Career Pathways Implementation Synthesis

Career Pathways Design Study

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Executive Summary

Career pathways approaches to workforce development offer articulated education and training steps between occupations in an industry sector, combined with support services, to enable individuals to enter and exit at various levels and to advance over time to higher skills, recognized credentials, and better jobs with higher pay. The U.S. Department of Labor (DOL) **contracted with Abt Associates to conduct the Career Pathways Design Study** to develop evaluation design options that could address critical gaps in knowledge related to the approach, implementation, and effectiveness of career pathways strategies generally, and in early care and education specifically (given the scarcity of information on it relative to healthcare). To inform thinking about evaluation design options, Abt produced reports on (1) research and evaluation relevant to career pathways approaches, (2) the implementation of career pathways initiatives, and (3) the potential for career pathways approaches in early care and education (ECE).

This document is the second of these reports for the project—a high-level synthesis of the implementation of career pathways initiatives. The main purpose of this report is to support development of evaluation design options. With that in mind, our review focuses primarily on the type, scope, and setting of career pathways initiatives that are currently active, as well as those whose periods of performance have ended.

For this synthesis, we identified 128 initiatives, that are either ongoing or have periods of performance that have ended, that focus on adults or out-of-school youth, and include occupational training (Appendix A, the Career Pathways Implementation Matrix).[1] The information presented is as of February 2017. Initiatives may include multiple sites. We found:

- 128 initiatives, of which the period of performance had ended for 52 (41 percent); and

- 84 had at least one site that offered multiple steps of career pathways education or training; in 54 initiatives this was true of every site.

We also held group discussions with experts outside of Abt and DOL to supplement what we were learning about implementation of career pathways initiatives from our scan of websites and publications. These individuals came from community colleges, non-profit organizations, labor/management training partnerships, and State agencies. Experts shared their thoughts on perceived successes and challenges implementing career pathways approaches, lessons learned about implementation, promising strategies and approaches, and areas for future research.

This synthesis report addresses the following primary areas: (1) how career pathways initiatives are defined in practice, (2) what career pathways initiatives look like in terms of their program vs. system focus, target population, sector and occupation, and lead organization, (3) key findings from our examination of the definitions of career pathways approaches, the Implementation Matrix, and discussions with external experts, and (4) implications for future research.

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[1] We did not include initiatives focused solely on high schools or on 4-year degrees or on transfer to 4-year degree programs.

How Are Initiatives and the Experts Interviewed Defining Career Pathways Approaches?

- All program-level career pathways initiatives emphasize helping individuals to enter or advance within a specific occupation or occupational cluster, one of the elements of the Workforce Innovation and Opportunity Act (WIOA) career pathways definition (for the definition, please see page 3).

- Most program-level career pathways initiatives (61 percent to 76 percent) also emphasize the other elements of the WIOA career pathways definition.

- Less than half of system-level career pathways initiatives (28 percent to 49 percent) emphasize most elements of DOL's Six Elements career pathways definition (for the definition, please see page 3).

- The most commonly identified element of DOL's Six Elements career pathways definition put into practice by system-level initiatives is building cross-agency partnerships (49 percent); the least commonly identified elements are identifying funding needs and sources (28 percent) and measuring system change and performance (30 percent).

- Very few initiatives explicitly defined *career pathways approaches*, based on information from website descriptions, program materials, and published reports.

- The experts we interviewed believe that a shared definition of the career pathways approach is critically important and that such a definition should clearly distinguish it from traditional education and training strategies. They called for career pathways initiatives to be comprehensive (i.e., including foundational education, occupational training, and support services); include more than one step of training; contain both secondary and postsecondary education; and incorporate partnerships and employer engagement.

What Do Career Pathways Initiatives Look Like in Practice?

- Among the 128 career pathways initiatives identified, 67 focused on the program level (52 percent); 23 on system-level change (18 percent); and 38 on both (29 percent).

- Among the 110 initiatives for which we identified a target population, 43 targeted low-skilled individuals (39 percent) and 42 targeted low-income individuals or those living in poverty (38 percent), the two most common target populations.[2] The next most common target populations were unemployed workers (21 initiatives), dislocated workers and youth (14 initiatives each), underemployed workers (13 initiatives), and veterans (12 initiatives). Other potential populations

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2   Initiatives did not always provide specific criteria or a definition for "low-income" or "poverty". When they did specify criteria these included eligibility for Temporary Assistance for Needy Families (TANF), eligibility for Supplemental Nutrition Assistance Program (SNAP), income as a percentage of the federal poverty line (with cutoffs including at or below the poverty line, 175 percent of the poverty line, below 200 percent of the poverty line, and below 250 percent of the poverty line), and Lower Living Standard Income Level (with cutoffs including 70 percent of the Lower Living Standard Income Level and 70 percent of the Lower Living Standard Income Level if not working and 130 percent if working).

of interest, such as ESL/English language learners (ELL)/limited English proficiency (LEP), incumbent workers, people of color, and people with disabilities, were targeted by 10 or fewer of the 110 initiatives.

- Among the 109 initiatives for which we identified a targeted sector, healthcare was the most common (83 initiatives, or 76 percent), followed by manufacturing (40 percent), information technology (28 percent), construction (22 percent), and shipping/logistics/transportation (22 percent).

- 84 initiatives offered training in multiple sectors; of the 44 single-sector ones, 30 targeted healthcare.

- Community colleges (49 percent) most commonly led career pathways initiatives, followed by non-profit organizations (38 percent), other State/local agencies (26 percent), Workforce Development Boards (15 percent), and other educational institutions (12 percent).

Key Findings

Below are the key findings from our examination of definitions of career pathways approaches, the Implementation Matrix, and our discussions with external experts.

Findings from Definitions of Career Pathways Approaches and Scan of Career Pathways Initiatives

- There is some level of agreement in practice about the definition of career pathways approaches at the program level, but less so at the system level.

- Most career pathway initiatives are at the program level and most offer more than one step of training in at least one site.

- More initiatives in this implementation synthesis than in the accompanying research synthesis for this project contain more than one step of training at *every* site. This suggests that there may be a greater focus on pathway advancement out in the field than is captured in research on career pathways approaches at the moment.

- Most initiatives target low-income, low-skilled individuals; operate in the healthcare sector; provide short-term training opportunities; and are led by community colleges or non-profits.

Findings from Discussions with Experts

- The experts we interviewed, whose experience was at the local, State, and national levels, observe that a number of local entities and their partners have successfully implemented career pathways approaches at the program level.

- They also point out that funding and sustainability are major challenges in implementing career pathways approaches. When federal and philanthropic grants end, partnerships and models are often discontinued. It is often difficult for programs to find funding for certain elements of career pathways approaches, such as support services, professional development for program leaders, faculty, advisors, and case managers, and performance measurement.

- There has been less perceived success implementing career pathways approaches at the system level compared to the program level. Most of the focus in system-level initiatives has been on the

preliminary steps in defining pathways, building partnerships, as well as identifying sectors and discussing how to engage employers.

- These experts also believe that implementing career pathways approaches at a system level requires a culture change. For career pathways initiatives to be sustainable, they must engage systems and institutions in changing culture and policy to use the career pathways framework as a way of doing business, not a special add-on.

- Related to this, they perceive that there has been little attention given to aligning policies to support implementation of career pathways approaches.

- Experts observe that career pathways approaches generally require partnerships at the State and local levels across a host of different entities. Ideally, all partners should be included in an initiative from the beginning. Meaningful partnerships require partners to feel a sense of ownership over a career pathways initiative, as well as some responsibility for its outcomes. The workforce system is very important to the success of career pathways approaches, but they do not consistently have the knowledge of or incentives to support career pathways approaches.

- Career pathways initiatives appear to be strong when they are based on strong labor demand and engage employers, according to these experts. What works in one sector or even with one employer may not work in another sector or with another employer.

- Finally, the experts we interviewed agree that there is a lack of data to help programs and systems track progress in achieving their goals for career pathways initiatives. The availability of data, especially on outcomes and return on investment, would help engage partners and obtain funding. Because closing equity gaps in postsecondary credential attainment—across characteristics such as race and ethnicity and gender—is an important goal, data on career pathways approaches should be available by subgroup.

Implications for Future Research

The research questions identified in this implementation synthesis report overlap significantly with those identified in the research synthesis report produced under this project (*Career Pathways Research and Evaluation Synthesis*). As described in that report, for several of these questions, ongoing studies are unlikely to add much evidence. Some key questions largely not addressed by current research include the viability of career pathways approaches in sectors other than healthcare and manufacturing; how well the career pathways model works for understudied groups such as those noted above; the relative effectiveness of particular components within a career pathways bundle of benefits and services; the return on investment to career pathways approaches; and the role of the public workforce system in career pathways approaches.

Overall, our synthesis of career pathways implementation added to these some additional research questions that: (1) focus on best practices and strategies that practitioners can employ immediately, particularly around employer engagement; (2) examine the progress of and lessons to be learned from system-level efforts; (3) address the efficacy of sector-based approaches; (4) assess the success of career pathways initiatives with an experiential learning component; and (5) examine the effectiveness of different types of supportive services.

As noted earlier, this synthesis of career pathways implementation, together with the research synthesis report and a third report on early care and education career pathways approaches, will

inform the study's final report—the career pathways evaluation design options report. That final report will examine four groups of research questions and will describe possible research options and data sources for addressing them.

