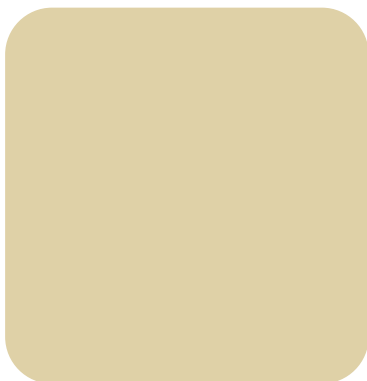


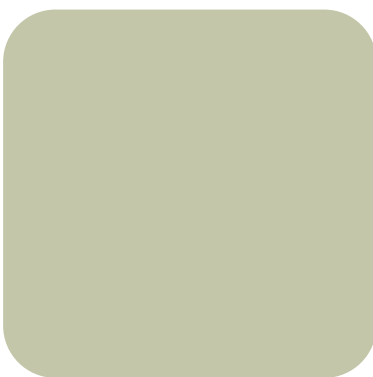


Summary and Insights from the Ten PACE and HPOG 1.0 Job Training Evaluations

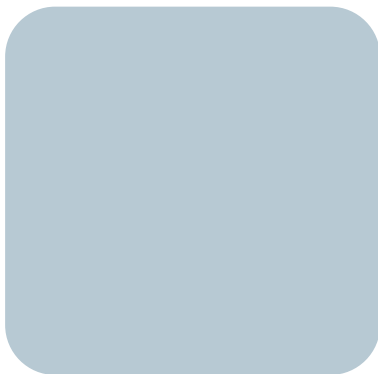


Three-Year Cross-Site Report

OPRE Report 2021-155



August 2021



PACE
Pathways for Advancing
Careers and Education

HP**OG**
Health Profession Opportunity Grants

Summary and Insights from the Ten PACE and HPOG 1.0 Job Training Evaluations: Three-Year Cross-Site Report

A Career Pathways Intermediate Outcomes Study Publication

OPRE Report 2021-155

August 2021

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Overview

This report summarizes three-year impact findings from the Pathways for Advancing Careers and Education (PACE) project and the Health Profession Opportunity Grants (HPOG 1.0) Impact Study. These two large-scale projects evaluated education and training programs for Temporary Assistance for Needy Families (TANF) recipients and other low-income adults. The programs, to varying degrees, represent a range of strategies within the career pathways framework to support getting people started and then advancing in careers.

Each of the nine PACE evaluations (four of which were of HPOG-funded programs) and the HPOG 1.0 Impact Study (which pooled across 42 HPOG-funded programs) used experimental designs to assess impacts on postsecondary training, earnings and employment, and other life outcomes. Analyses in this report indicate that after three years, most programs substantially increased credential receipt, especially for short-term credentials. Few programs increased overall employment, but four of the five evaluations of HPOG-funded programs (three of the four PACE evaluations of HPOG-funded programs and the HPOG 1.0 Impact Study) found increased employment in the healthcare field. Only one program, Year Up, increased earnings—and its impact, \$1,857 per quarter, is among the largest reported from randomized evaluations of training programs for low-income adults to date.

Further follow-up is already underway. Planned PACE and HPOG 1.0 impact analyses will examine outcomes through six years of follow-up. Those findings will be shared in future reports.

Purpose

There has been a good deal of research on particular aspects and strategies within the career pathways model, but PACE and HPOG 1.0 are among the earliest evaluations to use career pathways as a framework for program effectiveness research. The analyses presented in this report were undertaken to evaluate whether job training programs that incorporated elements of the career pathways framework successfully provided training to low-skilled adults and whether the programs' efforts led to impacts on credentials, earnings, employment, and other life outcomes. This report synthesizes three-year findings from across the PACE project's nine program-level evaluations and the HPOG 1.0 Impact Study.

Research Questions

- After three years, what were the impacts of PACE and HPOG 1.0 programs on:
 - Educational outcomes?
 - Entry into career-track employment and higher earnings?
 - Individual and family well-being, including income and other life outcomes?
- What differences between program elements, context, or participant characteristics might help to explain differences in impacts across programs?

Key Findings and Highlights

- **Most programs had large impacts on credential receipt and more modest impacts on training duration.**

Out of the 10 evaluations (9 PACE evaluations plus the HPOG 1.0 Impact Study), nine found increases in credential receipt, ranging from 6 percentage points (36 percent) to 32 percentage points (145 percent). Most of the increase was for short-term credentials such as a Certified Nursing Assistant certificate.

- **Only one program, Year Up, increased earnings at the three-year mark.**

With one exception—Year Up—the impact on quarterly earnings three years after random assignment (Q12-Q13) was not statistically significant. The large and statistically significant impact in Year Up, in contrast, is among the largest reported from randomized evaluations of training programs for low-income adults to date.

- **Few programs increased employment overall, but four of the five evaluations of HPOG-funded programs found increased employment in the healthcare field.**

Only 2 of the 10 evaluations detected improvements in employment, and those impacts were modest. In contrast, four of the five evaluations of HPOG-funded programs, each of which aimed to increase healthcare employment, found favorable impacts on employment in the healthcare field.

- **There is little evidence that PACE and HPOG 1.0 programs, other than Year Up, affected participants' career progress or well-being.**

Consistent with the lack of impact on earnings, there is little evidence that PACE or HPOG 1.0 programs reduced financial distress or public assistance receipt. Neither did they consistently affect child development or well-being. Some programs reduced personal student debt. Year Up improved several measures of career progress and well-being.

- **Year Up's program includes many strongly implemented elements that plausibly contribute to its success.**

The evaluations do not provide definitive evidence on why Year Up is more effective than other programs. One conjecture focuses on Year Up's funding strategy: Because Year Up is largely funded by employers (in the form of payments for program interns), it must prioritize satisfying employers' needs, including tailoring selection of trainees and the content of training to meet those needs. Year Up is a mature organization that embodies stronger and more innovative organizational qualities and practices than does the typical workforce organization. This organizational capability is central to Year Up's ability to strongly implement other key elements of the model that may contribute to the program's success: screening applicants for their ability to benefit from the program, providing comprehensive wraparound services, emphasizing practical skills rather than credentials, and focusing solely on young adults who are less likely to have children or other responsibilities that interfere with their training.

Methods

Each program in PACE was evaluated separately using an experimental design to measure effects on education, employment and earnings, and other life outcomes. Program applicants were assigned at random to a treatment group that could access the program or to a control group that could not access the program but could access other programs in the community. Such a design ensures that any estimated differences between the treatment and control group (i.e., impacts) can be attributed to program access rather than to unmeasured differences between eligible study sample members with access (the treatment group) and without access (the control group). The impact estimates for the PACE project are based on samples ranging in size from about 500 to about 2,500 study participants randomly assigned between November 2011 and December 2014.

