



# Evidence on Career Pathways Strategies: Highlights from a Scan of the Research

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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. A career pathway enables an individual to enter and exit training at various levels. Each step on a pathway is intended to prepare the individual to progress to the next level of employment and/or education. Step to step, the individual can advance to higher skills, recognized credentials, and higher-paying jobs. Career pathways strategies target jobs in leading local industries and seek to build strong relationships with employers.

## About the Study

The **Descriptive & Analytical Career Pathways Project** is sponsored by DOL's Chief Evaluation Office in close collaboration with the Employment and Training Administration. It builds on findings from Abt's earlier Career Pathways Design Study (CP Design Study),<sup>1</sup> which focused on understanding the state of the career pathways field and identifying evidence gaps (see *Study Background* p. 1). As part of that earlier study, Abt scanned the field to summarize career pathways research as of February 2017. We found a great deal of research was ongoing at the time. In particular, a large number of impact studies were expected to generate new findings in the next

## Highlights

- This brief, and its complementary matrix, update and expand a scan of career pathways research completed in February 2017 to share **emerging new evidence** with the field and support a forthcoming meta-analysis.
- This review covers **81 research projects** that include **123 separate evaluations**.
- Research projects most commonly examined programs in the **healthcare** and **manufacturing** sectors, with **IT, business** and **construction** also common.
- Participants tended to be **high school graduates** and overall were **as likely to be men as women**. Women more often trained in healthcare, with the reverse true in manufacturing for men.
- To date, the majority of evaluations with **impact findings** looked at short- to medium-term outcomes. Among these findings:
  - **most education outcomes were positive** (83 percent); and
  - the **majority of employment and earnings outcomes were also positive** (62 and 63 percent, respectively).
- A number of ongoing evaluations will release **long-term impacts** in the next few years. This will be important for understanding the full labor market impact of career pathways programs as early on many participants remain in training or have only recently completed.
- Long-term findings will also shed light on the extent to which participants move up to **higher levels of education and jobs over time**.

## Study Background

The Workforce Innovation Opportunity Act (WIOA) emphasizes the use of career pathways programs and requires the Department of Labor (DOL) to conduct a study to develop, implement, and build upon career advancement models and practices. In order to respond to the need for information and evidence in the field due to this growing emphasis, DOL's Chief Evaluation Office, in collaboration with the Employment and Training Administration, contracted with Abt Associates to conduct the Descriptive & Analytical Career Pathways Project. The project's purpose is to advance the evidence base in the career pathways field by addressing key research gaps, drawing primarily on existing data, to inform career pathways systems and program development to help meet the needs of both participants and employers.

<sup>1</sup> The final reports for the CP Design Study are available at <https://www.dol.gov/agencies/oasp/evaluation/completedstudies>

few years. For the full report on findings from the scan completed in 2017, see the *Career Pathways Research and Evaluation Synthesis*.<sup>2</sup>

This brief, and its complementary Career Pathways Research and Evaluation Matrix, update and expand the earlier scan in order to share emerging new evidence with the field and to provide the most current set of studies for a forthcoming meta-analysis of impact findings under this project. The Descriptive & Analytical Career Pathways Project will also advance the career pathways evidence base through two other studies: one that will describe worker career trajectories in the wider labor market and another that will use machine learning approaches to identify and explore trends in qualitative data on career pathways.

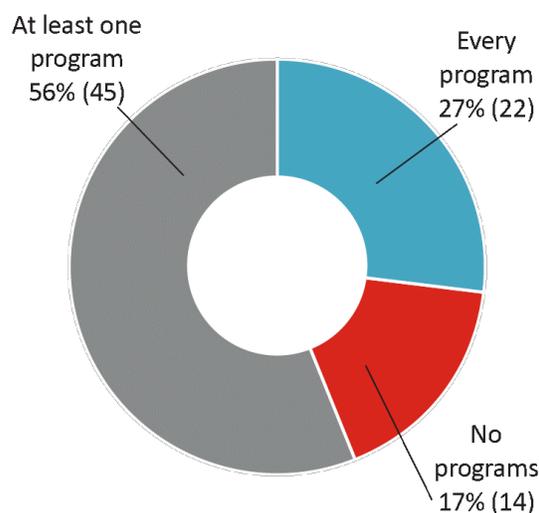
This brief combines information from the earlier scan with additional research begun or which produced new findings between February 2017 and February 2019. We first share what our expanded scan found, specifically referencing how the addition of new studies, and additional results from studies that had already been included, has changed our understanding since the 2017 scan. We then look ahead to efforts to fill gaps in the evidence on career pathways strategies. For details about individual research projects reviewed for this brief see the expanded Career Pathways Research and Evaluation Matrix.<sup>3</sup> (See *Overview* p. 7 for the definitions of key terms used in this brief.)