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1.   Introduction

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Career pathways approaches to workforce development offer articulated education and training steps between occupations in an industry sector, combined with support services, to enable individuals to enter and exit at various levels and to advance over time to higher skills, recognized credentials, and better jobs with higher pay. Each step on a career pathway is designed explicitly to prepare individuals to progress to the next level of employment and/or education. Career pathways strategies target jobs in industries of importance to local and regional economies and build strong relationships with employers.[3]

The career pathways framework evolved as a response to changes in the labor market over the last several decades that caused stagnating wages and high unemployment for individuals with a high school education or less, and which increasingly reward postsecondary credentials (Autor, 2015; Carnevale, Jayasundera, & Gulish, 2016). By emphasizing postsecondary job skills, career pathways approaches seek to deliver bigger and longer lasting results than earlier employment and training strategies—such as low-intensity job search services focused on quick job placement or stand-alone basic education—which research found did not increase employment and earnings over the long run nor help participants escape poverty (Hamilton & Hendra, 2015). The career pathways framework also seeks to build on past research about effective workforce development strategies by bundling together their most promising features, such as combining occupational training with support services, integrating basic education and training, and engaging employers in a sector (Werner et al, 2013). In addition, career pathways approaches involve providing a range of supports to students including advising, financial assistance, and connections to the labor market and jobs.

States and localities across the United States have increasingly adopted career pathways approaches. The rapid rise of career pathways strategies nationally, including an emphasis on them in the Workforce Innovation and Opportunity Act (WIOA), creates a **critical need for sound evidence that shows what works well, why, under what circumstances and for whom**. The WIOA legislation requires the U.S. Department of Labor (DOL) to "conduct a multistate study to develop, implement, and build upon career advancement models and practices for low-wage health care providers or providers of early education and child care" (29 U.S. Code § 3224(b)(4)(I)).

In response, **DOL contracted with Abt Associates to conduct the Career Pathways Design Study** to develop evaluation design options that could address critical gaps in knowledge related to the approach, implementation, and overall effectiveness of career pathways strategies generally, and in early care and education specifically (given the scarcity of information on it relative to healthcare). To inform thinking about evaluation design options, Abt produced reports on (1) research and evaluation relevant to career pathways approaches, (2) the implementation of career pathways initiatives, and (3) the potential for career pathways approaches in early care and education (ECE).

This document is the second of these reports for the project—a high-level synthesis of the implementation of career pathways initiatives. The main purpose of this report is to support

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[3]   For a comprehensive history of how the career pathways framework evolved, see *The Evolution and Potential of Career Pathways* (U.S. Department of Education 2015).

development of evaluation design options. With that in mind, our review focuses primarily on the type, scope, and setting of career pathways initiatives that are currently active, as well as those whose periods of performance have ended. The Career Pathways Implementation Matrix (Appendix A) summarizes the initiatives identified. The information presented is as of February 2017. This synthesis also summarizes a group of experts' views about the state of the career pathways field and suggests directions for future research.

Together, these three reports will inform the study's final report—the career pathways evaluation design options report. That final report will examine four groups of research questions and will describe possible research approaches and data sources for addressing them.

1.1   Initiatives Included in This Synthesis

1.1.1   Initiatives Included (and Excluded)

Our criteria for inclusion in the synthesis were career pathways initiatives that (1) focus on adults (this includes young adults, but excludes high schoolers); and (2) include occupational training.[4]

We cast a broad net in deciding which initiatives to include, incorporating into the Matrix and our analysis any national and State-level ones that described themselves as involving career pathways approaches, whether or not they met any particular definition of the model. We also included some well-established local examples as well as several training efforts that clearly were *not* career pathways approaches—in some cases predating the concept—but contained core elements of that model, such as sector partnerships or concurrent and accelerated program designs, including integrated education and training.

The Implementation Matrix in Appendix A, containing 128 entries, includes 69 of the 70 entries from the Research Matrix from our previous report (*Career Pathways Research and Evaluation Synthesis*).[5] In addition, the Implementation Matrix includes many more entries than the Research Matrix did because it is not restricted to career pathways initiatives that were or are being evaluated. This review of initiatives is not exhaustive, however, and there are likely many more career pathways initiatives being implemented than are represented here. To identify them all would require a different method, such as a national survey, that is outside the scope of this project. Additionally, the information that appears in this synthesis was collected and analyzed as of February 2017. Thus, any information about the initiatives described in this synthesis or any initiatives that came into being after this date are not included in this report.

1.1.2   Programmatic Categories Examined

Multiple steps of training? We highlight throughout the Implementation Matrix and in selected tables of this report those initiatives that include more than one step of education or training in a

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[4]   We did not include initiatives focused solely on 4-year degrees or solely on transfer to 4-year degree programs.

[5]   The one excluded entry is the Alliance for Quality Career Pathways–State Career Pathways System Metric Development. It is not included in the Implementation Matrix because it is solely a research effort, working to define metrics with two initiatives that *are* included in the matrix.

formal career pathway or feed from one step of training into a closely linked, specific next higher step(s) and take actions to help participants enroll in that next training (e.g., from Medical Assisting to Licensed Practical Nursing to Registered Nursing, or forklift driver to shipping/receiving clerk to logistics technician). Such initiatives we distinguish in the Matrix in the column labeled "Multiple Steps of Training?"

We chose this proxy for highlighting because it appears to be an objective characteristic to distinguish initiatives that actively promote progression to higher educational levels and jobs compared to more traditional programs that provide only a single level of job training (even if they describe themselves as implementing a career pathways model). Because initiatives with multiple steps of training may be of particular interest to DOL, some tables in this report show the characteristics of the multi-step initiatives on their own along with the characteristics of all initiatives overall.

Program level or system level? The synthesis also categorizes initiatives as being at the program level or system level or both, to the extent that we could determine this from available information. The categorization is distinguished in the Matrix in the column labeled "Description of Initiative." For purposes of this report:

- *Program-level* initiatives meet at least some of the career pathways definition specified in WIOA, providing to individuals a combination of rigorous and high-quality education, training, and other services that (1) align with the skill demands of the State and local economy; (2) prepare individuals to be successful in a range of secondary and postsecondary education options; (3) include academic and career counseling, as well as non-academic supports; (4) provide, as appropriate, concurrent and accelerated program designs; and (5) help individuals to enter or advance within a specific occupation or occupational cluster.[6]

- *System-level* initiatives are defined as addressing at least some of the six career pathways system elements to reduce barriers and create opportunities for individuals to advance within specific fields described by DOL in its *Career Pathways Toolkit.*[7]

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[6] The full WIOA definition of *career pathway* is "a combination of rigorous and high-quality education, training, and other services that—(A) aligns with the skill needs of industries in the economy of the State or regional economy involved; (B) prepares an individual to be successful in any of a full range of secondary or postsecondary education options; (C) includes counseling to support an individual in achieving the individual's education and career goals; (D) includes, as appropriate, education offered concurrently with and in the same context as workforce preparation activities and training for a specific occupation or occupational cluster; (E) organizes education, training, and other services to meet the particular needs of an individual in a manner that accelerates the educational and career advancement of the individual to the extent practicable; (F) enables an individual to attain a secondary school diploma or its recognized equivalent, and at least 1 recognized postsecondary credential; and (G) helps an individual enter or advance within a specific occupation or occupational cluster" (29 U.S. Code § 3102 Definitions).

[7] DOL's six career pathways system elements are to (1) build cross-agency partnerships and clarify roles, (2) identify industry sectors and engage employers, (3) design education and training programs, (4) identify funding needs and sources, (5) align policies and programs, and (6) measure system change and performance. See https://www.doleta.gov/usworkforce/pdf/career_pathways_toolkit.pdf.

- *Program/system-level* initiatives address at least some of the elements in the WIOA career pathways definition and some of the elements in the DOL's career pathways system definition.

Many of the initiatives we identified met only parts of these program-level and system-level definitions. And a number of them focused on both system-building activities and delivery of career pathways services through programs to individuals.

1.2   Method Used to Identify Initiatives

To identify the initiatives included in the implementation synthesis, we began with those identified by Abt and DOL for an earlier research review as part of a previous DOL project. We then conducted a broader scan, reviewing relevant organization and project websites and publications, to identify additional career pathways initiatives, to include both in this review of career pathways implementation and in the related scans of research and of early care and education pathways.

The scan was supplemented with input from researchers on the study team, DOL staff, and other federal agency staff involved in the career pathways field about initiatives to include in our synthesis. This information was collected through an in-person meeting with DOL program and research staff and conference calls with the federal Interagency Working Group on Career Pathways and with federal staff involved in research projects on career pathways approaches. Also included in this scan of the field were a large number of current and recent career pathways and related projects sponsored by federal evaluation offices, including:

- Pathways for Advancing Careers and Education (PACE),

- Evaluations of Health Profession Opportunity Grants (HPOG),

- The Green Jobs and Health Care Impact Evaluation,

- Evaluation of H-1B Ready to Work Partnership Grants,

- Workforce Innovation Fund (WIF) Evaluations,

- Trade Adjustment Assistance Community College and Career Training (TAACCCT) grant evaluations, and

- TAACCCT Community College Consortium for Biosciences Credentials grant evaluations.

After identifying initiatives in the initial scan and outreach, we completed the Matrix by reviewing published final reports, whenever possible. When the information was not available from final reports, we drew from evaluation design reports, interim reports, and project and evaluator websites. In some cases, we inquired directly of researchers or others familiar with the initiatives; however, for most initiatives, we relied on publicly available information. Because many of the initiatives in the Matrix are ongoing, information sometimes was unavailable. In some cases, fields in our Matrix were not applicable to an initiative (e.g., no demographic information would be available for a national initiative providing technical assistance to states). These instances are noted in the Matrix. The sources used for each initiative described in the matrix and this report are described in Appendix B.