HPOG 1.0 used an experimental design to evaluate a collection of 42 diverse locally implemented programs, all funded by the Administration for Children and Families and operating under its broad guidelines. Impact estimates are based on a sample of about 13,800 study participants randomly assigned between March 2013 and November 2014. Four of the nine sites evaluated in the PACE project were included among the 42 programs in the HPOG 1.0 Impact Study. Therefore, though PACE reported program-specific findings for these programs, the four also contributed to the pooled HPOG 1.0 findings. Both the PACE and HPOG 1.0 projects used data from a follow-up survey of study participants conducted about three years after random assignment and quarterly wage data from the National Directory of New Hires. PACE also used data from college administrative records and the National Student Clearinghouse.¹

¹ See three-year reports listed in Appendix A for more detail on the methodology.

Executive Summary

This report summarizes the three-year findings from the Pathways for Advancing Careers and Education (PACE) project and the Health Profession Opportunity Grants (HPOG 1.0) Impact Study.² These two large-scale projects evaluated education and training programs for Temporary Assistance for Needy Families (TANF) recipients and other low-income adults. The programs, to varying degrees, represent a range of strategies within the career pathways framework to support getting people started and then advancing in careers.

Although definitions vary, PACE defines a career pathways program as one providing “postsecondary education and training that is organized as a series of manageable steps leading to successively higher credentials and employment opportunities in growing occupations” (Gardiner and Juras, 2019, p.1). HPOG 1.0 similarly defines the career pathways approach as “offering clearly defined routes that allow participants to build a career by advancing through successively higher levels of education and training, exiting into employment at multiple possible points” (Peck et al. 2019, p.1).

In the career pathways framework, each “step” (or level) of education or training should be designed to provide skills, credentials, and/or work experience with labor market value and to prepare individuals for the next level of employment and education/training.

According to the career pathways model, to effectively engage and retain participants and to facilitate learning in a diverse population, programs integrate varying combinations of four

Program Evaluations Summarized in This Report

Nine PACE Impact Evaluations

- **Bridge to Employment in the Healthcare Industry (BTH)**, San Diego Workforce Partnership, County of San Diego, CA*
- **Carreras en Salud (CES)**, Instituto del Progreso Latino, Chicago, IL^
- **Health Careers for All (HCA)**, Workforce Development Council of Seattle–King County, Seattle, WA*
- **Integrated Basic Education and Skills Training (I-BEST) program** at three colleges (Bellingham Technical College, Everett Community College, and Whatcom Community College), WA
- **Pathways to Healthcare (PTH)**, Pima Community College, Tucson, AZ*
- **Patient Care Pathway Program (PCPP)**, Madison College, Madison, WI
- **Valley Initiative for Development and Advancement (VIDA)**, Lower Rio Grande Valley, TX
- **Workforce Training Academy Connect (WTAC)**, Des Moines Area Community College, Des Moines, IA
- **Year Up**, Atlanta, Bay Area, Boston, Chicago, National Capital Region, New York City, Providence, Greater Seattle

HPOG 1.0 Impact Study

- 23 grantees operating 42 programs in 19 states

* Funded through the HPOG Program; evaluated through both the PACE project and the HPOG 1.0 Impact Study.

^ Partially funded through the HPOG Program; evaluated through both the PACE project and the HPOG 1.0 Impact Study.

² The HPOG Program has funded two rounds of grants: HPOG 1.0 in 2010 and HPOG 2.0 in 2015. This report considers only programs funded in the first round.

components: (1) **comprehensive assessment systems** (academic and non-academic) to identify the services that will be most beneficial; (2) **innovative approaches to basic skills and occupational skills instruction**; (3) **supports** (academic and non-academic) to enhance success and foster persistence in successive training and employment steps (e.g., personal guidance and financial assistance); and (4) **connections to employment** during and/or after the program (Fein 2012).

There has been a good deal of research on particular aspects and strategies within the career pathways model, but PACE and HPOG 1.0 are among the earliest evaluations to use career pathways as a framework for program effectiveness research.

PACE and HPOG 1.0 Evaluations

The **PACE** project evaluated the effectiveness of nine programs selected as potentially high-quality examples of programs operating in the career pathways framework, although most programs targeted advancement in a single career pathways step. Each of these programs provided education or occupational training to low-income adults for jobs expected to be in high demand locally. Funded by the Office of Planning, Research, and Evaluation (OPRE) of the Administration for Children and Families (ACF) within the U.S. Department of Health and Human Services, the PACE project implemented the first large-scale, multi-program experimental evaluations of programs operating in the career pathways framework. The PACE evaluations began enrolling participants between November 2011 and January 2013, depending on the program, with the last study participants enrolled between October 2013 and December 2014. Three-year findings were reported separately for each of the nine programs.³

The **HPOG 1.0 Impact Study** evaluated a collection of 42 diverse locally implemented programs, all funded by ACF's Office of Family Assistance (OFA) and operating under broad OFA guidelines. By statute, the purpose of the HPOG Program is to provide education and training to TANF recipients and other low-income adults for occupations in the healthcare field that pay well and are expected to either experience labor shortages or be in high demand.⁴ As part of a robust, multipronged research effort to assess the success of the HPOG Program, OFA funded and OPRE oversaw a three-year impact evaluation of the Program as a whole, meaning the evaluation pooled across all 42 programs. Three-year findings were reported in a single evaluation report. Three of the larger HPOG 1.0 programs also were separately evaluated in PACE and a fourth PACE program was partially funded by HPOG 1.0. The HPOG 1.0 Impact Study enrolled participants between March 2013 and November 2014.

Both PACE and the HPOG 1.0 Impact Study used experimental designs to measure effects on education, employment and earnings, and other life outcomes. Program applicants were assigned at random to a treatment group that could access the program or to a control group

³ Links to program-level evaluation reports for each of the nine PACE evaluations and the report of the HPOG 1.0 Impact Study are provided in Appendix A.

⁴ The HPOG Program was authorized by the Affordable Care Act (ACA), Public Law 111-148, 124 Stat. 119, March 23, 2010, sect. 5507(a), "Demonstration Projects to Provide Low-Income Individuals with Opportunities for Education, Training, and Career Advancement to Address Health Professions Workforce Needs," adding sect. 2008(a) to the Social Security Act, 42 U.S.C. 1397g (a).

that could not access the program but could access other programs in the community. Such a design ensures that any estimated differences between the treatment and control group (i.e., impacts) can be attributed to program access rather than to unmeasured differences between eligible study sample members with access (the treatment group) and without access (the control group). The impact estimates for the PACE project are based on samples ranging in size from about 500 to about 2,500 study participants randomly assigned between November 2011 and December 2014. HPOG 1.0 impact estimates are based on a sample of about 13,800 study participants randomly assigned between March 2013 and November 2014.

