enroll in the college have not made decisions regarding their majors and careers. This structure helps the college's onboarding efforts: specifically, by making the links between careers and programs to its new students. Another college established an office for internships that is housed under workforce development as a way to (1) work closely with workforce development education program leads in building partnerships, (2) provide those leads with support, and (3) expand internship and apprenticeship opportunities.

Colleges that have adopted guided pathways embed career services functions within meta-majors or career communities to replace what was often a set of disconnected and optional activities with a coherent series of curricular and co-curricular experiences. This enables students to explore career and program options; build relationships with faculty and industry professionals in fields of interest; and create an education plan that is connected to their career goals. This also increases communication between faculty, academic advisers, counselors, and navigators that facilitates their monitoring of student progress toward education and employment outcomes relevant to the student's field of study. Embedding such career services functions closer to the program level allows academic advisers, careers counselors, and navigators to become specialized in a given meta-major or career community. Further, it allows them to have a close relationship with program heads and be up-to-date on any programmatic changes, related careers, or changes in labor market needs, which helps them be better prepared to have career-related conversations with students.

Strong Partnerships Expand Work-Based Learning

Strong college-employer partnerships increase work-based learning opportunities, such as internships. In one program, employers agreed to provide early internship opportunities so students can experience the workplace firsthand in order to confirm their program and career decision. Early internships are used as an onboarding strategy because they allow students to reaffirm or reconsider their decision at the beginning of their program rather than when they are close to graduating.

Strong Partnerships Promote Employer Engagement Through Financial and In-Kind Contributions

Strong partnerships encourage employers to invest financially to provide scholarships to students in specific workforce development education programs and commit to interviewing them for jobs after they complete the program. Employers and industry also intensify their efforts to expose students to their experts by serving as instructors or guest lecturers and by delivering job search and placement supports to career pathways students.

Main Gaps and Barriers We Observed

Our findings show that community colleges engage in coordinated activities to improve the employment outcomes of students. The most common ways in which community colleges involve industry partners is by asking them to (1) participate on advisory committees and review and provide feedback regarding hiring needs, skills, competencies, and curricula, (2) participate in career fair days or mock interviews, (3) serve as guest classroom speakers, (4) provide jobsite tours to students, and (5) provide limited internship opportunities.

Although these coordinated activities are relevant, they are not part of a larger strategic vision of improving employment outcomes. They are limited in duration and depth and address only short-term goals. Although there is no indication from the interviews that career services are not made equally available to all student groups (even during the COVID-19 pandemic), the short-term focus is likely to be inadequate to address long-term equity issues, such as diversifying industry-specific workforce pipelines to include more-equal representation by gender, race, ethnicity, and income level.

Most Colleges Face Challenges in Building Strong Partnerships with Employers, in Part Because of a Lack of Capacity and Support

This finding is not unique to the study colleges. Community colleges, in general, struggle in developing strong, sustainable partnerships with external organizations. For our study colleges, there are a variety of factors that affect partnerships. In part, many community colleges do not have adequate time, staff capacity, or access to the needed data to engage in strategic planning with employers to identify long-term goals for building and sustaining partnerships, strengthening career services, and improving employment outcomes. Thus, many colleges do not target their efforts and direct their limited resources toward building partnerships with the employers that would be the most meaningful. There are limited discussions with employers to try to define a common problem and the approach both types of institutions would take to address the issue in a way that is mutually beneficial. Even colleges that have state funding streams (e.g., the Strong Workforce funding mechanism in California) to support the establishment of strategic partnerships with employers struggle. These colleges could benefit from technical support provided by the state or other entities to help them build strong and sustainable partnerships and set up a system for monitoring the partnerships.

Connections with Employers Are Diffused, Undermining Engagement

Making connections with employers tends to be diffused throughout the colleges and is led by various individuals—such as career services staff, workforce development education program leads, navigators, and faculty—without much coordination among the individuals within the colleges regarding which employers are being approached and for what reason. Further, this dispersed approach has resulted in partnerships that involve employers through tangential rather than core activities. There also is limited evidence that the community colleges and employers engage in efforts that would sustain and strengthen the partnerships over time. Our interviews suggest that the lack of formal structures to institutionalize relationships leaves the partnerships highly dependent on individuals. Indeed, we heard of several cases in which colleges raised concerns about how to maintain the relationships after key individuals retire or leave their positions. Although some partnerships designate or appoint a person to coordinate their efforts, the lack of institutionalization of partner relationships and roles means that the individuals who are responsible for coordination are granted insufficient authority, resources, or scope to establish structured and formal relationships.