The unit of analysis for this report is *initiative,* as the purpose is to synthesize information on the implementation of such career pathways approaches. Initiatives may include multiples sites.

1.3   Discussions with External Experts

To supplement what we were learning about career pathways implementation from our scan of websites and publications, in December 2016 and January 2017, we also held discussions with 21 external experts outside of Abt and DOL with experience at the local, State, and national levels with career pathways approaches (see Appendix C for the list of experts). We selected these experts based on discussions with DOL, as well as the DOL/ETA-led Interagency Working Group on Career Pathways, about the types of stakeholders they wanted to include in these discussions. We sought to identify enough experts to represent a range of different perspectives and provide useful insights; however, their views should not be taken as representative of the career pathways field as a whole as that would require scientific surveys beyond the scope of this project. These individuals came from community colleges, non-profit organizations, labor/management training partnerships, and State agencies. Twelve had experience primarily with program-level career pathways approaches; the remaining nine had experience primarily with system-level career pathways approaches.

Each discussion took place by phone, lasted approximately 90 minutes, and involved one to five experts. Using the *Toolkit* and WIOA definitions of career pathways as a point of departure, we asked the experts about their perceptions of the successes and challenges implementing career pathways approaches, lessons learned about implementation, promising strategies and approaches, and areas for future research. The discussion guide also appears in Appendix C.

2. How Are Initiatives and the Experts Interviewed Defining a Career Pathways Approach?

This section summarizes the definitions of a career pathways approach used by the initiatives included in the Implementation Matrix. It begins by examining the definitions used by program-level initiatives and then briefly discusses the experts' views on the critical elements of a program-level definition of a career pathways approach. The section goes on to do the same for system-level definitions and initiatives.

It should be noted that career pathway initiatives can have a variety of goals, including meeting employer demand for skilled workers, increasing self-sufficiency, reducing poverty, or closing gaps in postsecondary credential attainment for particular populations.

2.1 Program-Level Definitions

The following section examines program-level definitions used in practice by program-level and program/system-level initiatives.

2.1.1 Definitions Presented/Used by Initiatives

Very few of the program-level initiatives and program/system-level initiatives we reviewed explicitly defined their *career pathways approach*, based on information from website descriptions, program materials, and published reports.

Some initiatives referenced the definition specified in WIOA, and other initiatives referenced the definitions used by three other leading national frameworks of career pathways approaches: the Alliance for Quality Career Pathways (AQCP) framework, the Workforce Strategy Center definition, and the approach described in the 2012 joint letter by the U.S. Departments of Education, Health and Human Services, and Labor promoting the use of career pathways approaches (hereafter, 2012 Federal Agency Letter) (see descriptions of these frameworks in Appendix D).

This Review Found—

- *All program-level career pathways initiatives emphasize helping individuals to enter or advance within a specific occupation or occupational cluster, one of the elements of the WIOA career pathways definition.*

- *Most program-level career pathways initiatives (61 percent-76 percent) also emphasize the other elements of the WIOA career pathways definition.*

- *Experts called for career pathways efforts to be comprehensive (i.e., including foundational education, occupational training, and support services); include more than one level of training; contain both secondary and postsecondary education; and incorporate partnerships and employer engagement.*

- *Less than half of system-level career pathways initiatives (28 percent-49 percent) emphasize most elements of the DOL Six Elements definition.*

- *Very few initiatives explicitly defined their career pathways approach, based on information from website descriptions, program materials, and published reports.*

- *The most commonly identified element of DOL's Six Elements career pathways definition put into practice by system-level initiatives is building cross-agency partnerships (49 percent); the least commonly identified elements are identifying funding needs and sources (28 percent) and measuring system change and performance (30 percent).*

See Exhibit 2.1 (below) for a comparison of each of these career pathways frameworks. Some initiatives provided their own definition, in that they described their career pathways approach. However, the vast majority of initiatives (83 percent) did none of these things.

Therefore, in order to understand how these career pathways initiatives defined their career pathways approach in practice, we mapped the information available about each initiative to the WIOA definition. That is, we determined which elements of the WIOA definition were included in the implementation of each initiative. Some initiatives described elements of their career pathways approach that are not included in the WIOA definition. Some of these elements appear in the 2012 Federal Agency Letter; in these cases, we mapped these elements to that framework.

Using this method we were able to compare elements of 97 of the 105 program-level or program/system-level initiatives with elements in the WIOA definition and the 2012 Federal Agency Letter definition. In eight instances we did not have enough information to do so.

Exhibit 2.1 summarizes the frequencies of comparisons to the WIOA definition in the far right column in the top panel. In the middle columns, it also shows how the three leading national frameworks of career pathways compare with the WIOA definition. The second panel of the exhibit describes additional career pathways elements that appear in some of these other national frameworks or in materials about the 98 initiatives but *not* in the WIOA definition. The Xs denote WIOA definition elements included in a national framework. Empty cells denote elements presented/used by initiatives that do not map to one or more of the four frameworks shown.

As shown on Exhibit 2.1, all of the initiatives emphasize helping individuals to enter or advance within a specific occupation or occupational cluster. Most career pathways initiatives emphasize the other elements of the WIOA career pathways definition (ranging from 61 to 76 percent). (It should be noted that an even greater proportion of initiatives might align with the WIOA definition but do not emphasize it in their materials.) Some initiatives in our Matrix emphasize elements unique to the definition of the career pathways approach put forth in the 2012 Federal Agency Letter. Some initiatives also emphasized bridges that connect basic education and training, work-based learning, or technology.

Exhibit 2.1   Program-Level Definitions of a Career Pathways Approach

	Other Frameworks			Frequency in program-level and program/system-level initiatives (N=97)
	Alliance for Quality Career Pathways[a]	2012 Federal Agency Letter[b]	Workforce Strategy Center[c]	
Elements Explicitly Included in the WIOA Definition[d]				
A combination of rigorous and high-quality education, training, and other services that—	X	X	X	59 (61%)
align with the skill demands of the State and local economy	X	X	X	61 (63%)
prepare individuals to be successful in a range of secondary and postsecondary education options	X	X	X	70 (72%)
include academic and career counseling, as well as non-academic supports	X	X	X	74 (76%)
provide, as appropriate, concurrent and accelerated program designs	X	X	X	68 (70%)
help individuals to enter or advance within a specific occupation or occupational cluster	X	X	X	97 (100%)
Elements Not Explicitly Included in the WIOA Definition				
Alignment of secondary and postsecondary education with workforce development systems and human services		X		1 (1%)
Collaborative partnerships		X		13 (13%)
Bridges that connect basic education and training				32 (33%)
Work-based learning				22 (23%)
Technology				3 (3%)

Note: The Xs denote WIOA definition elements included in a national framework. Empty cells denote elements presented/used by initiatives that do not map to one or more of the four frameworks shown.

[a] See definition here: http://www.clasp.org/resources-and-publications/publication-1/side-by-side-2-1.pdf

[b] Issued jointly by the U.S. Departments of Education, Health and Human Services, and Labor. See definition here:
http://www.acf.hhs.gov/sites/default/files/ofa/doe_hhs_and_dol_issue_joint_letter_promoting_the_use_of_career_pathways.pdf

[c] See definition here: http://www.zsr.org/sites/default/files/documents/WSC_pathways8.17.06.pdf

[d] See footnote 5 for the full WIOA definition; in this exhibit, in order to be concise, WIOA item (E) has been collapsed with item (D), and item (F) has been collapsed with item (B). It should be noted that where the WIOA definition does not explicitly include some elements, other parts of the law may incorporate the concepts in other ways, such as through the unified planning process between WIOA Title I and II programs and the requirement to include apprenticeships in the Eligible Training Provider lists.

2.1.2 Definitions/Critical Elements Identified by Experts

In our calls with external experts, they identified what they considered to be critical elements of a program-level career pathways approach. Two noted that initiatives must be comprehensive (i.e., including foundational education, occupational training, and support services) to be a career pathways approach. One expert reinforced that career pathways initiatives must contain more than one step of training and another noted that career pathways initiatives must contain both secondary-level education (e.g., high school, adult basic education, and English as a Second Language (ESL)) and postsecondary education. Other elements experts deemed critical were partnerships and employer engagement.

Several experts noted that there was confusion in the field about how to define a career pathways approach, making it difficult to measure the effects of such approaches and engage with partners toward a common goal. A few explained that initiatives sometimes will label themselves a career pathways initiative in order to obtain funding without actually being one. They called for a definition that is clearly differentiated from the regular pipeline of education and training, flexible, tailored to the setting (e.g., institutional, regional, statewide), and able to evolve over time.

2.2 System-Level Definitions

None of the experts with whom we spoke identified elements critical to a system-level career pathways approach definition. As a result, the discussion below only reflects our analysis of the system-level or program/system-level initiatives in the Matrix.

2.2.1 Definitions Presented/Used by Initiatives

As with the program-level initiatives, few system-level initiatives and program/system-level initiatives we reviewed referenced any definition of their career pathways approach. In order to understand how these initiatives defined their career pathways approach in practice, we mapped the information available about each initiative to the definition of system-level initiatives in DOL's *Career Pathways Toolkit*. That is, we determined which elements of the "DOL Six Elements" definition each initiative had included in the implementation of its initiative. Among the 61 system-level or program/system-level initiatives, we were able to compare elements of 53 initiatives with DOL's definition.