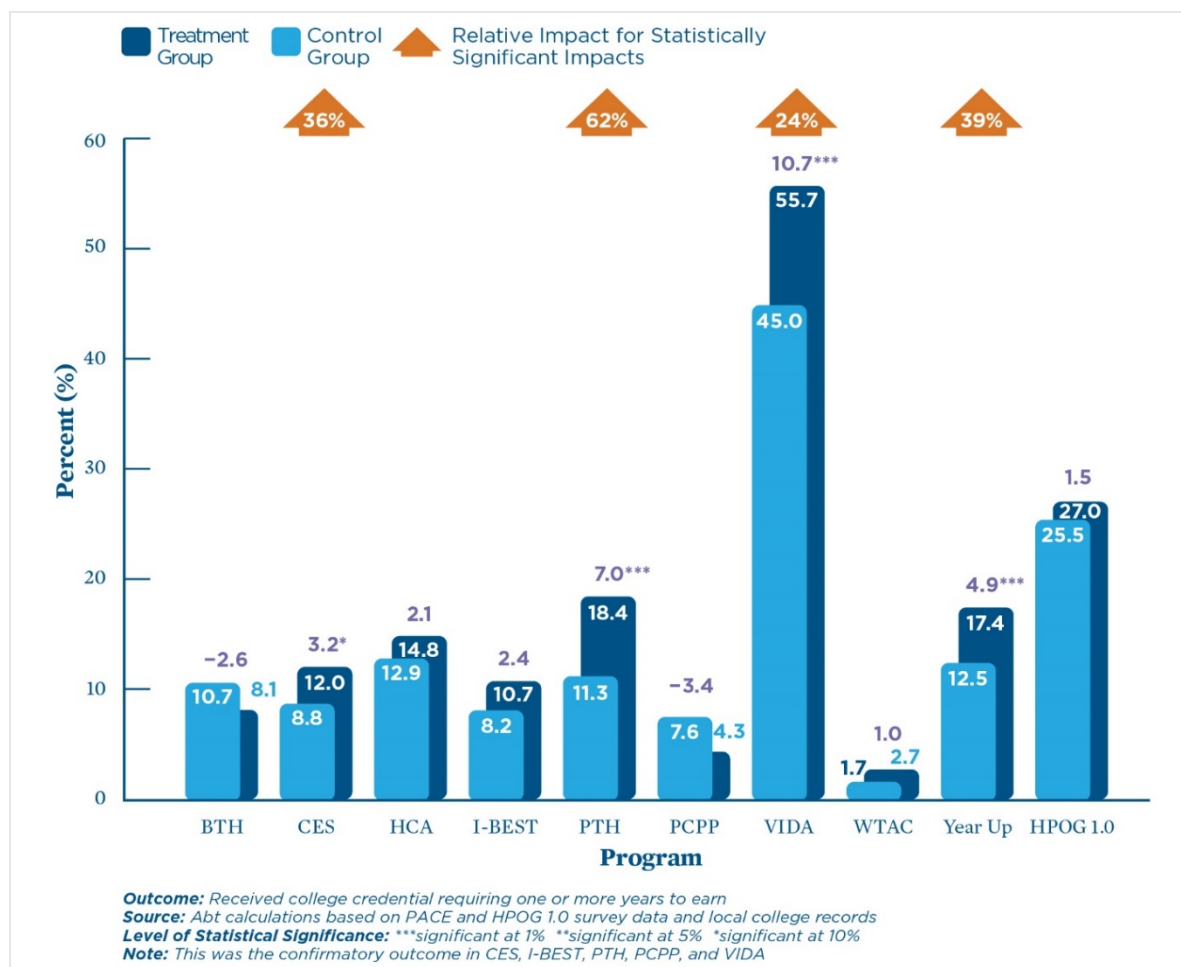
An earlier report, *PACE Cross-Program Implementation and Impact Study Findings*, summarized early findings across the nine programs (Gardiner and Juras 2019). The current report extends that earlier one by adding three-year impact analysis findings from PACE and incorporating three-year findings from HPOG 1.0.

Key Findings

- **Most programs had large impacts on credential receipt, primarily for short-term credentials.**

Nine of the 10 evaluations found increases in credential receipt, ranging from 6 percentage points (36 percent) to 32 percentage points (145 percent). Most of the increase was for short-term credentials such as Certified Nursing Assistant. Five programs (CES, I-BEST, PTH, PCCP, and VIDA) supported students through longer-term trainings. Three of them increased receipt of college credentials that take a year or more to earn (although generally less than an associate degree)—with impacts between 3 percentage points (CES) and 11 percentage points (VIDA).

Exhibit ES-1 Impacts on Receiving a College Credential Requiring One or More Years to Earn, by Program



- Only one program, Year Up, increased earnings at the three-year mark.

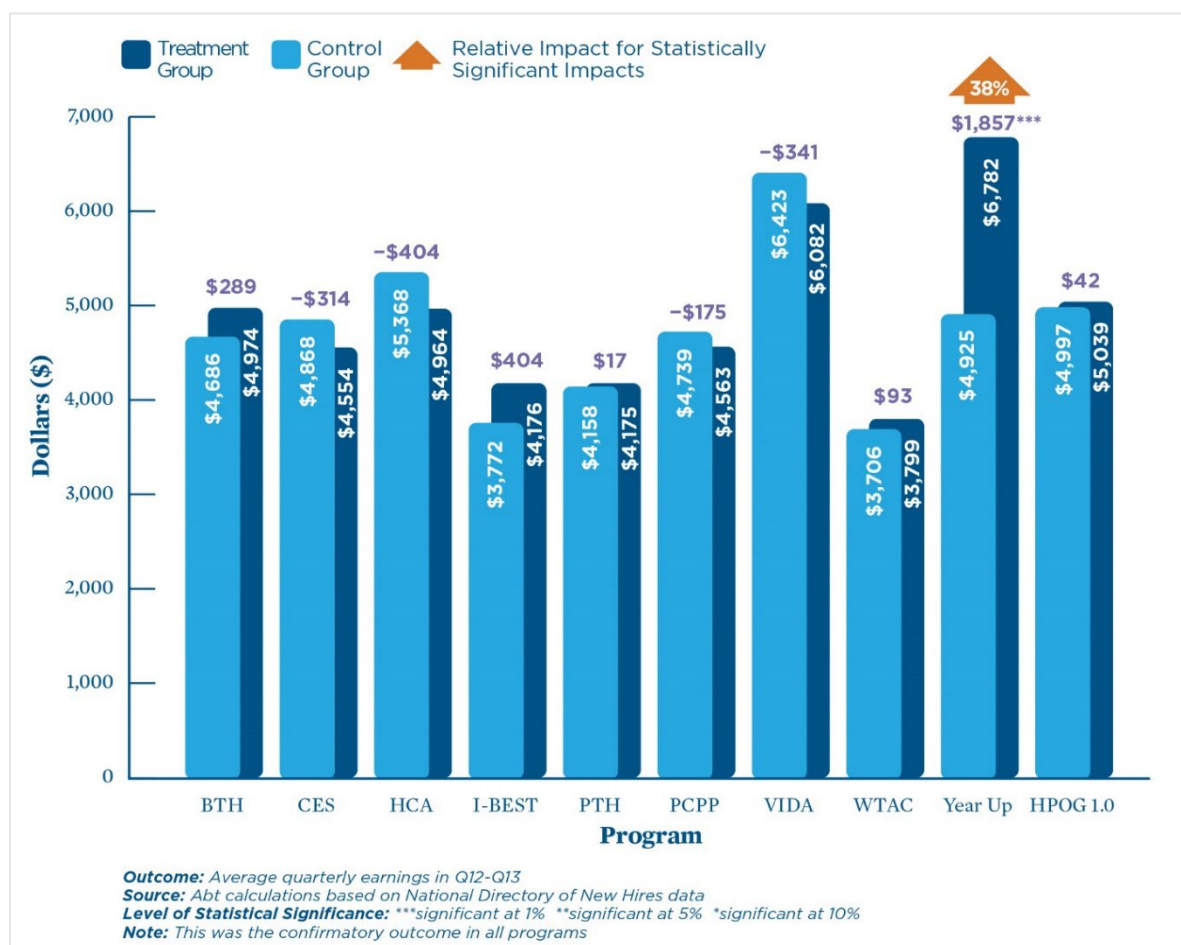
These large impacts on credentials, and only modest impacts on other measures of educational progress such as months of training (not shown), did not, on average, lead to increases in earnings. With a single exception—Year Up—the impact on quarterly earnings three years after random assignment (average earnings in Q12-Q13)⁵ was not statistically significant in any of the evaluations. An undetected impact in any one evaluation might stem from a small sample, and so we empirically analyzed these studies together in a meta-analysis. That analysis suggests that the variation in the other nine programs' observed impacts—from a low of -\$404 in HCA to a high of +\$404 in I-BEST—results solely from sampling error around a true mean