Work-Based Learning Opportunities, a Gateway to Employment, Are Constrained by Weak College-Employer Partnerships

As discussed earlier, the type and duration of certain career services are affected because the design of such services, or their availability, is dependent on building strong partnerships with industry and employers locally and regionally. For example, most STEM and STEM-related programs we investigated, except for licensed programs, do not have adequate internship opportunities. Some colleges are interested in pursuing registered apprenticeships, but such a model requires even more tight knit partnership with employers because students would need to be simultaneously enrolled in college and employed at a specific company, which requires hiring and financial commitments from employers. Although many colleges have adopted technologies for employers to post their jobs and internship opportunities, uptake of such technologies among employers and students has been substandard.

Colleges That Use a Traditional Model to Deliver Career Services Lack Capacity and Struggle to Provide Industry-Specific Services

These colleges tend to provide generalized services that do not necessarily distinguish well between students who want to transfer to four-year colleges and those who are seeking employment. For example, interviewees suggested that resume writing is not customized to the specific industry and that onboarding activities are not focused or made relevant to the programs or careers students might have decided on.

In addition, the number of staff designated to career services under the traditional model tends to be small, and such staff are unrealistically expected to keep up-to-date on information related to all programs and their related careers.

Although Colleges Invest in Technology Tools for Student Onboarding, the Tools Fall Short

Many of the commercial tools that colleges use for student onboarding and career exploration do not reflect the lived experience and real-world needs for advising local students and job seekers. Although such tools offer an abstract “vision board” of possible career options, they do not lay out a concrete roadmap of employer-vetted career pathways.

Colleges Struggle in Marketing Their Services and Customizing Services to Various Student Groups

We also find that staff have difficulty marketing career services to all students, especially under the traditional model, and students therefore are not optimally using these services. This is in part because many of the career services are made optional to students. Further, colleges tend to provide the same services to all students groups without adequate attention to the needs of students of color or students with disadvantaged economic backgrounds.

Colleges Generally Lack Monitoring and Accountability

Finally, colleges do not have monitoring and accountability systems to carefully track which students receive career services, when they receive these services, and what types of services they receive. This limits the extent to which colleges can improve the quality of their services and ensure all student groups have equal access to the services.



Recommendations and Conclusions

7 Ways to improve effectiveness

What policies, practices, and resources are needed to improve career services and increase the effectiveness of the partnerships?

Using our research findings and summary of the strengths and gaps among colleges, we provide recommendations on how colleges can improve partnership development and career services, followed by recommendations on how states could support colleges in facilitating student employment. In our recommendations, we highlight interventions that incorporate promising design components, as identified in the literature review.

Developing Partnerships

We developed the following recommendations for improving practices to establish and sustain partnerships between colleges and employers because we found that many of the study colleges had difficulty approaching partnership-building strategically and lacked a system that kept track of who is involved in partnership-building.

Create a Strategic Vision for Partnerships

We recommend that colleges create a strategic vision for the development and establishment of partnerships for workforce development education programs that highlights the college's goals for these partnerships and the actions the college will take to reach those goals. The vision needs to be communicated throughout the college to ensure a shared understanding and to make certain that colleges are making decisions according to this vision. Having a well-articulated vision will help inform the selection of employer partners with the capacity and mission to meet shared goals. Strategic planning in regard to these partnerships could be incorporated into the college's business planning and forecast processes to help the school determine the extent to which it has the right partnerships to execute activities to meet its business goals. Strategic planning will also help ensure that partnership-building and partnership-sustaining activities are adequately resourced and consistent with the overall direction of the college.

Include All Partners in Strategic Planning

We also recommend that community colleges engage employers when establishing a strategic vision. Strategic planning could be a useful tool to establish effective partnerships because it allows community colleges and employers to collaboratively (1) define the vision of the partnership and its goals, (2) delineate how meeting these goals would benefit all entities, (3) identify coherent activities that will achieve the vision, and (4) negotiate roles. Involving employers in meaningful ways will make them more likely to sus-

tain the partnership and engage in activities that are central to improving career pathways. Such strategic planning does not mean specific programs or programmatic leads cannot pursue their own partnerships, but those partnerships would also need to be aligned with the college's overall strategic vision and well-coordinated through a strong communication structure.

Take an Inventory of Current and Potential Partners

A cornerstone of any strategic vision for partnerships should be the strategic review of current partnerships to identify which ones have been central to the college's efforts and which are tangential. This review would also identify whether new partners are needed. This review could be done by creating a spreadsheet that includes all partners (which some colleges have started putting together) and the grants or initiatives each partner has been involved in and listing possible future roles these partners may have as part of the strategic vision mentioned above. This exercise would help colleges determine where to invest their limited resources. Updating this assessment periodically could help the colleges identify outreach needs well in advance, allowing adequate time for outreach and the development of new partnerships.