Exhibit 2.2 summarizes the frequencies of those comparisons. It also shows how five leading national frameworks of career pathways compare with the DOL Six Elements definition. These frameworks include those of the Alliance for Quality Career Pathways; the Office of Career, Technical, and Adult Education's (OCTAE) Moving Pathways Forward; OCTAE's Advancing Career and Technical Education (CTE) in State and Local Career Pathways Systems; the National Governors Association State Sector Strategy; and the Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV) Programs of Study (see descriptions of these frameworks in Appendix D). As in Exhibit 2.1, the Xs denote DOL Six Elements definition elements included in a national framework. Empty cells denote elements presented/used by initiatives that do not map to one or more of the six total frameworks shown.

Less than half of system-level career pathways initiatives (28 percent to 49 percent) emphasize most of the six elements. The most commonly identified element is building cross-agency partnerships (49

percent); the least commonly identified elements are identifying funding needs and sources (28 percent) and measuring system change and performance (30 percent).

Exhibit 2.2   System-Level Definitions of a Career Pathways Approach

DOL Six Elements Definition[a]	Other Frameworks					Frequency in system-level and program/system-level initiatives (N=53)
	Alliance for Quality Career Pathways[b]	Moving Pathways Forward[c]	Advancing CTE in State and Local Career Pathways Systems[d]	National Governors Association State Sector Strategy[e]	Perkins Act Programs of Study[f]	
1. Build cross-agency partnerships and clarify roles	X	X	X	X	X	26 (49%)
2. Identify industry sectors and engage employers		X	X	X		24 (45%)
3. Design education and training programs		X	X			18 (34%)
4. Identify funding needs and sources	X	X	X	X	X	15 (28%)
5. Align policies and programs	X	X	X	X		18 (34%)
6. Measure system change and performance	X	X	X	X	X	16 (30%)

[a] From DOL's *Career Pathways Toolkit.*
[b] See definition here: http://www.clasp.org/resources-and-publications/publication-1/side-by-side-2-1.pdf
[c] See definition here: https://lincs.ed.gov/sites/default/files/MovingPathways_Overview.pdf
[d] See definition here: https://s3.amazonaws.com/PCRN/docs/Advancing_CTE_Model_031214.docx
[e] See definition here: http://www.nga.org/files/live/sites/NGA/files/pdf/2013/1301NGASSSReport.pdf
[f] See definition here: http://s3.amazonaws.com/PCRN/file/POS_Framework_Unpacking_1-20-10.pdf

3. What Do Career Pathways Initiatives Look Like in Practice?

In this section, we summarize the initiatives identified in the scan of career pathways implementation that met the eligibility criteria described in Section 1.1. We describe their models and key services, their target populations, the sectors and occupations they address, and their lead organizations. A similar summary was done in the *Career Pathways Research and Evaluation Synthesis* report. That report covered 70 studies; this report covers 128 initiatives, including 69 of those that appear in the research report, plus 59 additional initiatives that did not have associated studies. As noted earlier, this information is as of February 2017.

3.1 Models and Key Services

As shown in Exhibit 3.1, 128 initiatives are included in our synthesis and the Implementation Matrix. Among these, the periods of performance have ended for 41 percent (52 initiatives), leaving 59 percent (76 initiatives) ongoing. The majority of the initiatives are at the program level (67, or 52 percent), 23 initiatives are at the system level (18 percent), and 38 initiatives operate at both levels (29 percent).

For a similar number of single-level initiatives (program *or* system level), their periods of performance have ended or they are ongoing; for example, among program-level initiatives, 51 percent have periods of performance that have ended and 49 percent are ongoing. But among initiatives operating at *both* levels (program *and* system level), a much larger proportion are ongoing: 79 percent vs. 21 percent).

We were able to identify whether or not an initiative contained more than one step of training

This Review Found—

- *128 career pathways initiatives, of which the periods of performance had ended for 52 (41 percent).*

- *In 84 initiatives, at least one site offered multiple steps of career pathways education and training; in 54 initiatives (46 percent) this was true of every site.*

- *67 initiatives focused on the program level (52 percent); 23 on the system level (18 percent); and 38 on both levels (29 percent).*

- *Among the 110 initiatives for which we identified a target population, 43 targeted low-skilled individuals (39 percent) and 42 targeted low-income individuals or those living in poverty (38 percent) – the two most common target populations.*

- *Among the 109 initiatives for which we identified a targeted sector, healthcare was the most common (83 initiatives or 76 percent), followed by manufacturing (40 percent), information technology (28 percent), construction (22 percent), and shipping/logistics/transportation (22 percent).*

- *84 initiatives offered training in multiple sectors; of the 44 single-sector ones, 30 targeted healthcare.*

- *Across all initiatives, community colleges most commonly led career pathways initiatives (49 percent), followed by non-profit organizations (38 percent), other State/local agencies (26 percent), Workforce Development Boards (15 percent), and other educational institutions (12 percent).*

for 118 of the 128 initiatives included in our synthesis. Among these, 54 initiatives (46 percent) included multiple steps of training (i.e., "yes" category below in Exhibit 3.1); these either were initiatives with a single site that offered multiple steps of training or were multi-site initiatives in which *every* site offered more than one step of training. Another 30 initiatives (25 percent) included at least one site offering multiple steps of training (shown as "mixed" below). The remaining 34 initiatives (29 percent) did not include more than one step of training (shown as "no" below). More of

the ongoing initiatives (52, or 62 percent) include sites with at least one step of training ("yes" plus "mixed" categories) than do initiatives whose periods of performance have ended (32, or 38 percent).

The proportion of initiatives/studies whose periods of performance have ended versus ongoing, and program-level versus system-level versus both are similar between the implementation and research syntheses. The implementation synthesis includes a larger proportion of initiatives/studies that contain more than one step of training at every site (46 versus 23 percent, respectively).[8]

Exhibit 3.1   Summary of Career Pathways Initiatives: Models and Services

	Total Initiatives	Initiatives Whose Periods of Performance Have Ended	Ongoing Initiatives
	N (%)	N (%)	N (%)
Level of Initiative			
All initiatives	128 (100)	52 (41)	76 (59)
Program-level initiatives	67 (52)	34 (51)	33 (49)
System-level initiatives	23 (18)	10 (43)	13 (46)
Program/system-level initiatives	38 (29)	8 (21)	30 (79)
More Than One Level of Career Pathways Education or Training?			
All initiatives	118 (100)	50 (42)	68 (58)
Yes (true for all sites in the initiative)	54 (46)	23 (43)	31 (57)
No	34 (29)	18 (53)	16 (47)
Mixed (true for at least one site in a multi-site initiative, but not for all sites)	30 (25)	9 (30)	21 (70)

3.2   Target Populations

We identified the target populations for 110 of the 128 total initiatives (see Exhibit 3.2). The target populations are reported as described by either evaluation reports or materials about the initiative, regardless of the population that might have actually been served by it.[9] In a multi-site initiative, a population is counted if it is described or represented at any site. Many initiatives identified more than one target population.

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[8]   23 percent is reported in the *Career Pathways Research and Evaluation Synthesis* report.

[9]   In the *Career Pathways Research and Evaluation Synthesis* report, we included information about the demographic characteristics of populations served (see Section 2.3) in addition to the populations targeted. Because information on those served is not typically available in the absence of an evaluation, we were able to find this information for only a few initiatives that had not been included in that previous synthesis; thus, in this report we include information only on the populations targeted.

As shown, the two most common target populations—low-skilled individuals and low-income individuals—were targeted by 43 (39 percent) and 42 (38 percent) of initiatives, respectively. Often initiatives did not provide specific criteria or a definition for the low-income population targeted (21 initiatives reported the target population was "low-income" but did not specify further). When criteria were specified, the most common were Temporary Assistance for Needy Families (TANF) eligibility (15 initiatives) and income as a percentage of the federal poverty line (12 initiatives, ranging from 100 to 250 percent). Similarly, initiatives rarely provided specific criteria or a definition for the low-skilled population targeted (29 initiatives reported the target population was "low-skilled" but did not specify further). When criteria were specified, the most common were no high school diploma or equivalency degree (10 initiatives) and skills below an eighth-grade level (5 initiatives).

The next most common target populations were unemployed workers (21 initiatives), dislocated workers and youth (14 initiatives each), underemployed workers (13 initiatives), and veterans (12 initiatives). Other populations of interest (e.g., ESL/English language learners (ELL)/limited English proficiency (LEP), incumbent workers, and people of color) were targeted by 10 or fewer of the 110 initiatives. Few initiatives targeted individuals with disabilities: six in total, five of which are still active.

The populations targeted by initiatives summarized in this synthesis are similar to those targeted by studies in the research synthesis. However, low-skilled individuals are somewhat underrepresented in the research (38 percent of initiatives v. 27 percent of studies), and underemployed individuals are not targeted at all in the research synthesis (see Exhibit 2.2 in Schwartz, Strawn, and Sarna, 2017).