⁵ Average earnings in Q12-Q13 was pre-selected as the confirmatory outcome for the PACE project and HPOG 1.0 Impact Study in the employment and earnings domain. These two quarters were specified as they were expected to be longest follow-up period available for all programs and the average of two quarters was chosen to reduce short-term variation in the quarterly earnings estimates.

impact near \$0. In other words, it is unlikely that there were meaningful Q12-Q13 earnings impacts in any program other than Year Up.

The large and statistically significant impact in Year Up, in contrast, is among the largest reported from randomized evaluations of training programs for low-income adults to date. Its \$1,857 impact on quarterly earnings in Q12-Q13 (with impacts of similar magnitude from Q5-Q19) compares favorably with the largest reported impacts in other studies—notably, an approximately \$1,570 per quarter impact for Per Scholas in its third year after random assignment (Schaberg and Greenberg 2020) and a \$1,309 per quarter impact for Project QUEST in its ninth year (Roder and Elliot 2019).

Exhibit ES-2 Impacts on Average Quarterly Earnings in Q12-Q13, by Program



- **Few programs increased employment overall, but four of the five HPOG-funded programs increased employment in the healthcare field specifically.**

Employment rates were generally high in both the treatment and the control groups, with control group employment rates ranging from 53 percent to 74 percent at the time of the follow-up survey, and treatment group employment rates ranging from 60 percent to 75 percent. Two of the 10 evaluations (I-BEST and the HPOG 1.0 Impact Study) detected improvements (of 7

percentage points and 2 percentage points, respectively); the other 8 evaluations did not. The relatively large impact on employment for I-BEST—which had the lowest control group employment rate of all 10 evaluations—could reflect a more pressing role for labor market interventions in economies with lower employment levels or for harder-to-employ populations.

In contrast to the lack of detectable impacts on overall employment, programs with a goal of increasing healthcare employment succeeded in doing so. Several programs funded or partially funded through the HPOG Program (BTH, CES, HCA, PTH, and the programs included in the pooled analysis under the HPOG 1.0 Impact Study) specifically trained participants for jobs in the healthcare field. These programs were an effort to meet HPOG’s dual policy goals of increasing the supply of healthcare workers and improving the employment prospects of low-income adults.⁶ Four of the five evaluations of these programs found increases in healthcare employment. Because there was no detectable increase in overall employment, this should be viewed as a shift from non-healthcare to healthcare employment. Nonetheless, the HPOG-funded programs appear to have made some progress towards the goal of increasing the supply of healthcare workers.

- **There is little evidence that PACE and HPOG 1.0 programs, other than Year Up, affected participants’ career progress or well-being.**

Consistent with the lack of impact on earnings, there is little evidence that PACE or HPOG 1.0 programs other than Year Up reduced financial distress or public assistance receipt. Neither did they consistently affect child development or well-being. Year Up, in contrast, reduced public assistance receipt by 11 percent.

Consistent with the programs’ provision of financial assistance, three of the programs reduced the amount of the treatment group’s personal student debt. Given the prominent role of financial support from the program in several logic models, less student debt seemed a likely effect, and the study teams focused on this in six programs. There were impacts in three of those six programs, including Year Up, with student debt reductions ranging from 25 percent to 50 percent.

- **Year Up’s program includes many strongly implemented elements that plausibly contribute to its success.**

The studies do not provide definitive evidence on why Year Up is more effective than other programs. One conjecture centers on Year Up’s organizational capabilities. Year Up’s program as evaluated under PACE was both mature and particularly well implemented. As an organization, Year Up embodies stronger and more innovative organizational qualities and practices than the typical workforce organization. This organizational capability is central to Year Up’s strong implementation of other key elements of the program: strong connections to local employers, robust screening to identify applicants who are likely to benefit from the program, intensive long-duration training focused on practical skills, and comprehensive wraparound

⁶ Madison College’s Patient Care Pathway Program was, as the name suggests, also focused on preparing participants for jobs in the healthcare field. However, PCPP was not funded by an HPOG grant and did not share HPOG’s dual goals.

supports to ensure high retention and completion. Year Up also focused solely on young adults who are less likely to have children or other responsibilities that interfere with their training, which may have contributed to its success.

These features of the Year Up program may contribute to the program's impact and—because Year Up is largely funded by employers (in the form of payments for program interns)—ensure the program's sustainability through developing a reputation for producing consistently high quality graduates.

Some of these elements might be readily incorporated into more conventional government-funded job training programs, whereas incorporating others could be more challenging. Implementing and then evaluating these strategies in conventional government-funded training programs seems worthwhile.

Next Steps in the PACE and HPOG 1.0 Evaluations

Further follow-up is already underway. Planned PACE and HPOG 1.0 impact analyses will examine outcomes after six years.

Although the three-year reports showed no detectable earnings impacts for most programs, impacts on earnings could emerge by six years. For example, in some HPOG 1.0 programs, treatment group members are more likely to be employed in the healthcare sector, which may provide more steady employment relative to the sectors that employ the control group. Also, although that sectoral shift did not associate with earnings gains in the intermediate term, there could be reasons to expect earnings growth for people advancing in healthcare careers. In other programs, emerging impacts on college credential receipt could translate into longer-term gains in earnings. For the Year Up program, the six-year report will focus on whether the program's large impact on earnings at three years is sustained and whether there are radiating effects in other life domains.

With follow-up periods extending through 2020 for most programs, the six-year analysis will extend into the period when the COVID-19 pandemic was affecting the labor force. That longer follow-up potentially could help to illuminate the pandemic's effects on study outcomes and impacts.

1. The PACE and HPOG 1.0 Evaluations

This report summarizes the three-year impact findings from the **Pathways for Advancing Careers and Education (PACE)** project and the **Health Profession Opportunity Grants Impact Study (HPOG 1.0 Impact Study)**.⁷ These two large-scale projects evaluated education and training programs for Temporary Assistance for Needy Families (TANF) recipients and other low-income adults. The programs, to varying degrees, represent a range of strategies within the career pathways framework to support getting people started and then advancing in careers.