Create a Rubric for Developing, Managing, and Reflecting on Current and Future Partnerships

Developing and managing strong partnerships is likely to be a continued desire and challenge for colleges. Colleges would benefit from creating a simple rubric to assess and monitor the development of future partnerships. This rubric should include the six key dimensions for effective partnerships presented in this report, as follows:

1. the establishment of structures that are conducive to building partnerships
2. leadership encouragement of joint decisionmaking
3. coordinated action among partners
4. the use of combined resources
5. sustainability and institutionalization
6. monitoring and accountability.

College leadership could then use the rubric to assess how a partnership will address each of these key practices. At periodic reviews of the partnership, leadership can use the same rubric to assess how the project is performing in terms of each practice and identify areas in need of attention to strengthen the partnership.

Develop Procedures for Systematically Documenting Partnership Activities

Because partnership development often relies on an individual, the sustainability and continuity of such partnerships are threatened if the individual leaves the college. Community colleges would benefit from implementing procedures to systematically document their partnership strategies for each initiative. There are two levels to the documentation: (1) the conceptual-level information on strategies, goals, objectives, and the activities to meet the objectives and (2) the partner-level information about the partners involved, a summary of discussions, agreed-to activities and their implementation status, and changes to activities. The documentation would provide new staff with key information about ongoing partnership initiatives to ensure continuity and reduce any missteps.

Invest in Activities to Promote Employer Buy-In

We recommend colleges adopt more-proactive approaches to communicating with employers to understand the importance of partnerships, how these partnerships work, and how they could strengthen the talent pipeline for employers and the local economy in which they operate. This will promote buy-in and support.

Enhancing Career Services

The following recommendations are designed to inform career services improvement.

Design and Market Services to Reach Students, Including Low-Income Students and Students of Color

Our interviews show few career services practices that are specifically designed to address the needs of students of color and low-income students (e.g., pairing with a mentor for career exploration). We recommend that colleges increase their efforts to design and market their services in a way that distinguishes between the needs of different student groups. For example, students with different cultural backgrounds might trust information from different sources. It is critical for colleges to involve a student network that is trusted to disseminate information about the importance of career services and to help with referring students to become career ready. Colleges can also invest more in coordinating marketing of and referral to career services among career services offices, other student services, and pathway or program staff and faculty. Coordinated marketing can reach students across demographic groups and career pathways.

Create Career Road Maps That Delineate Career-Related Activities

Interviews suggest that only a small portion of students use available career services aside from mandatory services, such as career exploration and onboarding. Although services are available, colleges have difficulty encouraging students to use them. Further, the students that do use these services tend to use them just before they graduate. Colleges should be intentional in their provision of services so that these services are provided at critical points in their programs. Specifically, colleges could develop career road maps that list various career-related activities that students are encouraged or even required to participate in at different stages of their program to encourage students to access career services and maximize employment readiness by the time they graduate.

Develop New Financing Models to Institutionalize Partnerships

Our interviews indicated that colleges and employers have difficulty with institutionalizing partnerships. The literature indicates that using combined resources among partners to pursue common goals strengthens partnerships because organizations have more “skin in the game.” We recommend that colleges invest in new models to finance education for students who are interested in workforce development education programs that lead to jobs that are in high demand. Such models have promise in improving low-income student enrollment in workforce development education programs, which lead to in-demand and high-paying jobs and promote job placement after graduation. The models, however, require financial investment from both colleges and employers. Thus, we recommend designing such models on a small scale to demonstrate outcomes that are agreed to by both the college and employer before scaling up and institutionalizing the program.

Promising intervention: Tuition reduction. For in-demand jobs, community colleges and employers jointly establish a scholarship program in which the employer and the college share student tuition. In this model, students also are provided with wraparound services and counseling to complete the program, and employers commit to providing internship opportunities and hiring the scholars. When funding is limited, focusing on short-term programs may be a cost-effective use of funds.

Promising intervention: Employer repayment of education costs after hiring. Instead of, or in addition to, reducing tuition up front, colleges could work with employer partners to offer incentives after employers hire students in targeted programs. These incentives could take the form of the employer repaying a student's education loans over an agreed period that the student works for the employer. Making internships central to such design can also deepen student and employer commitment to program completion and hiring.

Invest in New Approaches to Onboarding

Our interviews indicated that colleges are investing in onboarding approaches. Many of the tools used provide only basic information on careers and wages that might hinder the success of such approaches. A few colleges have implemented new onboarding practices that have promise. We recommend that colleges experiment with such tools to help students explore or affirm careers and programs of interest. Below are a few suggestions.