Exhibit 3.2   Summary of Career Pathways Initiatives: Target Populations

Characteristic	Total Initiatives (N=110) N (%)	Initiatives Whose Periods of Performance Have Ended (N=46) N (%)	Ongoing Initiatives (N=64) N (%)
Low-skilled individuals	43 (39)	21 (49)	22 (51)
Without high school diploma / GED	10 (9)	4 (40)	6 (60)
Very low skills (eighth grade or below)	5 (5)	2 (40)	3 (60)
Low-income / individuals in poverty	42 (38)	21 (50)	21 (50)
TANF eligible	15 (14)	5 (33)	10 (67)
SNAP eligible	4 (4)	0	4 (100)
Percentage of poverty line[a]	12 (11)	7 (50)	7 (50)
Lower Living Standard Income Level[b]	3 (3)	2 (2)	1 (1)
Unemployed individuals	21 (19)	10 (48)	11 (52)
Dislocated workers[c]	14 (13)	8 (57)	6 (43)
Youth	14 (13)	3 (21)	11 (79)
Out-of-school youth	4 (4)	1 (25)	3 (75)

Characteristic	Total Initiatives (N=110)	Initiatives Whose Periods of Performance Have Ended (N=46)	Ongoing Initiatives (N=64)
	N (%)	N (%)	N (%)
Underemployed individuals	13 (12)	5 (38)	8 (62)
Veterans	12 (11)	1 (8)	11 (92)
ESL / English language learners (ELL) / limited English proficiency (LEP)	10 (9)	6 (60)	4 (40)
Incumbent workers	9 (8)	5 (56)	4 (44)
People of color	7 (6)	2 (29)	5 (71)
TAA eligible[d]	7 (6)	0	7 (100)
Individuals with disabilities	6 (5)	1 (17)	5 (83)
Women	5 (5)	1 (20)	4 (80)
Parents[e]	3 (3)	2 (67)	1 (33)
Tribal populations / Native Americans	3 (3)	0	3 (100)
Workforce Investment Act eligible	3 (3)	3 (100)	0

Note: TANF is Temporary Assistance for Needy Families. SNAP is Supplemental Nutrition Assistance Program. TAA is Trade Adjustment Assistance.

[a] For three initiatives, the cutoff was at or below the poverty line; for one, it was 175 percent of the poverty line; for six, it was below 200 percent of the poverty line; and for two, it was below 250 percent of the poverty line.

[b] For two initiatives, the cutoff was 70 percent of the Lower Living Standard Income Level; for one, it was 70 percent of the Lower Living Standard Income Level if not working and 130 percent if working.

[c] Seven of the initiatives that targeted dislocated workers were Trade Adjustment Assistance Community College and Career Training (TAACCCT) evaluations, many of which targeted TAA–eligible workers, as well as other populations.

[d] These were all TAACCCT evaluations.

[e] These were defined as single parents, custodial parents, and noncustodial parents.

3.3   Sector and Occupations

We identified the sector or sectors targeted by the initiative's training for 109 of the 128 total initiatives. Again, for multi-site initiatives, a sector is counted if it is targeted at any site. Exhibit 3.3 shows the frequency of each sector targeted in the career pathway initiatives reviewed here.

As shown, healthcare was by far the most common sector targeted (76 percent). Other commonly targeted sectors were manufacturing (40 percent), information technology (28 percent), and construction or shipping/logistics/transportation (22 percent each). The three most common sectors targeted align with those in the research synthesis, with healthcare representing a similarly high proportion of studies. The implementation synthesis includes 11 sectors not targeted by studies in the research synthesis, including Biosciences, Welding, Agriculture, and Science, Technology, Engineering and Mathematics (STEM).

Though most of the initiatives (84) targeted multiple sectors (often determined at the site level), 44 initiatives (40 percent) were focused specifically on a single sector; for 30 of them (68 percent), the sector was healthcare. A similar proportion of studies in the research synthesis targeted a single sector (35 percent) and most focused on healthcare (82 percent). In a few cases, initiatives included sites that trained for occupations that cut across sectors, such as Office/Clerical, Security, Maintenance, and Accounting; we have included those here, too.

Exhibit 3.3   Summary of Career Pathways Initiatives: Target Sectors/Occupational Clusters

Sector/Cluster	Initiatives (N=109)
	N (%)
Healthcare	83 (76)
Manufacturing	44 (40)
Information Technology	30 (28)
Construction	24 (22)
Shipping/Logistics/Transportation	24 (22)
Business	19 (17)
Education	17 (16)
Tourism/Hospitality	14 (13)
Energy	12 (11)
Automotive	11 (10)
Finance	9 (8)
Office/Clerical	8 (7)
Bioscience	7 (6)
Security	6 (6)
Welding	6 (6)
Agriculture	6 (6)
Science, Technology, Engineering, and Mathematics	6 (6)
Engineering	5 (5)
Green Jobs	5 (5)
Waste Management	4 (4)
Utilities	4 (4)
Maintenance	3 (3)
Culinary	3 (3)
Human Services	3 (3)
Architecture	3 (3)
Accounting	2 (2)
Retail	2 (2)

Within the healthcare sector, we identified specific occupational paths in 47 initiatives. Exhibit 3.4 shows the most commonly listed healthcare occupations along those paths, as well as whether we classified the occupations as entry, mid, or high level based on their median hourly wage. The most commonly targeted occupations in this synthesis align with those in the research synthesis; however, eight occupations that appear in the implementation synthesis are excluded from the research synthesis. The most commonly excluded are Allied Health, Medical Office Assistant, and Dental Assistant.

Exhibit 3.4   Occupational Details in Targeted Healthcare Sector

Occupation	Initiatives (N=47) N (%)	Median Hourly Wage[a] ($)	Job Level[a] (based on wage)[b]
Nursing, Psychiatric, and Home Health Aides	37 (79)	10.54-12.36	Entry
Healthcare Support[c]	23 (49)	14.71-16.77	Entry/Mid
Medical Records and Billing, Health Information Technicians	20 (43)	17.84	Mid
Licensed and Vocational Nurses	18 (38)	20.76	Mid
Health Practitioner Support Technologists and Technicians	14 (30)	14.62	Entry
Emergency Medical Technicians and Paramedics	12 (26)	15.38	Mid
Health, Community, and Social Service Specialists	11 (23)	17.45	Mid
Registered Nurses	8 (17)	32.45	High
Health Practitioner Support Technologists and Technicians (Surgical Technologists)	8 (17)	21.31	Mid
Allied Health	8 (17)	N/A	N/A
Medical Office Assistant	7 (15)	N/A	N/A
Dental Assistant	7 (15)	17.3	Mid
Physical Therapist Assistants	6 (13)	26.52	High
Patient Care Technician/Assistant	5 (11)	N/A	N/A
Health Administration	4 (9)	N/A	N/A
Dental Hygienists	4 (9)	34.77	High
Diagnostic Related Technologists and Technicians (EKG Technicians)	4 (9)	26.38	High
Occupational Therapy Assistant	4 (9)	27.82	High
Physical Therapist Aides	3 (6)	12.08	Entry
Health Related Counselors (Addiction Counselors)	3 (6)	19.22	Mid
Cardiovascular Technologists and Technicians	3 (6)	26.38	High
Personal Care Aides	2 (4)	10.09	Entry
Occupational Therapy Aide	1 (2)	13.37	Entry

N/A denotes occupations reported that could not be matched to O*NET categories.

[a] From O*NET Online Summary reports: https://www.onetonline.org/find/.

[b] Job level: Entry <$15, Mid $15-25, High >$25.

[c] This category includes Medical Assistants, Phlebotomists, and Medical Transcriptionists.

We were not able to find consistent information about the duration of training for the majority of career pathways initiatives. However, the information we did find, as well as the information we collected about occupations in the healthcare sector, indicates that the majority of trainings provided are short term, lasting at most a year or, in many cases, six months, or less.

3.4   Lead Organizations

For each career pathways initiative, we identified which type of organization was responsible for administering it among the variety of organizations that might be involved in the initiative. Some initiatives included partnerships, with the type of lead organization varying by site. For multi-site initiatives, the type of lead organization frequently varied by site. In other initiatives, only one type of organization was involved—either because the initiative had only a single site operated by one type of organization or because the initiative specifically focused on only one type of organization (e.g., initiatives testing strategies within the community college system).

Exhibit 3.5 shows the frequency of each type of lead organization, both for the synthesis overall and for the subset of initiatives led by only one type of organization. Community colleges were the most common type, among initiatives overall and among single-organization initiatives (49 percent and 37 percent, respectively). They were followed by non-profit organizations (38 percent), other State/local agencies (26 percent), Workforce Development Boards (15 percent), and other educational institutions (12 percent).

The most common types of lead organizations in this synthesis align with those in the research synthesis. A smaller proportion of Workforce Development Boards and other educational institutions are represented in the implementation synthesis (15 vs. 31 percent, and 12 versus 31 percent, respectively). The reverse is true for employer-led initiatives/studies (7 vs. 2 percent). For-profit organizations are excluded entirely from the research synthesis. For single-organization type initiatives/studies, other State/local agencies represent a greater proportion in the implementation synthesis than in the research synthesis (20 vs. 4 percent, respectively).

Exhibit 3.5   Summary of Career Pathways Initiatives: Lead Organizations

Type	Total Initiatives (N=128) N (%)	Single-Organization Type Initiatives (N=83) N (%)
Community college	63 (49)	31 (37)
Non-profit organization	49 (38)	21 (25)
Other State/local agency	33 (26)	17 (20)
Workforce Development Board	19 (15)	5 (6)
Other educational institution	15 (12)	3 (4)
Employer	9 (7)	1 (1)
Union	6 (5)	0
For-profit	5 (4)	2 (2)
Job Corps	2 (2)	1 (1)
Tribal entity[a]	2 (2)	2 (2)

[a] There is also one initiative in which one site is the American Indian Opportunities Industrialization Center, included under "Non-profit organization."