The rest of this chapter describes the PACE project and the HPOG 1.0 Impact Study, followed by a discussion of how the programs in these projects embody components of the career pathways framework. The last part of the chapter provides a summary of the evaluation methods.

Overview of PACE and HPOG 1.0

PACE evaluates the effectiveness of nine distinct programs. These programs were selected as potentially high-quality examples of programs operating in the career pathways framework, which is described in the next section. Each of these programs provided education or training to low-income adults for occupations expected to be in high demand locally.

Funded by the Office of Planning, Research, and Evaluation (OPRE) within the U.S Department of Health and Human Services, Administration for Children and Families (ACF), the PACE project implemented the first large-scale, multi-program experimental evaluations

Program Evaluations Summarized in This Report

Nine PACE Impact Evaluations

- **Bridge to Employment in the Healthcare Industry (BTH)**, San Diego Workforce Partnership, County of San Diego, CA*
- **Carreras en Salud (CES)**, Instituto del Progreso Latino, Chicago, IL[^]
- **Health Careers for All (HCA)**, Workforce Development Council of Seattle–King County, Seattle, WA*
- **Integrated Basic Education and Skills Training (I-BEST) program** at three colleges (Bellingham Technical College, Everett Community College, and Whatcom Community College), WA
- **Pathways to Healthcare (PTH)**, Pima Community College, Tucson, AZ*
- **Patient Care Pathway Program (PCPP)**, Madison College, Madison, WI
- **Valley Initiative for Development and Advancement (VIDA)**, Lower Rio Grande Valley, TX
- **Workforce Training Academy Connect (WTAC)**, Des Moines Area Community College, Des Moines, IA
- **Year Up**, Atlanta, Bay Area, Boston, Chicago, National Capital Region, New York City, Providence, Greater Seattle

HPOG 1.0 Impact Study

- 23 grantees operating 42 programs in 19 states

* Funded through the HPOG Program; evaluated through both the PACE project and the HPOG 1.0 Impact Study.

[^] Partially funded through the HPOG program; evaluated through both the PACE project and the HPOG 1.0 Impact Study.

⁷ The HPOG Program has funded two rounds of grants: HPOG 1.0 in 2010 and HPOG 2.0 in 2015. This report considers only programs funded in the first round.

of programs operating in the career pathways framework.⁸ The PACE evaluations began enrolling participants between November 2011 and January 2013, depending on the program, with the last study participants enrolled between October 2013 and December 2014. Three of the programs were fully funded by ACF through the HPOG Program and one was partially funded through HPOG.

Although all the PACE programs included at least some components of the career pathways framework, which components and the intensity of their implementation both vary—as do target populations and focal occupations and industries. For these reasons and because the nine programs do not represent a single common programmatic approach, three-year findings were reported separately for each program. The PACE programs are listed in the box above. Appendix A describes each program in more detail and provides links to their three-year and short-term reports.

The other project, the **HPOG 1.0 Impact Study**, evaluates a collection of 42 diverse, locally implemented programs operated by 23 grantees, all funded by ACF's Office of Family Assistance (OFA) and operating under broad OFA guidelines. By statute, the HPOG Program provides education and training to TANF recipients and other low-income adults for occupations in the healthcare field that pay well and are expected to either experience labor shortages or be in high demand.⁹ The local HPOG 1.0 programs operated between 2010 and 2015, with the impact evaluation sample enrolled from March 2013 to November 2014.

Because all the HPOG 1.0 programs are funded by the same source and thus have the same broad funding guidance and goals, and because most are too small to evaluate separately, the Impact Study assesses the HPOG 1.0 Program as a whole, rather than separately evaluating each individual local program or a selection of the largest programs. Three-year findings were reported in a single evaluation report that analyzed average impacts across all 42 programs (Peck et al. 2019).¹⁰ Appendix A provides a more detailed description of HPOG 1.0 and links to its short-term and three-year reports.

Career Pathways Theory of Change

Local programs in PACE and HPOG adopted various *career pathways* strategies to help people enter and advance in careers in specific industry sectors. The career pathways framework gained momentum over the last decade based on early research evidence¹¹ and federal

⁸ For more information on this project, see <https://www.acf.hhs.gov/opre/project/career-pathways-intermediate-outcomes-cpio-study-2014-2019>.

⁹ The HPOG Program was authorized by the Affordable Care Act (ACA), Public Law 111-148, 124 Stat. 119, March 23, 2010, sect. 5507(a), "Demonstration Projects to Provide Low-Income Individuals with Opportunities for Education, Training, and Career Advancement to Address Health Professions Workforce Needs," adding sect. 2008(a) to the Social Security Act, 42 U.S.C. 1397g (a).

¹⁰ Among the 42 programs evaluated in the HPOG 1.0 Impact Study, three HPOG-funded programs and one program partially funded by HPOG were also evaluated in PACE.

¹¹ See Berk et al. (2018, p. 40) for an overview of this literature; examples include Maguire et al. (2016) on the effectiveness of sector-based training strategies that include employers in the design of curricula; and Foster, Strawn, and Duke-Benfield (2011) on the effectiveness of supportive services.

support. This support included a 2016 letter from 11 federal agencies promoting the potential of career pathways to improve job training;¹² federal grants, such as the Trade Adjustment Assistance Community College and Career Training initiative; and legislation that incorporated career pathways into major federal workforce development programs, such as the Workforce Innovation and Opportunity Act¹³ and the 2018 reauthorization of the Carl D. Perkins Career and Technical Education Act.¹⁴

Although definitions vary, PACE defines a career pathways program as one providing “postsecondary education and training that is organized as a series of manageable steps leading to successively higher credentials and employment opportunities in growing occupations” (Gardiner and Juras 2019, p.1). HPOG 1.0 similarly defines the career pathways approach as “offering clearly defined routes that allow participants to build a career by advancing through successively higher levels of education and training, exiting into employment at multiple possible points” (Peck et al. 2019, p.1). Each education or training level (a career pathways “step”) is designed to provide a credential with labor market value and prepare program participants for the next level of employment and education/training.

To effectively engage and retain participants and to facilitate learning in a diverse population, career pathways programs integrate varying combinations of four components (Fein 2012):

- (1) **Academic and non-academic assessment** to identify student needs and factors that could facilitate or hinder academic success, so advisors can make appropriate placements and referrals;
- (2) **Innovative basic skills and occupational skills instruction** to make education and training more manageable for nontraditional students who are likely to be balancing school and work and who might have inadequate basic skills (e.g., accelerated courses; contextualized curricula; and active, project-based teaching approaches);
- (3) **Academic and non-academic supports** to help students succeed in their current academic step and to proceed to and complete subsequent steps (e.g., academic advising, tutoring, financial support, and referrals to support services); and
- (4) **Strategies to connect participants and employers** during and after the program (e.g., involving employers in program activities, internships, and employment services).

All PACE programs and most HPOG 1.0 programs included more than one of these components. However, the programs combined these career pathways strategies in various

¹² For 2016 letter, see: https://careerpathways.workforcegps.org/-/media/Communities/careerpathways/Files/Career-Pathways-Joint-Letter-2016.ashx?sc_lang=en. The 11 federal agencies signing the letter are from the U.S. Departments of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, Housing and Urban Development, Justice, Labor, and Transportation and the Social Security Administration. This is an expanded list from a 2012 letter signed by the U.S. Departments of Education, Health and Human Services, and Labor (Oates 2012).