Promising intervention: New technology-based tools that include career pathways information, defined through strong partnerships between community colleges and industries. Although community colleges have licensed third-party technology tools that provide information on careers and local or regional openings and wages, such tools do not organize occupations within detailed career ladders or pathways, nor do they connect them to educational training needs and skill development. Further, information included in such tools is not validated by local and regional employers. We recommend colleges invest in tools that would highlight links between skills, credentials, and training opportunities to move into industry-specific jobs and that would delineate the potential for career mobility and increased wages. Such a tool has the potential to improve career choices and knowledge of related employment opportunities. Students will be able to see not only the first job they are likely to get but also the full career pathway, including additional education and training they need to progress to other jobs that pay well. Such a tool can support counselors when providing career guidance. Further, such technology could benefit first-generation college students and other underrepresented groups who have fewer resources in their families and communities to navigate the college experience.

Promising intervention: Integrating career services functions within a student's college experience. Colleges that have adopted a guided pathways model created academic and career communities for meaningfully integrating career service functions in students' career exploration process and progression in their academic programs. Although not all colleges are implementing guided pathways, we recommend that colleges implement a model that increasingly embeds career services within programs or, at a minimum, structures the services in a way that is closely coordinated among counselors, faculty, various offices of the college (such as internship offices), and local employers to provide holistic career advising proactively and in a timely manner to students and to connect them to jobs.

Promising intervention: Mentoring for career exploration. Although colleges have implemented career exploration activities within classes or through the optional use of tools, additional support from mentors might be beneficial for first-generation or low-income students. Students could be paired with a faculty mentor to learn more about the program and career by auditing a class session or visiting an employer site, thus facilitating informed and honest conversations early on about a student's program or career choice and whether it is a good fit.

Promising intervention: Early work-based learning opportunities. This intervention could be designed in a variety of ways. For example, colleges could provide a work-based learning program that new students would take before their first semester to gain firsthand experience regarding the types of jobs and related work they will perform after graduating. For specific programs, colleges could also provide early internships during the first semester. Both types of opportunities could help students affirm their choice of program and career early on.

Integrate More Work-Based Learning

There is consensus in the literature and among the study colleges that work-based learning (specifically, internships and apprenticeships) are gateways to employment.

Expand internship and registered apprenticeship opportunities. Respondents from our study colleges expressed interest in expanding internships and registered apprenticeship opportunities because they viewed these opportunities as gateways to employment. Some colleges even invested resources and established offices to focus solely on expanding such opportunities. In addition to such investment, we recommend colleges examine what resources are needed to facilitate expansion, including the availability of college instructors with technical expertise, an employer-mentor for on-site management, a dedicated site for work experience, and contract management for payment arrangement (for registered apprenticeships). We also suggest that planning should include realistic discussions with employers regarding their commitment and investment in terms of time and resources. These discussions should be framed within a larger vision of why such collaboration would be mutually beneficial to promote employer buy-in. Otherwise, employers will see costs in terms of time, responsibility, and employee productivity, especially early on when they are not yet sold on the benefits of the partnership.

Promising intervention: Establish industry-specific facilities. Although this program is resource dependent, colleges could establish industry-specific facilities and labs to simulate work conditions and provide immersive work-based learning opportunities to students on campus. Such opportunities could be structured in a variety of ways, which may include having industry partners and faculty jointly teach the lab sessions.

Optimize Structure and Capacity

Our interviews indicated that college structure and capacity could be barriers to developing strong partnerships. In this section, we provide a few recommendations to overcome such barriers.

Organize for success. We recommend that colleges assess their structures and make intentional modifications (through reorganization or by developing new offices) that support partnership development and the provision of career services. Colleges should also be attentive to the staffing that would be involved in these modifications. For partnership development, we recommend designating or hiring administrators who (1) complement the college's relationship-building efforts, (2) are well versed in strategic planning, and (3) can lead conversations about opportunities for collaboration with different types of organizations. It would help to have someone familiar with the postsecondary education landscape and the constraints faced by community colleges and employers. Ideally, these individuals would also possess an understanding of the terminology and concepts used by each organization to help achieve consensus and facilitate development of the shared vision. By engaging in concrete and intentional efforts to build partnerships, these individuals would help stakeholders understand each other's worlds and, by gaining their respect, would help build trust and develop the partnerships.

Consider establishing regional collaborations. Regional collaboration that includes multiple colleges, workforce development boards, and employers, if designed well, has great potential to overcome the challenges that community colleges face, from analyzing labor market need, to providing affordable education, to overcoming market competition with workforce training from private education institutions and four-year institutions. We recommend that colleges consider the following best practices for successful regional partnership:

1. Colleges, workforce development boards, and employers jointly articulate and address persistent systemic dysfunctions that have interfered with student success and employment in their region.
2. The regional consortium structure is designed independent of any particular piece of programming so it is not vulnerable to the disruption that can happen with the loss of a single funding stream or program.
3. Colleges, workforce development boards, and employers develop a communication structure to ensure continued interaction.