## Findings from the Expanded Research Scan

**Since 2017, new evidence has emerged on career pathways strategies. In particular, many evaluations have recently shared impact findings. These results focus to a greater extent on career advancement than did earlier findings.**

- The expanded scan includes 81 research projects, which adds 29 to the 52 included in the 2017 scan. Within those 81 research projects are 123 separate evaluations (see *Overview* p. 7). Much of the newly added research is from the Trade Adjustment Assistance Community College and Career Training (TAACCCT) initiative.
- The expanded scan includes impact results from 96 evaluations, whereas the 2017 scan found just 20, an addition of 76 evaluations, reflecting how much research was underway but in early stages for the earlier scan.
- Slightly more research projects included initiatives with a focus on career advancement in the expanded scan as compared to the earlier scan (see *Overview* p. 7). The extent to which there was a focus on career advancement varied among programs within a research project. Most research projects (67, or 83 percent) included at least one program that focused on career advancement (Exhibit 1), an increase from 75 percent of projects in the

**Exhibit 1. Prevalence of Career Advancement Focus among Research Projects (N=81)**



<sup>2</sup> Schwartz, Deena, Julie Strawn, & Maureen Sarna. (2018). *Career Pathways Research and Evaluation Synthesis: Career Pathways Design Study*. Prepared by Abt Associates for the U.S. Department of Labor, Chief Evaluation Office.

<sup>3</sup> Adam, Tara, & Maureen Sarna. (2020). *Expanded Career Pathways Research and Evaluation Matrix*. Prepared by Abt Associates for the U.S. Department of Labor, Chief Evaluation Office.

earlier scan. More than half (79) of the 123 evaluations were of programs that focused on career advancement.

- In only about a fourth of research projects (22, or 27 percent), however, were all of the programs under study implementing a more fully developed career pathways model (see *Overview* p. 7). This was true of 23 percent of projects in the earlier scan.

**Most career pathways research focused on program-level initiatives. A higher proportion of projects in the expanded scan involved manufacturing and they served higher proportions of men than those in the 2017 scan, reflecting the addition of more TAACCCT studies.**

- Among the 81 research projects reviewed, nearly all (80, or 99 percent) examined program-level initiatives. About a fourth (23, or 27 percent) examined system-level initiatives. All but one of the system-level initiatives were implemented together with program-level initiatives. This is a smaller proportion of research projects conducted at both program and system levels than in the earlier scan (22 versus 19 projects, or 27 versus 37 percent).

**Exhibit 2. Targeted Sectors/Occupational Clusters (N=81)**



- Career pathways research projects most commonly examined initiatives that targeted the healthcare sector, with manufacturing also being common. Many other initiatives targeted information technology, business, or construction (Exhibit 2). In the earlier scan, healthcare was by far the most common sector (81 percent, whereas it was only 64 percent among projects in this review), and now there is somewhat greater sectoral diversity.

Note: Percentages do not sum to 100 because research projects could target more than one sector.

- In the 2019 scan, a much greater proportion of research projects included initiatives that served mostly men as compared to the earlier scan (22 versus 2 projects, or 39 versus 10 percent). This finding, and the greater prevalence of manufacturing training among projects, likely reflects the many additional TAACCCT studies included in the expanded scan.

**Based on the demographic information reported, typical career pathways participants had a high school diploma, were equally likely to be women as men, and were white or African American.**

- In most of the 30 research projects that reported participant education levels (23, or 77 percent), at least half of participants had a high school diploma or the equivalent. Notably, though, some research projects (3, or 10 percent) targeted lower skilled individuals, with 85 percent or more of participants in these programs having less than a high school diploma or the equivalent.