¹³ Public Law 113-128: <https://www.govinfo.gov/content/pkg/PLAW-113publ128/pdf/PLAW-113publ128.pdf>

¹⁴ Public Law 115-224: <https://www.congress.gov/115/plaws/publ224/PLAW-115publ224.pdf>

ways depending on their mid- and long-term goals and their target population.¹⁵ Exhibit 1-1 shows how programs varied in their use of three of these components: instruction, supports, and connections to employment. Programs were more likely to emphasize instruction and supports than employment connections.

Exhibit 1-1 Overview of PACE and HPOG Program Components

Component	PACE									HPOG
	BTH	CES	HCA	I-BEST	PCPP	PTH	WTAC	VIDA	Year Up	1.0
Instruction										
Only for treatment group members										
Basic skills		● ^a	○	●	●	○	●	○	●	○
Occupational training		● ^a	○	●	●	○			●	●
Available in the community to treatment and control group members										
Occupational training	●	● ^b	●	●		●	●	●		●
Supports										
Academic supports	●	●	●	●	●	●	●	●	●	●
Non-academic supports	●	●	●	●	●	●		●	●	●
Financial assistance	●	● ^a	●	○		●	●	●	●	●
Connections to Employment										
Work experience during training	○	○ ^b	○	○		○		○	●	○
Employment services after training	○	○	○			○	○		●	○

Key: ○=component included. ●=major emphasis.

Notes: Circles indicate importance in each program's theory of change. They do not indicate relative intensity across programs. CES provided lower bridge training in-house and upper bridge training through its college partners. The HPOG 1.0 column represents an aggregate across the wide range of 42 individual program models that were included in the HPOG 1.0 Impact Study.

^a Components available to CES participants in lower level training.

^b Components available to CES participants in higher level training.

Source: PACE and HPOG implementation research (Gardiner and Juras 2019; Peck et al. 2018)

Financial assistance, where offered, largely focused on reducing the direct cost of training. Three programs (CES, WTAC, and Year Up) provided training at no cost to participants; others (BTH and HCA) provided Individual Training Account vouchers or scholarships or provided funding to fill the gap between the participant's financial aid and the cost of the program. Financial assistance for living expenses was uncommon, although the programs funded by HPOG (including BTH, CES, HCA, and PTH) could use some funds to provide childcare and transportation assistance. Only one program, Year Up, provided an ongoing stipend to participants.¹⁶ Year Up was also the only program that strongly emphasized employer connections.

¹⁵ Brief descriptions of each program are provided in Appendix A. Detailed theories of change for each of the 10 evaluations can be found in their respective 18-month/short-term and three-year/intermediate-term evaluation reports available on the OPRE website <https://www.acf.hhs.gov/opre/project/career-pathways-research-portfolio>, with links and citations included in Appendix A.

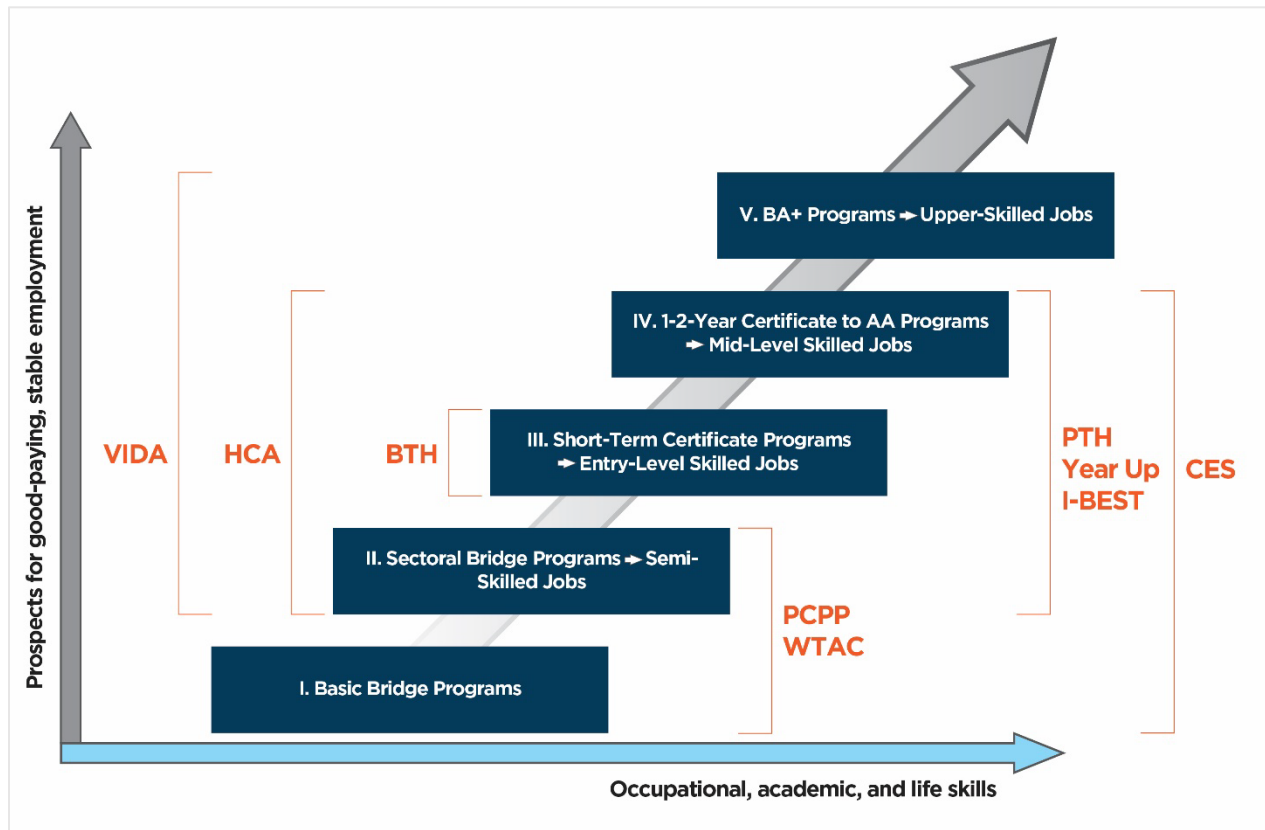
¹⁶ HPOG-funded programs could not offer a stipend due to restrictions included in the funding legislation.

The career pathways theory of change suggests that completion of training programs with such components should ultimately lead to better-paying jobs. In the short term, time and energy invested in school might preclude positive employment and earnings impacts and even produce unfavorable impacts in that time frame. How large such effects might be and how long they might continue would depend on the length and intensity of time that programs expected participants to devote to studies and whether and how the program encouraged them to combine school and work. However, in the longer, three-year time frame covered by this report, most treatment group members in most programs should have completed training. As a result, the impact on intermediate-term employment and earnings should be apparent.

An important rationale for improving low-income adults' education and earnings is, in turn, to enhance a range of other life outcomes connected with income, self-sufficiency, and for parents, the well-being of their children.