4. Input from Experts on the Implementation of Career Pathways Initiatives

This section summarizes perceived successes, challenges, promising practices, and key lessons identified by the external experts we interviewed about career pathways implementation. The information presented here reflects their beliefs and opinions, rather than tested findings or scientifically representative surveys of the field. The experts' input is organized by topics that generally align with one of the elements in the program-level and system-level definitions of a career pathways approach specified by WIOA and in DOL's *Career Pathways Toolkit*, respectively. When a topic aligns, the definition and its element are specified by parentheses in the title of the subsection.[10]

The topics covered are: (1) partnerships, (2) employer engagement, (3) education and training design, (4) funding, (5) alignment, (6) measurement, (7) meeting economic demand, (8) articulation and stackable credentials, (9) supportive services, (10) occupational advancement, (11) professional development, and (12) paid work-based education and training. Under each topic, successes and challenges that experts identified in implementing the element are discussed, as applicable.

4.1.1 Partnerships (DOL Six Elements: "Build cross-agency partnerships and clarify roles")

Our group of experts collectively spoke about the importance of partnerships for career pathways initiatives and engaging the following entities: educational institutions, community-based organizations, Workforce Development Boards, employers, and State and local agencies. Two experts agreed that no one entity alone could develop a successful program- or system-level career pathways initiative. Three experts agreed that all partners should be involved from the beginning and that, ideally, all partners should "buy-in" to the initiative. One expert called for the postsecondary education system to be at the center of system-level career pathways initiatives, as they provide the core service and move individuals toward degree attainment. Another expert noted for partnerships to function well, partners need to know how their performance in their roles will be measured.

Perceived Successes

One expert reported that she perceived system-level initiatives to be doing a good job of identifying which stakeholders needed to be included in career pathways initiatives. Experts who were involved in the career pathways effort based at the City Colleges of Chicago attributed their success in part to the shared vision for the program that was set at the top and filtered all the way down through the different entities involved.

Perceived Challenges

One expert noted that career pathways initiatives have not been implemented well at the system level because of a lack of coordination among agencies. Another expert explained that system-level career pathways initiatives can have difficulty clarifying the roles of the various entities involved because clarification requires one partner to stop doing something so another partner can do it instead. Relatedly, another expert described how the field has tasked two different entities (career and

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[10] Some topics apply to both program-level and system-level career pathways approaches, even though the topic (e.g., Partnerships) aligns with only one of the definitions (e.g., DOL Six Elements)

technical education entities and local Workforce Development Boards) with carrying out programs of study and career pathways approaches, respectively, and it is difficult to coordinate these efforts.

Another expert explained that a system-level partnership has not developed in her State because there is no organized effort around career pathways approaches, no shared vision across State agencies, and no agencies have any ownership over or responsibility for the effort. One expert noted that throughout her State, she sees local organizations that provide one piece of a career pathways approach that are interested in connecting to organizations that provide the other pieces, but they do not know how to find and engage with partners.

Four experts explained that though partnerships with workforce systems are important, they have been particularly challenging because there is no shared understanding about the role of the workforce system in career pathway strategies; local Workforce Development Boards are not always knowledgeable about career pathways approaches; and the workforce system is generally designed to place people into immediate employment. One expert noted that community-based organizations often have little influence in career pathways initiatives because there is limited funding for the services these organizations provide and their roles are not well defined. The same expert noted that labor/management organizations do not connect well to partnerships around career pathways initiatives, despite being successful with participants.

Challenges also exist within different types of entities. For example, two experts explained that it is difficult to collaborate across different educational settings and silos within institutions (e.g., K-12, postsecondary developmental education, and credit and non-credit postsecondary education and training) because the operation and goals in each setting and silo vary. Two experts also noted that historically, college faculty have not been involved in career pathways initiatives at the design phase, which is problematic because they need to be the ones to engage with employers so they can adapt to changes in technology and the economy and labor market.

4.1.2 Employer Engagement (DOL Six Elements: "Identify industry sectors and engage employers")

Five experts spoke about the importance of meaningful employer engagement that gives employers some level of ownership or buy-in to program- and system-level career pathways approaches. Five experts agreed that employers should be involved from the start—during the design phase—to help contextualize curriculum, provide input on stackable credentials, and ensure that career pathways programs align with the requirements unique to the target sector and employer. One expert identified six categories of employer engagement: planning and design; governance and oversight of program operations; work-based education and training and other service delivery; systems change, including employer policies and practices; hiring and other "customer" relationships; and supporting the career pathways program (e.g., advocating for public funding). Two experts also identified a broad, sector-based strategy as a promising practice for developing and building sustained, system-wide career pathways approaches.

Perceived Successes

Two experts agreed that system-level career pathways initiatives have successfully identified sectors. At the program level, three experts spoke about using a sector-focused strategy when designing programs. One expert described her experience working with an employer who helped redesign the information technology (IT) curriculum so participants graduated with a specific set of skills that

were in demand locally, rather than with a generalist IT background. One expert noted that having intermediary organizations between the career pathways program and employers was one successful method for engaging employers.

Perceived Challenges

Three experts agreed that system-level career pathways initiatives have not consistently engaged employers. One expert explained that employer engagement can be challenging due to insufficient resources for staffing outreach and lack of interest from employers.

Another expert spoke about the tension between engaging employers at the program level versus working on pathways at the system level to make them sustainable after grant funds end. She explained that though much of the work of engaging employers must be done locally in order to meet their specific needs, building sustainable pathways on the education side involves identifying and addressing where the pathways design conflicts with traditional institutional practice and policy. Employer engagement at the program level does not translate to the system level because employers must be involved in the design phase. She thought it was critical to the sustainability of system-wide career pathways approaches to use the career pathways framework as a way of doing business as an education institution.

Another expert noted that career pathways programs need to be more flexible in order to be more responsive to employer needs.

4.1.3   Education and Training Design (WIOA: "Provide concurrent and accelerated program designs") (DOL Six Elements: "Design education and training programs")

Several experts spoke about the successes and challenges around program design, including acceleration, contextualization, and creating curriculum content.

Perceived Successes

Six experts explained that instructional innovation is one area in which there has been a lot of interest and activity in career pathways approaches. Experts identified initiatives in Illinois, Minnesota, and New York as having successfully implemented contextualized curriculum models. One expert noted that career pathways efforts have recently improved sequencing courses, aligning education competencies and credentials, and involving faculty in pathway design.

Perceived Challenges

One expert noted a lack of funding for acceleration strategies. Another noted the importance of tailoring acceleration strategies to different target populations; for example, adults who are re-learning something versus those who are learning something for the first time. Two experts explained that the importance of contextualizing basic skills education may not be recognized by all partners in career pathways initiatives, particularly Workforce Development Boards.

4.1.4   Funding (DOL Six Elements: "Identify funding needs and sources")

Several experts spoke about successes and challenges with funding at the program and system levels. (This section discusses issues related to funding full career pathways efforts, as opposed to singular elements of a career pathways model, e.g., acceleration strategies. Funding discussions also appear under other topics.)

Perceived Successes

One expert explained that the most successful funding model is one in which the State provides funding and a consortium of employers provides a match. Three experts spoke about having some success "braiding" funding, or using multiple different funding streams (e.g., federal grant initiatives, TANF, SNAP) to support a single program.

Perceived Challenges

Three experts spoke about sustainability of funding. When there is major federal or philanthropic funding, various stakeholders organize to build career pathways programs, but once the funding ends, partnerships fall apart and program models disappear. Though some experts spoke about successfully braiding funding, one expert identified this as a gap in the field; people need help understanding how to do this.

4.1.5 Alignment (DOL Six Elements: "Align policies and programs")

Approximately one-third of experts spoke about challenges aligning policies and programs, at both the program and system levels.

Perceived Successes

None identified.

Perceived Challenges

Four experts noted that system-level initiatives have not spent enough energy aligning policies and programs. One expert explained that the lack of alignment was responsible for the lack of a clear vision and partners' different expectations. Experts also referred to challenges with specific policies and programs. One expert noted that work on career and technical education and on career pathways approaches is happening separately, but it would be beneficial for both efforts to align them. Another expert identified the need to align career pathways approaches and the guided pathways movement in postsecondary education. Finally, two experts representing labor/management partnerships discussed how non-traditional apprenticeships, particularly in the early care and education sector, did not fit into the typical apprenticeship model and require the workforce system to engage with them differently.

4.1.6 Measurement (DOL Six Elements: "Measure system change and performance")

All experts spoke about the importance of measurement and data in career pathways initiatives. Several discussed the importance of data in advancing an equity strategy that would use a career pathways approach to help close education achievement gaps between populations.

Perceived Successes

Representatives from two different career pathways efforts—in Illinois and Arkansas—spoke about how measurement was included in their efforts from the beginning. In Illinois, it was established at the top; in Arkansas, it was written into the authorizing legislation. In both programs, there is a sense of accountability around measurement, and performance data are reported publicly.

Perceived Challenges

Two experts noted that system-level career pathways initiatives are spending the least amount of time focused on measuring system change and performance. One expert explained that it was difficult to measure system change because career pathways initiatives in her State are entwined with other efforts, making it difficult to attribute outcomes solely to career pathways initiatives. Another expert

noted that in order for data to be generated, someone needs to own the responsibility of producing them, and that is often not the case.

Two experts explained that there are challenges both in developing measures with which partners agree and in developing the systems that produce the data. One expert noted that it was difficult to collect data on individuals who move in and out of the career pathways initiatives over long periods of time. Other experts spoke about the lack of data available; specifically, data on pre- and post-employment outcomes, receipt of stackable credentials, the number of services used, and progress along a pathway. Several experts spoke specifically about the need for data broken out by subgroup. One expert explained that the lack of data is due in part to a lack of funding for measurement.