- Just one in five (12, or 21 percent) of the 56 research projects that reported gender data served equal proportions of women and men. Instead it was common for programs to attract either mostly men or mostly women. In 22 projects (39 percent), at least 60 percent of participants were women and in another 22 projects, at least 60 percent were men. Gender representation tended to vary with the projects' sector focus. For example, participants in healthcare programs tended to be women and those in manufacturing programs, men.
- About one in four (11 of 42 projects, or 26 percent) of the research projects that reported ethnicity data served substantial Hispanic populations (where substantial is defined as more than one fourth of participants). It was much more common for research projects to include initiatives that served substantial African American populations (19 of 46 projects reporting data on race, or 41 percent).

**Most research projects reviewed were complete; almost all studied how programs were implemented; most examined program impacts; some described costs; and a few analyzed system change.**

- Most of the research projects reviewed (68, or 84 percent) are complete; the remainder (13, or 16 percent) are ongoing, as of February 2019. These projects are expected to end between 2019 and 2024 (see Exhibit 5). In the 2017 scan, just 23 projects, or less than half of the 52 reviewed, were complete, an indication of how relatively young the career pathways research field is (Exhibit 3).
- About one in four of the research projects used experimental methods (21, or 26 percent). About half of the research projects used either quasi-experimental (40, or 49 percent) or non-experimental methods (42, or 52 percent). (See *Overview* p. 7 for definitions). In comparison to the 2017 scan, a greater proportion of research projects used a quasi-experimental design (40 versus 15 projects, or 49 versus 29 percent) in the expanded scan.
- Some projects used more than one type of methodology. For example, most (73, or 90 percent) research projects also included an implementation study.
- About one in five research projects (15, or 19 percent) examined costs; while few projects (2, or 2 percent) focused on system change.

**Exhibit 3. Study Type in Career Pathways Research Projects**

Type	Total Research Projects (N=81)		Completed Research Projects (N=68)		Ongoing Research Projects (N=13)	
	N	%	N	%	N	%
<b>Impact studies</b>						
Experimental	21	26	12	18	9	69
Quasi-experimental	40	49	38	56	2	15
<b>Descriptive studies</b>						
Non-experimental/outcomes	42	52	38	56	4	31
Implementation	73	90	60	88	13	100
Implementation only	6	7	6	9	0	0
Cost study	15	19	9	13	6	46
System change analysis	2	2	1	1	1	8
Other <sup>a</sup>	5	6	2	3	3	23

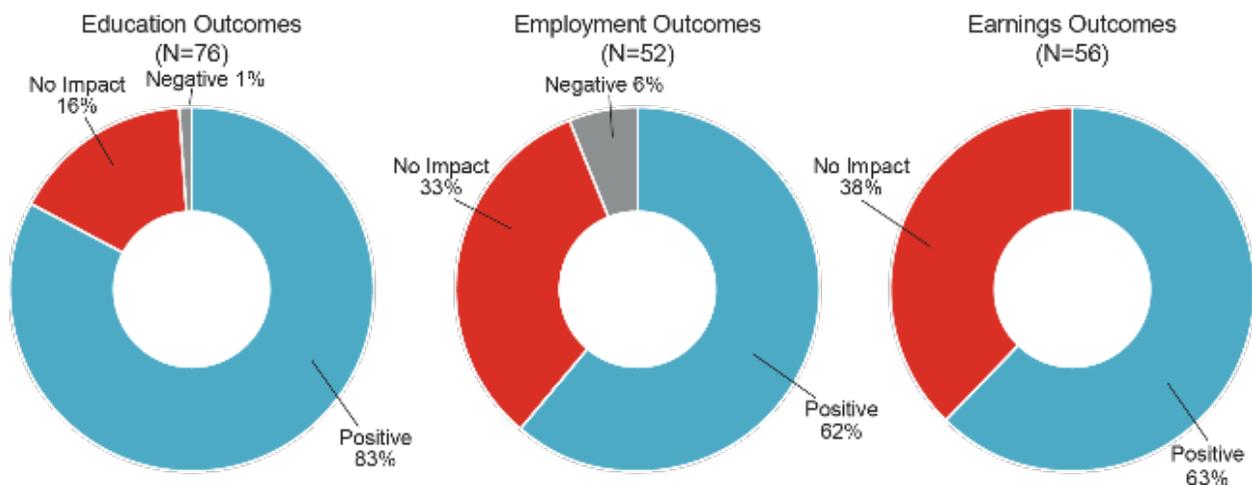
<sup>a</sup> The other types of research include the Alliance for Quality Career Pathways (CLASP) Defining Metrics study; the research and development approach for Development of College- and Employer-Based Career Pathways Models That Build on the Year Up Program Logic; broad research questions (HPOG University Partnership study); participation analysis (SNAP E&T); and special topics reports based on in-depth qualitative interviews (PACE).