The PACE and HPOG 1.0 programs also varied in the number of training steps and credentials available. Exhibit 1-2 below displays the range of steps offered by the nine programs in PACE. The bottom two steps (I and II in the exhibit) represent so-called “on ramp” and “bridge” programs, designed to prepare low-skilled participants for college-level training and lower-skilled jobs with a career focus. Basic skills levels differentiating these two steps vary across programs but generally correspond to the grades 6-8 and grades 9-11 ranges, respectively. The next two steps (III and IV) provide college-level training for so-called “middle skills” employment—that is, jobs requiring some college but less than a bachelor's degree (e.g., an associate degree or shorter certificate). The final level (V) includes programs promoting completion of bachelors' degrees and more-advanced credentials.

CES had the longest potential career path, with participants able to enter at the English as a Second Language level and advance to a Licensed Practical Nurse (LPN) degree. CES includes “lower bridges” that were offered on site and prepared participants for occupational courses, and “upper bridges” that were held at partner colleges. The multi-step college programs (I-BEST and PTH) started at the sectoral bridge level (II) and included multiple steps through an associate degree (IV).

Exhibit 1-2 Career Pathways Steps for PACE Project, by Program

Participants in programs operated by Workforce Investment Boards generally started at the short-term credential step; for example, BTH participants entered at level III. Participants could return later to seek additional credentials, but most sought employment. During the PACE evaluation, most HCA participants entered at level III; however, the program also included foundational training and LPN cohorts,¹⁷ and provided support for participants to move into and complete college-level pre-requisite coursework for more-advanced training, and thus had the longer pathway of the two programs. The college-based bridge programs (PCPP and WTAC) started at the basic bridge level (II). Both programs focused on a single step but ladderred into additional training; in the case of PCPP, a one-year healthcare diploma or two-year healthcare degree program was the next step, depending on which academy the participant completed. WTAC participants entered the Workforce Training Academy, where they could obtain short-term credentials. They could then enter additional training programs at Des Moines Area Community College or seek employment.

VIDA focused on longer-term, higher-pathway steps with an associate degree as the primary credential, although it also supported one-year certificate programs. In addition, VIDA operated

¹⁷ As noted above, HCA funded foundational and advanced training cohorts at community colleges. Few of these advanced training cohorts, however, were included in the PACE evaluation due to the timing of the cohorts relative to the entry of HCA into the project.

a 16-week accelerated academic bridge program for participants testing at grade 10 or higher, but not yet qualified for college credit courses.

Year Up participants could receive short-term credentials, but it was not a primary goal of the program.

The HPOG 1.0 Impact Study covers 42 different programs, most of which focus on short-term certificates but vary in how many steps their programs cover. The HPOG 1.0 programs in PACE that were fully (BTH, HCA, and PTH) or partially (CES) funded by HPOG are indicative of the range of steps offered in HPOG 1.0 programs. BTH focuses solely on short-term credentials (III), HCA and PTH start at the sectoral bridge level (II) and included multiple steps through an associate degree (IV), and CES starts at the basic bridge level (I) and included multiple steps through an associate degree.

Programs also varied in the types of training available. Several focused exclusively on healthcare-related occupations. This included all the HPOG 1.0 programs (including the four also evaluated separately in PACE) and PCPP. The other programs focused on several different occupational areas, including welding, electrical, healthcare, and administrative support (I-BEST and WTAC); healthcare, manufacturing, and technology (VIDA); and information technology and financial services (Year Up).

Exhibit 1-2 and accompanying text described the programs' available career ladders. In Chapter 3, we report on the credentials earned, which are indicators of the extent to which participants moved up the ladder.

Evaluation Methods

The PACE and HPOG 1.0 projects assessed impacts on a range of outcomes aligned with the career pathways theory of change including participants' educational progress; credential receipt; career confidence and skills; employment, job quality, and earnings; and general well-being. They did so by comparing treatment and control group outcomes. The **Evaluation Methods** box below briefly describes the methods that the two projects used to estimate impacts. Detailed descriptions of the methods used in each evaluation—along with overviews of the services available to the control group in each location—are provided in the program-level reports for each evaluation (see Appendix A). Data sources are described in Appendix B.

Evaluation Methods

All 10 impact evaluations in the PACE and HPOG 1.0 projects used experimental research designs to assess impacts of the interventions. For each evaluation, its study team randomly assigned eligible local applicants to either a *treatment group* allowed to access the interventions or a *control group* that could not access the interventions but could access whatever else (e.g., trainings, services, supports) was available in the community.

The PACE and HPOG 1.0 evaluations randomly assigned the following numbers of study participants:



Each evaluation estimated impacts of the intervention as the difference between the treatment group's mean outcomes and the control group's mean outcomes. The control group's experiences represented what the treatment group's experiences would have been, absent the intervention. The PACE project estimated impacts for each of the nine programs separately. The HPOG 1.0 Impact Study averaged impacts across 42 programs operated by 23 HPOG grantees.

Both evaluations used an intent-to-treat design, which estimates the impact of *being offered* access to training and services, as opposed to the impact of *receiving* training and services. Such a design assesses whether the treatment group members obtained better outcomes from having access to the intervention than what outcomes they could have obtained without access to the intervention. Participants in PACE and the HPOG 1.0 Impact Study chose whether to use the services they were offered. Data sources are described in Appendix B.

Each program's theory of change identified priority outcomes and time horizons for expected impacts on those outcomes. Each study team used the program's theory of change to identify a *confirmatory outcome(s)* that best measured the program's effectiveness three years after random assignment. All 10 evaluations have a confirmatory outcome related to labor market success, and 5 have an additional confirmatory outcome related to educational attainment. Additional research questions were intended to generate *secondary* and *exploratory* evidence on program effectiveness that could be used to guide future research.

2. Most Programs Increased Training Enrollment and Service Receipt

For evaluations of job training programs to show impacts on employment, earnings, and well-being, the theory of change specifies that treatment group members must enroll in education or training at higher rates than do control group members, and receive more supportive services than do control group members. Treatment group members received training and services largely through the PACE and HPOG 1.0 programs. Control group members could not receive training through PACE and HPOG 1.0, but they could and did access other similar training in their communities.

This chapter documents the extent to which treatment and control group members in each of the nine PACE and the pooled HPOG 1.0 evaluations enrolled in training and received related services, and the extent to which there was an impact (i.e., that more treatment group than control group members received training and services).

- **Most PACE and HPOG 1.0 programs increased the share of participants who started education and training.**

Eight of the nine PACE programs (all but PCPP) increased *enrollment in education and training*, generally by modest margins. The same was true, on average, for programs pooled in the HPOG 1.0 evaluation. In each evaluation, the proportion of treatment group members who initiated training was high, ranging from 50 percent to 80 percent. However, the corresponding proportion of control group members who initiated training was also high, ranging from 36 to 77 percent. Impacts of PACE and HPOG 1.0 on training enrollment ranged from 8 percentage points (HCA) to 23 percentage points (Year Up), which corresponds to increases of between 12 and 43 percent over the respective control group means.¹⁸

If every treatment group member started training and no control group member did, the impact of PACE and HPOG 1.0 on enrollment would be 100 percentage points. The modest increase in training enrollment actually observed—less than 25 percentage points in every program—has implications for the possibility of the programs generating and the evaluations detecting impacts for the full sample on downstream outcomes such as credential attainment, employment, and earnings. A modest impact on training enrollment implies at best modest impacts on training completion and subsequent outcomes, per the theory of change.¹⁹

¹⁸ These ranges correspond to the 9 (out of 10) evaluations that found statistically significant differences. Throughout this report, only statistically significant findings are presented in the text unless otherwise noted.