We also recommend that neither the colleges nor the industries that are part of the consortium lead the consortium. Instead, the director should be independent of the institutions, understand both college and industry organizational cultures, and have extensive experience in leadership to facilitate conversations among the partners to ensure all voices are heard.

Build capacity. We recommend that colleges analyze their bureaucratic structure and how such structures might pose a risk to building partnerships or to providing career services to students and investigate ways to mitigate such risks. For example, respondents from some colleges indicated that they need to hire additional staff to provide career services functions. One college, in particular, faced difficulties in hiring needed staff and had to find a way to bring in expert staff through different hiring channels. Respondents from several other colleges mentioned that some of their processes, such as changes to curriculum, delay responding to employer requests in a timely manner because of the amount of time it takes the college to process and approve the changes. We recommend that colleges further investigate their structure to uncover the extent of such problems; if there are widespread and systemic constraints, colleges could consider developing policies and procedures to address them.

Establish a Data Infrastructure System for Monitoring and Accountability

Most of the colleges in our study did not have a formal or mature system for monitoring and accountability. It is critical for colleges to have an effective data infrastructure for monitoring partnerships and career services provided to students. Although each system is distinct in the type of indicators and outcomes it measures, these systems have common features, including the following (Association of Private Sector Colleges and Universities, 2013; Ogawa and Collom, 1998; Porter, 1991):

1. **Common performance measures for assessing whether career services or colleges and employers are meeting their milestones.** The performance measures should be clearly defined by the college with input from internal and external stakeholder groups to ensure their buy-in. These measures must be useful and relevant to a variety of stakeholders at the community colleges because they are not only to be used for reporting purposes but also for stakeholders to monitor progress and identify the need for corrective action. If available, actual data on student employment by program are especially valuable.

2. **Timely data and reports.** The system should have the capacity to provide data and reports regarding the progress made in a timely manner to enable corrective action early on. Data and reports should be available and customized to decisionmakers at all levels.
3. **User-friendly interface.** The system should be easy to use and accessible and should not present significant challenges to basic information technology infrastructure.
4. **Accountability features.** In addition to using performance measures for monitoring purposes and engaging in corrective actions when needed, the system should define consequences if objectives are not being met.
5. **Automated features.** We recommend that the system be automated so that community colleges can enter data electronically into a centralized system and can access reports electronically when needed. The system should provide useful visuals that present easily digestible information summaries to assess progress against established benchmarks that are made according to performance and accountability measures.

Supporting the System with State Policy

According to our findings, states have a clear role to play to support student employment and satisfy labor market demands. Although we found that two of the states in our study use a community college funding formula that may provide incentives for partnership-building and improving student employment, these incentives are limited at best, and more state supports are needed.

Establish state standards and assistance for effective college-employer partnerships. States can support college-employer partnerships by developing standards for best practices that are consistent with the recommendations in this report. States can further support colleges and employers by providing technical assistance in developing and monitoring these partnerships according to these standards. And states can use monitoring and evaluation to hold colleges accountable for following the practices when awarding grant funds or allocating other funding streams.

Enable colleges to increase work-based learning opportunities. States can review their policies to ensure that colleges are not overly constrained in expanding internships and other work placements. States can also dedicate funding streams and technical assistance to expand these opportunities.

Develop systems to measure employment outcomes. Data-driven decisionmaking and incentives require high-quality data on student employment outcomes. States can develop policies to govern the matching of student and employment data, addressing obstacles to effective data matching. They can also support the systems needed to conduct matching and data analysis and report to colleges in a timely fashion so that state agencies and colleges can make better-informed decisions.

Support colleges in collecting and using local data on employer needs. States can provide resources and supports to colleges to help them develop local plans to collect and use data on employer needs in their region.

Change funding formulas to provide meaningful incentives. Instead of using funding formulas that are based mostly on enrollment, states could provide much-clearer incentives by incorporating student employment outcomes as a substantial portion of the community college funding formula.

Conclusion

There is an increased need for skilled workers in our economy. Partnerships between community colleges and employers are critical to support the number of candidates and skills needed for the labor market. Such

partnerships also are critical to enhance the career services that are provided to students. As we have shown in this report, partnerships and holistic career services can be challenging to design, implement, assess, and sustain. We recognize that some recommendations are more difficult to implement than others. We suggest that community colleges consider starting with the relatively easier recommendations. As indicated by our recommendations, there are many opportunities to improve future partnerships and enhance career services through restructuring, enhanced planning, capacity-building, coordination among all partners, and monitoring and accountability. There also is a clear role for state policy to promote these improvements.