Note: Percentages do not sum to 100 because many projects use more than one type of methodology.

**Of 96 impact evaluations reviewed, most found positive effects on education outcomes, confirming findings of the 2017 scan. More studies in the expanded scan included employment or earnings outcomes, and the majority found positive effects (Exhibit 4), a more favorable picture than seen in the earlier scan.**

- Of the 123 evaluations, most (96, or 78 percent) included an impact study, using either an experimental (31, or 32 percent) or quasi-experimental design (65, or 68 percent).
- Similar to the 2017 scan, impact findings from most of the evaluations were for short- to medium-term follow-up periods (one to four years). A number of ongoing evaluations will release long-term impacts (five years or longer) in the next few years.
- Of the 76 evaluations that examined **education outcomes**, most (63, or 83 percent) found positive impacts, some (12, or 16 percent) did not detect an impact, and one (or 1 percent) found negative impacts.
- Of the 52 evaluations that examined **employment outcomes**, about three-fifths (32, or 62 percent) found positive impacts, one third (17, or 33 percent) did not detect an impact, and a few (3, or 6 percent) found negative impacts.
- Of the 56 evaluations that examined **earnings outcomes**, about three-fifths (35, or 63 percent) found positive impacts, more than a third (21, or 38 percent) did not detect an impact, and none found negative impacts.

**Exhibit 4. Impact Findings for Education, Employment, and Earnings Outcomes**



Notes: Percentages do not sum to 100 due to rounding. See *Types of Outcomes Measured*, below, for description of outcome domains.

This summary reports only the direction of impact findings and says nothing about the magnitudes, which varied substantially across the evaluations. The Descriptive & Analytical Career Pathways Project’s Meta-Analysis is poised to add that detail and more.

### Types of Outcomes Measured

Evaluations measured a range of outcomes, which we have grouped into three broad domains:

- **Education outcomes:** enrollment in occupational training/programs/college; number of credits earned, number of semesters enrolled, hours of occupational training; GPA; persistence; receipt of credential/certificate/diploma; program completion/graduation; and transfer to four-year institution.
- **Employment outcomes:** employment rates, employment retention, and number of hours worked.
- **Earnings outcomes:** average monthly earnings, quarterly earnings, and average wage.

## Looking Ahead

This scan of emerging new evidence completed for the Descriptive & Analytical Career Pathways Project not only expands our understanding of knowledge gaps in the career pathways field, it also informs the development of three studies DOL commissioned to address these evidence gaps. In particular, these studies seek to enhance the field by: (1) answering specific questions related to how workers transition between jobs in the labor market on their own, outside of any particular program; (2) providing insight into which career pathways program characteristics are the strongest drivers of impacts; and (3) identifying and exploring trends in qualitative data on career pathways.

The research reviewed for this brief is encouraging; a majority of findings were positive for education, employment and earnings outcomes. The 96 impact evaluations in this scan present a starting point for the systematic meta-analysis, which will combine data from multiple studies in order to increase statistical power and allow for stronger conclusions about overall impacts. The forthcoming meta-analysis will also provide insight on which program characteristics, or combinations of characteristics, are the strongest drivers of program impacts.

### Exhibit 5. Career Pathways Research Projects Expected to Release Future Findings

Year	Research Project
2019	Health Profession Opportunity Grants 1.0 Impact Study (medium-term impacts) <sup>a</sup> Workforce Innovation Fund – Summer Career Pathways
2020	Health Profession Opportunity Grants 2.0 Descriptive Evaluation Health Profession Opportunity Grants 2.0 National Evaluation (short-term impacts) Pathways for Advancing Careers and Education Evaluation (medium-term impacts) <sup>a</sup> Trade Adjustment Assistance Community College and Career Training National Evaluation WorkAdvance (long-term impacts) Year Up: Development of College- and Employer-Based Career Pathways Models That Build on the Year Up Program Logic (final impacts)
2021	Evaluation of the American Apprenticeship Initiative Cascades Job Corps College and Career Academy Pilot Evaluation Ready to Work Partnership Grants (interim impacts) Health Profession Opportunity Grants 1.0 Impact Study (long-term impacts) <sup>a</sup> Health Profession Opportunity Grants 2.0 Tribal Evaluation Pathways for Advancing Careers and Education Evaluation (long-term impacts) <sup>a</sup>
2022	Health Profession Opportunity Grants 2.0 National Evaluation (medium-term impacts) Ready to Work Partnership Grants (final impacts) Supplemental Nutrition Assistance Program Employment and Training Pilots (final impacts)
2024	Health Profession Opportunity Grants 2.0 National Evaluation (long-term impacts and cost-benefit analyses)