4.1.7 Meeting Economic Demand (WIOA: "Align with the skill demands of the State and local economy")

Three experts explained that the most effective career pathways approaches are those in sectors with the strongest labor demand and are driven by employers. One expert noted that demand should be factored in at the design phase of program- and system-level initiatives. Another expert explained that as the economy gets stronger, it is easier for individuals to make progress along career trajectories.

Perceived Successes

None identified.

Perceived Challenges

None identified.

4.1.8 Articulation and Stackable Credentials (WIOA: "Prepare individuals to be successful in a range of secondary and postsecondary education options")

Four experts identified stackable credentials as critical to moving individuals out of poverty. Three experts explained that though employers want individuals to obtain as many technical skills as possible up front, it is important that core courses not be left until the end of the program. Leaving them decreases the likelihood that participants will finish all courses and obtain credentials, such as an associate degree.

Perceived Successes

Two experts noted that there has been progress in communicating career pathways approaches to students. In Wisconsin, core courses are embedded in stackable credentials, which slows the pace of education and training and can be frustrating for employers, but also better positions individuals to earn associate degrees.

Perceived Challenges

Two experts described the need for more information about stackable credentials—the number of people who complete these types of credentials, obstacles and design challenges, and the relationship between stackable credentials and associate degrees.

4.1.9 Supportive Services (WIOA: "Include academic and career counseling, as well as non-academic supports")

Five experts identified supportive services—including, for example, case management, academic counseling, career coaching, direct support in the form of transportation and child care assistance—as

critical to the success of career pathways approaches, particularly for very low-skilled, hard-to-employ populations.

Perceived Successes

Three experts identified the Arkansas Career Pathways initiative as particularly successful in providing these services. Program representatives for Arkansas identified this element, which they described as "handholding," as fundamental to the success of their program. Arkansas elevated the importance of supportive services, particularly case management and education navigation, above financial assistance. Another expert representing a labor/management partnership noted that her program had successfully braided and leveraged funding for these services.

Perceived Challenges

Five experts identified the primary challenge in offering supportive services as one of funding. They noted that supportive services tend to be expensive and underfunded, and that funding is not available through regular funding streams. One expert described the need to pursue many different grants to provide these services and that supportive services were being implemented inconsistently as a result. Three experts explained that supportive services rarely survive when the funding from major grants ends. They called for building services into existing, more permanent funding structures.

Three experts also noted that supportive services are not always built into career pathways programs. This may be in part because the institutions administering career pathways programs may not typically offer these services outside of these programs. An expert from a non-profit organization identified this as a challenge in working with community colleges and noted the importance of partnerships to ensuring that all elements of career pathways approaches are provided. Another expert noted that counselors at community colleges are not traditionally involved in career pathways initiatives, but they had expressed interest, and with some re-training, they could be re-deployed in this capacity.

4.1.10 Occupational Advancement (WIOA: "Help individuals to enter or advance within a specific occupation or occupational cluster")

Five experts discussed the need to provide individuals with skills that are specific enough that they can obtain jobs, but broad enough that they can work in several different occupations within a sector, following the demands of the local economy.

Perceived Successes

A representative from a career pathways program in IT in Illinois described how its graduates had been leaving with an associate degree in IT, but their skills were too general. Local IT employers helped the program modify its pathway to provide graduates with more specific IT skills.

Perceived Challenges

One expert noted that employers want workers with skills to fill specific occupations and do not acknowledge having any responsibility for preparing individuals to be successful in a range of occupations.

4.1.11 Professional Development

Six experts identified professional development—for program leaders, faculty, advisors, and case managers—as critical to the success of career pathways efforts. Three experts noted that professional

development could be used to embed career pathways approaches in institutions by teaching these practitioners about systems, scale, and sustainability.

Perceived Successes

Experts in Arkansas and New York both successfully implemented professional development in their career pathways initiatives.

Perceived Challenges

Three experts noted that there is rarely enough time and money for professional development.

4.1.12 Paid Work-Based Education and Training

Two experts noted that work-based learning—in the form of apprenticeships, internships, etc.—could be more engrained in career pathways approaches. However, one expert cautioned that this strategy may not work well in all industry sectors.

Perceived Successes

None identified.

Perceived Challenges

None identified.

5. Summary of Implementation of Career Pathways Initiatives

This section summarizes our analysis of definitions of career pathways approaches and the successes and challenges identified by external experts, describes key findings about career pathways implementation learned through this synthesis, discusses questions for future research, and concludes with a brief discussion of next steps.

5.1 Comparison of Definitions of a Career Pathways Approach to Successes and Challenges

Exhibit 5.1 compares the analysis of program- and system-level definitions of a career pathways approach from section 2 to the successes and challenges identified in our discussions with external experts. Each row contains one of the elements of career pathways approaches that arose in our discussions with experts; we only included elements for which we had expert feedback.

For each element, we present the number of program-level national frameworks of career pathways in which the element appears, as well as the number and percentage of program-level initiatives that contain the element. We do the same thing for system-level frameworks and initiatives. For example, "partnerships" appears in one of the four program-level national frameworks, 13 percent of program-level initiatives, all six system-level frameworks, and 53 percent of system-level initiatives. Each row also contains a summary of the perceived successes and challenges with implementing the career pathways component identified by experts in our group discussions. For example, on the topic of partnerships, experts noted that many career pathways efforts are successful at identifying stakeholders, but are less successful at clarifying their roles.

While experts identified challenges for almost all elements of career pathways approaches, experts indicated that in their experience the following elements – common in program-level definitions – have been implemented with at least some success: Education and Training Design, Meeting Economic Demand, and Occupational Advancement. In contrast, Sustainable Funding, Policy Alignment, and Performance Measurement, while identified in most system-level national frameworks of career pathways (for each element, either four or five of five), do not appear in many system-level initiatives (28 percent to 34 percent), and experts identified several challenges with their implementation. Supportive Services is a common element in program-level definitions of a career pathways approach, but experts reported several issues implementing these services, particularly around sustainable funding.

The Implementation of Partnerships element is more mixed. This element appears in some program-level definitions (the 2012 Federal Agency Letter and 13 percent of program-level and program/system-level initiatives) and most system-level definitions (both national frameworks and definitions used in practice by career pathways initiatives). Experts identified some successes with the early stages of partnership formation, but they reported several challenges with the implementation of partnerships. Finally, one element – Professional Development – does not appear in any definitions of a career pathways approach, but experts identified it as critical to the success of career pathways approaches.

Exhibit 5.1   Summary of Definitions of a Career Pathways Approach, Successes and Challenges

Topic	Program-level National Frameworks	Program-level Initiatives	System-level National Frameworks	System-level Initiatives	Perceived Successes Identified in Group Discussions	Perceived Challenges Identified in Group Discussions
Partnerships	1 of 4	13 (13%)	6 of 6	24 (53%)	shared vision; identifying stakeholders	coordination; clarifying roles; shared vision/ownership; finding/engaging with partners; working with workforce system, community-based organizations, and labor/management organizations; collaboration across different educational settings; silos within institutions; faculty
Employer Engagement	0 of 4	0 (0%)	4 of 6	22 (42%)	sector identification; engaging employers in curriculum development; using intermediary organizations	consistent employer engagement; resources; employer interest; engaging employers at the system-level; program flexibility
Education and Training Design	4 of 4	68 (70%)	3 of 6	16 (30%)	contextualized curriculum models; sequencing courses; aligning education competencies and credentials; involving faculty in pathway design	funding for acceleration; tailoring acceleration to different target populations; partner (particularly Workforce Development Board) understanding of importance of contextualized basic skills
Funding	0 of 4	0 (0%)	6 of 6	13 (25%)	model in which State provides funding and consortium of employers provides match; braiding funding streams	sustainability; braiding funding streams
Alignment	0 of 4	0 (0%)	5 of 6	16 (30%)	-	limited effort on aligning policies; career pathways approaches not aligned with career and technical education or guided pathways; non-traditional apprenticeships

Topic	Program-level National Frameworks	Program-level Initiatives	System-level National Frameworks	System-level Initiatives	Perceived Successes Identified in Group Discussions	Perceived Challenges Identified in Group Discussions
Measurement	0 of 4	0 (0%)	6 of 6	14 (26%)	specific examples in Illinois and Arkansas; accountability; publicly reported	limited effort on measurement; career pathways approaches entwined with other programs; no ownership over data; developing measures; developing systems to produce data; collecting longitudinal data; lack of data by subgroup and on pre- and post-employment outcomes, stackable credentials, number of services used, and progress along a pathway; funding
Meeting Economic Demand	4 of 4	61 (63%)	0 of 6	0 (0%)	-	-
Articulation and Stackable Credentials	4 of 4	70 (72%)	0 of 6	0 (0%)	communicating career pathways approaches to students; core courses embedded in stackable credentials leads to degrees	need more information about the number of people who complete these types of stackable credentials, obstacles and design challenges, and the relationship between stackable credentials and associate's degrees
Supportive Services	4 of 4	74 (76%)	0 of 6	0 (0%)	specific example in Arkansas; case management and education navigation; braiding and leveraging funding for services	funding; not built into career pathways programs; counselors at community colleges an untapped resource
Occupational Advancement	4 of 4	97 (100%)	0 of 6	0 (0%)	preparing students with specific, not generalist, set of skills	employers do not support preparing individuals to be successful in a range of occupations
Professional Development	0 of 4	0 (0%)	0 of 6	0 (0%)	specific examples in Arkansas and New York	time; funding

| 5.2 | Key Findings about Career Pathways Implementation |

Below are the key findings from our examination of definitions of a career pathways approach, the Implementation Matrix, and our discussions with external experts.