Because colleges are lessening the distinction between workforce development and transfer programs through their adoption of such reforms as guided pathways, we highlight lessons that apply for broader institutional strategy. Colleges could reinforce and support our study recommendations through institution-wide change that places employment centrally within all programs and pathways.

Data Sources

Table A.1 provides details on the characteristics of the colleges in our study, and Table A.2 lists the number and type of stakeholders we interviewed.

TABLE A.1
College Characteristics

College Characteristic	Number of Colleges
Student enrollment (head count)	
Less than 10,000	5
10,000 to 20,000	4
More than 20,000	7
Geographic setting	
Rural	6
Suburban	4
Urban	6
Total	16

SOURCE: National Center for Education Statistics, undated.

NOTE: *Student enrollment* is a 12-month head count for the academic year 2017–2018. *Rural* includes rural, town, and small city campus locale codes. *Suburban* includes all suburbs. *Urban* includes large and midsize cities.

TABLE A.2
Stakeholders Interviewed

Stakeholder Type	Number of Respondents
College leader (president, vice president, nonprogram dean)	30
Career services or work-based learning professional (central or pathway, including internship)	26
Program leader or faculty (including program-level or meta-major dean)	41
Other college staff (institutional research, planning, consultants)	8
Employer or industry association	17
Regional coordinator	7
State or system leader	5
Total	134

Literature Review: Promising Practices in Career Services and College-Industry Partnerships

This appendix documents the sources we used to develop the specific indicators by which to analyze the data collected for this study. The indicators are summarized in Tables 2.2 and 2.3.

Career Services

Our review of the literature on career services included community college career services functions, career education, guided pathways, work-based learning, and limited evaluation studies.

Career Services Structure Facilitates Linkages to Workforce Development

According to the literature, a promising design for providing career services is

an integrated model of *customized connections and communities* that extends the responsibility of college employability beyond the walls of career centers, which typically exist on the periphery of the campus community, to an ecosystem that fully engages the entire university network of students, alumni, faculty, employers, families, and surrounding communities. (Dey and Cruzvergara, 2014; emphasis in original)

Career services are increasingly becoming decentralized and embedded in diverse academic and administrative locations, instead of being part of the traditional student affairs unit (Helbig and Matkin, 2021). The literature highlights two restructuring models for career centers: (1) housed separately and closer to top institutional leadership or (2) integrated more within workforce development units or guided pathways (Jenkins, Lahr, and Pellegrino, 2020; Nguyen, 2018). Under the first model, “colleges are elevating their career centers and giving their career services leadership increased institutional influence and the ability to convene internal and external stakeholders in order to help students leverage the power of the university network” (Dey and Cruzvergara, 2014). This model is likely to improve career-related services and student employment prospects (Dey and Cruzvergara, 2014; EAB, 2019). Under the second model, which involves embedding career services into programs, services will more likely be aligned with local and regional labor market needs. The benefits of using a decentralized structure when providing career services are that the services reach more students and are customized to align with industry needs (Jenkins, Lahr, and Pellegrino, 2020; National Association of Colleges and Employers, 2016). Further, such a structure will improve (1) the ability of colleges and programs “to provide employers with a customized recruiting experience that focuses on specific types of candidates in particular academic programs” at a college and (2) “the ability to focus efforts and resources on specific types of students and employers” (National Association of Colleges and Employers, 2016).

Provision of Localized Career Services

The literature indicates that career services should be provided to students throughout their tenure at a college (Association of Private Sector Colleges and Universities, 2013; Hanover Research, 2019). The following are the main components of career services:

- **Career coaching, advising, and counseling.** Providing coaching, advising, and/or counseling to assist students at any stage of career development.
- **Online and distance career services.** Providing current, valid, and reliable online resources for students to pursue their career goals.
- **Career information and exploration.** Making current and comprehensive career information accessible to students as they explore and make career decisions and assisting students in exploring career possibilities through testing and assessment.
- **Employment services.** Preparing job-search competencies, preparing students for resume writing and interviewing, obtaining information on employment opportunities, using social media effectively, and connecting with employers.
- **Experiential learning.** Providing experiential learning programs, such as internships and co-ops, to facilitate student employment (EAB, 2019; Hanover Research, 2019, p. 7).