<sup>a</sup> The Career Pathways Intermediate Outcomes (CPIO) Study and the Career Pathways Long-term Outcomes Study (CPLO) will examine outcomes for both the Health Profession Opportunity Grants 1.0 Impact Study and the Pathways for Advancing Careers and Education study.

This scan also points to other areas for which we can expect substantial increases in knowledge over the next few years. Research projects that release long-term impact findings over the next several years (see Exhibit 5) will provide additional critical information. For example, in education-focused programs such as career pathways, earnings outcomes can take substantial time to materialize<sup>4</sup> as many participants either are continuing in training or have only recently completed training at the time of a study’s follow up. Long-term impact findings will also shed light on whether participants move up to higher levels of education and jobs over time and whether short- and medium-term employment and earnings impacts achieved by programs grow, fade, or are sustained. Such

<sup>4</sup> The literature calls this common finding “lock in”. See Card, David, Jochen Kluve and Andrew Weber “What Works? A Meta Analysis of Recent Active Labor Market Program Evaluations.” *Journal of the European Economic Association*, Volume 16, Issue 3, June 2018, Pages 894–931.

evidence is essential for assessing the potential for, and limitations of, career pathways strategies to help workers and employers, and can identify lessons for the field to strengthen future policy and practice.

## Overview of Research Projects Reviewed

Building on the approach and findings from the CP Design Study, which included discussions with 44 external experts, this expanded scan of career pathways research focuses on initiatives that (1) target adults (including young adults, but excluding high school students); (2) include occupational training; and (3) describe themselves as involving career pathways or include at least one key element of the career pathways approach. For purposes of this analysis, we differentiate between research projects and evaluations:

- A **research project** has a single research team and set of research questions, a common funder(s), and overall a common approach to examining outcomes or impacts.
- Sometimes a large research project is structured to examine outcomes or impacts separately by grantee, site, or training program. We define these separate research units as **evaluations**. For example, the Pathways for Advancing Careers and Education (PACE) study was a single research project that included evaluations of nine programs, each with separately reported implementation and impact findings. The 81 research projects reviewed here included 123 evaluations.

In this brief and the accompanying matrix, we note certain characteristics of research projects that help the reader understand career pathways models and studies. **Key terms** include:

- We use the phrase **“multiple steps of training”** as a proxy for more fully developed career pathways initiatives and initiatives that promote **career advancement**. The brief highlights those research projects that include more fully developed career pathways initiatives, offering multiple steps of education or training organized in a formal career pathway, or that actively feed from one step of education/training into another closely linked one even if the program does not offer that next step themselves. Examples include Medical Assistant to Licensed Practical Nurse to Registered Nurse, or Forklift Driver to Shipping/Receiving Clerk to Logistics Technician. In research projects that examine multiple programs, we indicate whether all programs, at least one program, or no programs focus on career advancement.
- We define **system-level initiatives** as those addressing 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](#). Those six are: (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.
- We define **program-level initiatives**, as specified in WIOA, as those seeking to provide individualized training and supports 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. Many of the initiatives studied included only some of the elements in these system-level and program-level definitions.
- **Impact studies** seek to understand what difference a program makes by comparing participants with access to program services (“intervention” group) to similar individuals without access to those services (“control” or “comparison” group). They are either “experimental” or “quasi-experimental” in design.<sup>5</sup>
- **Descriptive studies** are “non-experimental” and describe programs in various ways, such as implementation, costs, system change, and participant outcomes, without trying to determine whether the program itself or other factors caused the outcomes observed.

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<sup>5</sup> An impact study with an “experimental” design randomly assigns people to one of those two groups using a lottery-like process. A “quasi-experimental” design uses other, non-randomized methods for comparing the intervention group to a comparison group.