Findings from Definitions of a Career Pathways Approach and Scan of Career Pathways Initiatives

- There is some level of agreement in practice about the definition of a career pathways approach at the program level, but less so at the system level.

- Most career pathway initiatives are at the program level and most offer more than one step of training in at least one site.

- More initiatives in this implementation synthesis than in the accompanying research synthesis for this project contain more than one step of training at *every* site. This suggests that there may be a greater focus on pathway advancement out in the field than is captured in research on career pathways approaches at the moment.

- Most initiatives target low-income, low-skilled individuals; operate in the healthcare sector; provide short-term training opportunities; and are led by community colleges or non-profits.

Findings from Discussions with Experts

- The experts we interviewed, whose experience was at the local, State, and national levels, observe that a number of local entities and their partners have successfully implemented career pathways strategies at the program level.

- They also point out that funding and sustainability are major challenges in implementing career pathways approaches. When federal and philanthropic grants end, partnerships and models are often discontinued. It is often difficult for programs to find funding for certain elements of career pathways, such as support services, professional development for program leaders, faculty, advisors, and case managers, and performance measurement.

- There has been less perceived success implementing career pathways approaches at the system level compared to the program level. Most of the focus in system-level initiatives has been on the preliminary steps in defining pathways, building partnerships, as well as identifying sectors and discussing how to engage employers.

- These experts also believe that implementing career pathways approaches at a system level requires a culture change. For career pathways initiatives to be sustainable, they must engage systems and institutions in changing culture and policy to use the career pathways framework as a way of doing business, not a special add-on.

- Related to this, they perceive that there has been little attention given to aligning policies to support career pathways implementation.

- Experts observe that career pathways approaches generally require partnerships at the State and local levels across a host of different entities. Ideally, all partners should be included in an initiative from the beginning. Meaningful partnerships require partners to feel a sense of ownership over a career pathways initiative, as well as some responsibility for its outcomes. The

workforce system is very important to the success of career pathways approaches, but they do not consistently have the knowledge of or incentives to support career pathways approaches.

- Career pathways initiatives appear to be strong when they are based on strong labor demand and engage employers, according to these experts. What works in one sector or even with one employer may not work in another sector or with another employer.

- Finally, the experts we interviewed agree that there is a lack of data to help programs and systems track progress in achieving their goals for career pathways initiatives. The availability of data, especially on outcomes and return on investment, would help engage partners and obtain funding. Because closing equity gaps in postsecondary credential attainment--across characteristics such as race and ethnicity and gender—is an important goal, data on career pathways approaches should be available by subgroup.

5.3 Questions for Future Research

Based on this synthesis, below is a list of research questions about career pathways approaches. Several questions generated through the implementation synthesis have already been identified in the previous *Career Pathways Research and Evaluation Synthesis* report. New questions generated by this implementation synthesis appear in **bold**. Most of the new questions were suggested by the experts in career pathways approaches during our discussions. These questions largely reflect the concerns from the field as reflected in the feedback from our discussions with experts. Other questions were identified in the course of our analyzing both the discussion information and data in the Implementation Matrix (Appendix A).

Implementation of Full Career Pathways Approaches

We found that a greater proportion of the initiatives contained more than one step of training, suggesting that there may be a greater focus on pathways advancement in the field than is currently reflected in the research. We also found that most program-level career pathways initiatives emphasize several of the elements of the WIOA career pathways definition.

- To what extent can a full career pathways model—one incorporating many elements of the WIOA definition, for example—be implemented with fidelity? Is this an appropriate goal? How should career pathways models be defined and implementation of them measured?

- **How have States created broad system-level career pathways approaches? To which parts of the pathways are different States paying attention? What has the evolutionary path been for States to create system-level career pathways initiatives?**

- **What are best practices for implementing career pathways approaches?**

Understanding Career Pathways Approaches

We found that most career pathways initiatives offer more than one step of training in at least *one* site. We also found that, as compared to studied initiatives, more of the implemented initiatives contain more than one step of training at *every* site, suggesting that there may be a greater focus on pathway advancement in the field than is captured in current research on career pathways approaches. Furthermore, experts identified several questions aimed at better understanding the contribution of various components, and particular services, of career pathways approaches.

- Which components of career pathways are the strongest drivers of positive impacts? That is, what matters most among such elements as instructional and curricular innovation, integrated basic skills and training, career coaching, academic supports, financial aid, support services (child care, transportation, etc.), job development, work-based learning, retention services, or others? Which components matter most for which subgroups?

- Do participants advance through multiple, progressively higher steps of education and training, and associated jobs with higher pay, over time? Or do most stop at entry-level training and employment, even over a long follow-up period? If so, why? **Who moves up successfully? What strategies work in helping participants advance through career pathways programs and employment? At what points in a career pathways program or in a career trajectory in the labor market do participants get stuck and why? Who gets stuck at each of these points?**

- **Do career pathways approaches work best where labor demand is high?**

Cost/Return on Investment Questions

Experts identified funding and sustainability as major challenges in implementing career pathways.

- What does it cost to implement career pathways, and are sites able to sustain a career pathways approach once special sources of funding such as grants end? **What are the costs of each stage of implementing career pathways (i.e., planning and design; start-up; operations, such as assessment, basic skills/literacy, soft skills, occupational training, support services, follow-up services, and case management; sustainability)?**

- What is the return on investment to career pathways for individuals, the public, and employers?

- What is the relative labor market payoff to different types of occupational education and training programs and credentials in a career pathways approach? To what extent does it vary by characteristics such as program length, sector, regional labor market, special credential, etc.?

Employer Engagement

Experts spoke about how career pathways initiatives are strongest when they are based on strong labor demand and engage employers.

- How replicable are the employer relationships seen in several of the programs with positive effects? What are other key replication challenges?

- **What are the strategies for ensuring employer engagement is part of the career pathways framework as it is being implemented, and how can employers be engaged systematically?**

- **What are some examples of career pathways programs in which employers have been engaged (e.g., invested in curriculum) and that involvement has benefited employers?**

- **Do programs in which employers have been identified as supportive of career pathways and/or offering high-quality jobs lead to better outcomes for workers and employers?**

Industry/Sector Issues

We found that career pathways efforts were concentrated in certain sectors, specifically healthcare, manufacturing, and information technology, raising questions about the viability and specific concerns for career pathways in other sectors.

- How viable is the career pathways approach in sectors other than healthcare, manufacturing, and information technology?

- **Do WIOA requirements regarding sector partnerships at the State level benefit the development of career pathways?**

Career Pathways for Specific Target Populations or Subgroups

We found that most initiatives target low-income and low-skilled populations. Experts expressed interest in research on subgroups.

- What works best for which subgroups, especially those less studied, such as youth, Hispanics, and individuals with specific employment barriers such as no high school diploma, very low skills (less than eighth grade), limited English proficiency, criminal records, or disabilities?

- **What are the barriers to career pathways access and success for the lowest skilled individuals? What are the promising practices for addressing these barriers?**

- **Do paid training opportunities decrease disparities in outcomes across different subpopulations?**

Partners

We found that most career pathways initiatives are led by community colleges or non-profits. We heard from the experts we interviewed that the workforce system is important to the success of career pathways, but it does not consistently have the knowledge of or incentives to support career pathways.

- What roles in career pathways can and should the workforce system play as compared with other entities, such as community colleges, which were more than twice as likely in the initiatives examined to lead the initiative? To the extent that these roles were shaped by the structure of past federal grant initiatives and Workforce Investment Act policies, how might they change with the implementation of WIOA and new grant opportunities?

- **Do labor/management partnerships lead to better career pathway outcomes? Does community-based organization involvement lead to better outcomes?**

Other

Given their expense and the limited funding available for support services, experts expressed an interest in learning about which ones work best. Experts also expressed an interest in learning more about the role of apprenticeship in career pathways.

- **Which support services and benefits (including financial aid, career navigation/educational/career counseling/case management, transportation, etc.) make a difference? What are the impacts of supportive services? Which services are critical to moving individuals along a career pathway? Are different services critical at different points along a career pathway?**

- **Does the ApprenticeshipUSA State Expansion Grant Initiative support the growth of career pathways?**

As described in the *Career Pathways Research and Evaluation Synthesis*, for several of these questions, ongoing studies are unlikely to add much evidence. Some key questions largely not addressed by current research include the viability of career pathways in sectors other than healthcare and manufacturing; how well the career pathways model works for understudied groups such as those noted above; the relative effectiveness of particular components within a career pathways bundle of benefits and services; the return on investment to career pathways; and the role of the public workforce system in career pathways.

Overall, our synthesis of career pathways implementation added to these some additional research questions that: (1) focus on best practices and strategies that practitioners can employ immediately, particularly around employer engagement; (2) examine the progress of and lessons to be learned from system-level efforts; (3) address the efficacy of sector-based approaches; (4) assess the success of career pathways initiatives with an experiential learning component; and (5) examine the effectiveness of different types of supportive services.

5.4   Next Steps

This synthesis of the implementation of career pathways initiatives is the second step in the Career Pathways Design Study that will summarize existing knowledge and shape future research on career pathways strategies. The first report synthesized research and evaluation on career pathways approaches, and the next and third report will examine the potential for career pathways approaches in the early care and education sector.

Together, these three documents will inform the study's final report—the career pathways evaluation design options report. That final report will identify research questions based on gaps and priorities identified in the previous three reports; and describe possible design options and data sources for answering the research questions.

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