Although the services mentioned in this list are important, they typically are implemented as a set of disconnected and optional activities (Jenkins, Lahr, and Pellegrino, 2020). The literature indicates that, for such services to be effective, they need to be more coherent, be brought directly to students, and be specific to a program or meta-major (Dey and Cruzvergara, 2014; EAB, 2019; Karp et al., 2021; Jenkins, Lahr, and Pellegrino, 2020). Specifically, career services activities should be structured in coherent series of curricular and co-curricular experiences that enable students to explore careers and program options; network with faculty, students, and industry professionals in fields of interest; and create an educational plan aligned with their careers of interest. This approach to career services is central to guided pathways reform, which organizes courses within meta-major or career community frameworks to fulfill academic requirements for a broad discipline or program grouping.

To maximize student reach, career services (e.g., career exploration, resume writing, job searching, employer workshops and fairs) would need to be embedded in student courses (such as first-year courses) and customized to the guided pathways or meta-majors or specific programs selected by students, which will allow students to obtain relevant and more in-depth career knowledge and skills related to programs of interest (Dey and Cruzvergara, 2014; Jenkins, Lahr, and Pellegrino, 2020). This also means moving away from providing career services through a “generalist” and instead hiring counselors or navigators with specific industry knowledge and assigning them to relevant programs or meta-majors (Dey and Cruzvergara, 2014).

Career Services Are Marketed for Optimal Reach

Although we did not find literature on marketing that specifically pertained to career services, the community college literature suggests that students (especially first-generation) are unaware of services provided by colleges, limiting their access (Holt and Winter, 2018). To make services more visible, colleges have been consolidating services in the same building or establishing one-stop offices where students can connect to a variety of services.

Exposure of Students to Meaningful Work Experience

Giving students real work experience is crucial because many students are unaware of the careers available to them. Such exposure can come in different forms—including hands-on project-based learning, internships and clinical rotations, and apprenticeships—that connect students to employers or industries they would not otherwise have access to (Davidson et al., 2019; Brown and Eyster, 2020). These opportunities allow students to get into the field, learn about the industry, and interact with industry equipment and workers (Cotner et al., 2021). They also could provide direct pathways to employment, strong mentorship, and a clear talent pipeline for employers. Although we did not find research on which types of work-based learning experiences are most effective, the literature highlights the characteristics of strong work-based learning experiences, including those that integrate work-based learning opportunities into program design, require that every student participate, and ensure that work-based learning is delivered through high-quality instruction (Davidson et al., 2019).

Monitoring and Accountability

The literature highlights the importance of monitoring career services provided to students at community colleges because institutions are held accountable for career- and employment-related outcomes (Helbig and Matkin, 2021). Colleges, especially workforce development education programs, increasingly are required to demonstrate their impact on the regional economy. This requires career services to quantify the outcomes of the college's efforts to guide students when making career decisions and provide them with the needed counseling and opportunities for employment. Career services thus should have a process in place to collect and review data to identify strengths and areas in need of improvement (Association of Private Sector Colleges and Universities, 2013; National Association of Colleges and Employers, 2018). Data sources could include

- administrative data on services that students received
- student-generated data, through surveys and observation, on student satisfaction with the services as they relate to career preparation, work-based learning opportunities, and job placements
- counselor- and faculty-generated data on student preparedness for work-based learning opportunities and the workplace
- employer-generated data on student preparedness for the workplace.

College-Industry Partnerships

The relevant literature on partnerships covered three areas: (1) partnerships to improve educational services in general, (2) partnerships in higher education, and (3) links between community colleges and employers. Our review of the literature identified the following promising practices for robust or effective partnerships.

Establish Structures That Are Conducive to Building Strategic Partnerships with Employers

A formal structure promotes continuous communication between college and industry (e.g., CEO advisory boards with college leadership). Such structures will help potential participants engage in discussions about the partnership's goals (Cotner et al., 2021, Myran et al., 2021). These discussions provide necessary information about the purpose of the partnership, the problem or problems it is addressing, and how the partnership could be mutually beneficial to all organizations (Bodilly, Karam, and Orr, 2011; Mann, 2017). Such structures should also address the content of the activities that partners will engage in; the role each organization

is expected to play; organizational need; capacity, roles, and responsibilities; and the support and resources that partners will receive as they implement partnership activities to determine compatibility and what various organizations are suited for the partnership (Bodilly, Karam, and Orr, 2011; Tuschnet, 1993; Wilson, 2015).

Formal structures also provide opportunities to create shared goals and facilitate buy-in (Mann, 2017; Wilson, 2015). Shared goals “gain their coherence not in and of themselves as specific activities, symbols, or artifacts, but from the fact that they belong to the practice of a partnership pursuing a common goal” or vision (Wenger, 1998). These goals may precede the formation of a partnership or may be negotiated after the partnership is in place. They are critical for maintaining focus and momentum in the partnership (Dhillon, 2005). The partnership is more likely to succeed when partner institutions want to be involved, share the same goals, have a common strategic plan, and have the appropriate people involved to accomplish those goals (Cotner et al., 2021; Wenger, 1998; Wilson, 2015).

Leadership Encouragement of Joint Decisionmaking

The literature emphasizes the importance of having inclusive leadership that helps build commitments among partners, facilitates the development of shared goals, promotes consensus decisionmaking, and supports partnership activities (Bodilly, Karam, and Orr, 2011; McLaughlin, Groves, and Lundy-Wagner, 2018; Tuschnet, 1993). Leadership can be distributed among participating organizations, or one individual can serve as the partnership lead. Regardless of the governance structure, leadership should promote authentic collaborative interactions among the partners (Bodilly, Karam, and Orr, 2011).

Coordinated Action Among Partners

In strong partnerships, organizations develop activities together and implement them jointly, or at least with some level of coordination. To achieve this goal, partners must be in contact continuously, meet frequently, discuss partnership needs, commit to work jointly, share information about their efforts, develop work plans, establish a priority listing of what is to be accomplished, and implement the plan (Bodilly, Karam, and Orr, 2011; Cotner et al., 2021; Keith, 1993; Myran et al., 2021).

Mechanisms of Accountability

Another component of strong partnerships is the presence of mechanisms of accountability. Organizations that enter into strong partnerships should agree to evaluate their efforts and procedures and delegate individual responsibility for the outcomes of their joint efforts (Bodilly, Karam, and Orr, 2011; Cotner et al., 2021; Marsh, 2002; McLaughlin, Groves, and Lundy-Wagner, 2018; Wenger, 1998). Furthermore, joint decisionmaking in strong partnerships results from a collective negotiation process, and this process creates a sense of mutual accountability among partners (Marsh, 2002). For accountability to be effectively shared, each shared goal must be framed broadly enough so that all members of the partnership have a clear role to play in meeting it (Foley, 2002). Furthermore, there needs to be clear performance and accountability measures for assessing whether each goal has been achieved. Partners should collect outcome data on each goal and engage in continuous, dynamic evaluation and improvement (Bodilly, Karam, and Orr, 2011; Foley, 2002; Cotner et al., 2021; McLaughlin, Groves, and Lundy-Wagner, 2018).

Use Combined Resources to Pursue Shared Goals

The literature indicates that strong partnerships use combined resources—such as grant money, personnel time, and other funding sources—to pursue partnership goals instead of using these resources to fund

existing operations at each organization (Bodilly et al., 2004; Bodilly, Karam, and Orr, 2011). This practice ensures that partners are more likely to engage in agreed-to activities and implement the activities as planned (Bodilly et al., 2004; Bodilly, Karam, and Orr, 2011).

Early Attention to a Plan for Institutionalizing Systemic Changes and Sustaining Collaboration

The sustainability of partnership work after funding ends is a critical indicator of a strong partnership (Bodilly et al., 2004; Bodilly, Karam, and Orr, 2011; McLaughlin, Groves, and Lundy-Wagner, 2018). The literature indicates the need for colleges and employers to have adequate staff time to sustain partnerships (Bodilly et al., 2004; Bodilly, Karam, and Orr, 2011; Mann, 2017). Further, strong partners discuss ways to sustain and institutionalize their activities early on in order to continue even after the funding ends. The literature suggests several ways to accomplish this, including (1) integrating activities that have been developed as part of the partnership in the current organizational structures and processes and (2) augmenting governance structures to inform and strengthen cross-organizational partnerships (Bodilly et al., 2004; Bodilly, Karam, and Orr, 2011; McLaughlin, Groves, and Lundy-Wagner, 2018).

Abbreviations

CARES	Coronavirus Aid, Relief, and Economic Security
CEO	chief executive officer
COVID-19	coronavirus disease 2019
STEM	science, technology, engineering, and mathematics
TEAM	Tristate Energy and Advanced Manufacturing
THECB	Texas Higher Education Coordinating Board
TSTC	Texas State Technical College

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Community colleges play a key role in driving talent development in the United States, producing workers with the kinds of training that employers need while enhancing economic mobility for students. There has been a push among policymakers at the federal and state levels to hold community colleges accountable for the employment outcomes of their students, with funding and legislation that endorses models that strengthen college partnerships with employers.

In this report, the authors systemically examine the type of career services and college-employer partnership practices in science, technology, engineering, and mathematics (STEM) fields across three states—California, Ohio, and Texas—and a sample of community colleges that operate within them. In addition, the authors investigate the challenges that these colleges face in facilitating student employment and the ways in which state policies may have influenced practice. They reviewed state policies and collected interview data from 134 participants, including state and system leaders, college leaders, program heads and faculty, career service leaders and staff, and employers.

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