¹⁹ See Klerman et al. (forthcoming, Appendix A), for a more detailed presentation of this argument.

- **Programs generated detectable, but modest, increases in the receipt of supportive services.**

The extent to which treatment group members received supportive services beyond what the control group received is another factor that can affect downstream program impacts. Programs offered varying kinds and amounts of support services, which are described in each program's short-term implementation and impact reports.²⁰ As described in Chapter 1, PACE and HPOG 1.0 programs all offered academic and non-academic supports. Financial assistance, where offered, largely focused on reducing the direct cost of training, although several programs also offered limited emergency assistance and assistance with transportation and childcare. Both Year Up and VIDA offered more comprehensive financial supports, including a stipend of as much as \$8,870 in Year Up.

After three years, both the PACE and HPOG 1.0 projects measured impacts for receipt of any of three types of services: (1) career counseling; (2) help arranging supports for school, work, or family; and (3) job search or placement assistance. In absolute (percentage point) terms, most programs had only modest impacts on receipt of these kinds of services: less than 20 percentage points in almost every program. Eight of the 9 PACE programs (all but HCA and PCPP) and HPOG 1.0 increased receipt of *career counseling*—with impacts of less than 20 percentage points in all sites other than Year Up. The same eight programs increased *help arranging supports* for school, work, or family, all by less than 15 percentage points. Finally, seven of the nine PACE programs (all but PCPP and VIDA) increased receipt of *job search or placement assistance*, again with impacts of less than 20 percentage points in all sites other than Year Up.

Again, the modest impacts on supportive services receipt is likely to limit the potential size of impacts on education and employment outcomes after three years. These three-year impacts are discussed in Chapters 3 and 4.

²⁰ See Appendix A for citations.

3. Most Programs Increased Credential Receipt, Primarily for Short-Term Credentials

The career pathways theory of change as applied to all PACE and HPOG 1.0 programs suggests that greater receipt of program services (education, training, academic and non-academic supports) should increase educational attainment for treatment group members compared with control group members. This chapter reports on the extent to which PACE and HPOG 1.0 participants are making progress toward their educational and training goals three years after random assignment.

The amount and type of training varied across programs, and this variation is reflected in the types of outcomes each impact evaluation examined at the three-year mark.

Three PACE programs (BTH, HCA, and WTAC) emphasized short-term training for low-skilled students. One PACE program (Year Up) provided six months of full-time training followed by six-month internships, with a strong emphasis on employment as the most important step after training. In these four programs, the study teams did not anticipate detecting educational impacts beyond those found at each program's 18-month follow-up, and thus did not designate a three-year confirmatory outcome related to educational progress.

PACE Programs Key

BTH Bridge to Employment in the Healthcare Industry

CES Carreras en Salud

HCA Health Careers for All

I-BEST Integrated Basic Education and Skills Training

PTH Pathways to Healthcare

PCPP Patient Care Pathway Program

VIDA Valley Initiative for Development and Advancement

WTAC Workforce Training Academy Connect

Year Up Year Up

Overview of Outcome Measures: Educational Progress

The outcomes in this chapter are based on local college records obtained for some evaluations (I-BEST, PCPP, PTH, and VIDA) and participant responses to the three-year participant follow-up survey for all other evaluations. All 10 evaluations estimated impacts on these measures:

Outcome	Outcome Type	Variable Description <i>Since randomization...</i>
Completion of a credential taking a year or more of college study to earn	Confirmatory in 5 programs (CES, I-BEST, PTH, PCPP, and VIDA) Exploratory in 5 programs (BTH, HCA, WTAC, Year Up, HPOG 1.0)	Earned a degree or certificate for completing regular college courses requiring at least a full year of credit
Full-time-equivalent months enrolled in any school	Exploratory	Total months of full-time-equivalent (FTE) enrollment in education or training. One month of full-time enrollment is equal to 1 FTE month; one month of part-time enrollment is equal to 0.5 FTE months.
Received any type of credential from any school	Exploratory	Earned a degree or certificate from a college or non-college academic institution

In contrast, five of the PACE programs either offered multi-step pathways (CES, I-BEST, PTH) or emphasized the completion of longer-term trainings (PCPP, VIDA). In each of these five programs, the study teams had designated **completion of a credential typically taking a year or more of college study to earn** as the three-year confirmatory outcome in the educational progress domain.

HPOG 1.0 programs offered a range of healthcare trainings. Most participants (84 percent) chose short trainings for credentials such as Certified Nursing Assistant (CNA), which can be completed in as little as four weeks. The HPOG 1.0 Impact Study team expected that these initial trainings would have been completed by the three-year follow-up (participants could return for follow-on trainings, although few did), and thus specified **training completion** as the three-random assignment, HPOG programs increased training completion by 13 percentage points from 63 percent in the control group to 75 percent in the treatment group, a 20 percent relative impact). Because the nine PACE impact evaluations did not consistently report on that measure at the three-year follow-up, training completion is not shown in the exhibits in this chapter.

Interpreting Impact Findings in Chapters 3 and 4

Results from impact analyses are presented in this report using bar charts that show the impact reported for each of the 9 PACE evaluations and the HPOG 1.0 evaluation.

- When there are two bars, the light-shaded bar shows the treatment group outcome, and the dark shaded bar shows the control group outcome.
- Numbers inside the bars indicate the level of the outcome in the treatment and control groups.
- Numbers outside the bars indicate the impact (treatment-control difference). Stars (*) indicate the impact's statistical significance, with more stars indicating that the impact is less likely to be due to chance.
- Arrows above the bars indicate relative impact and impact direction for statistically significant results.

The reported *p*-values reflect tests conducted independently. Because this report presents the results from 10 impact evaluations side by side without formally adjusting for multiple hypothesis tests, statistical findings must be interpreted cautiously. When many programs are evaluated simultaneously, the chance of a spurious finding increases; with 10 independent tests, the chance of at least one spurious finding (i.e., detecting a statistically significant impact when the true impact is zero) is approximately 65 percent. For this reason, readers should consider the totality of the evidence (e.g., a pattern of similar or dissimilar results) when interpreting isolated significant findings.

Another statistical consideration is that because of its large sample size the HPOG 1.0 evaluation is much more sensitive—that is, better able to detect small impacts—than the PACE evaluations. As a result, HPOG 1.0 sometimes finds statistically significant results that are comparable in magnitude to results from PACE programs that are non-significant. This report flags such instances.

Finally, we did not conduct statistical tests *between* evaluation findings, and so those comparisons should be made cautiously, as well.

Educational Progress Findings

- **Few PACE or HPOG 1.0 programs increased the amount of time the treatment group spent in training by more than one full-time-equivalent (FTE) month relative to the control group.**

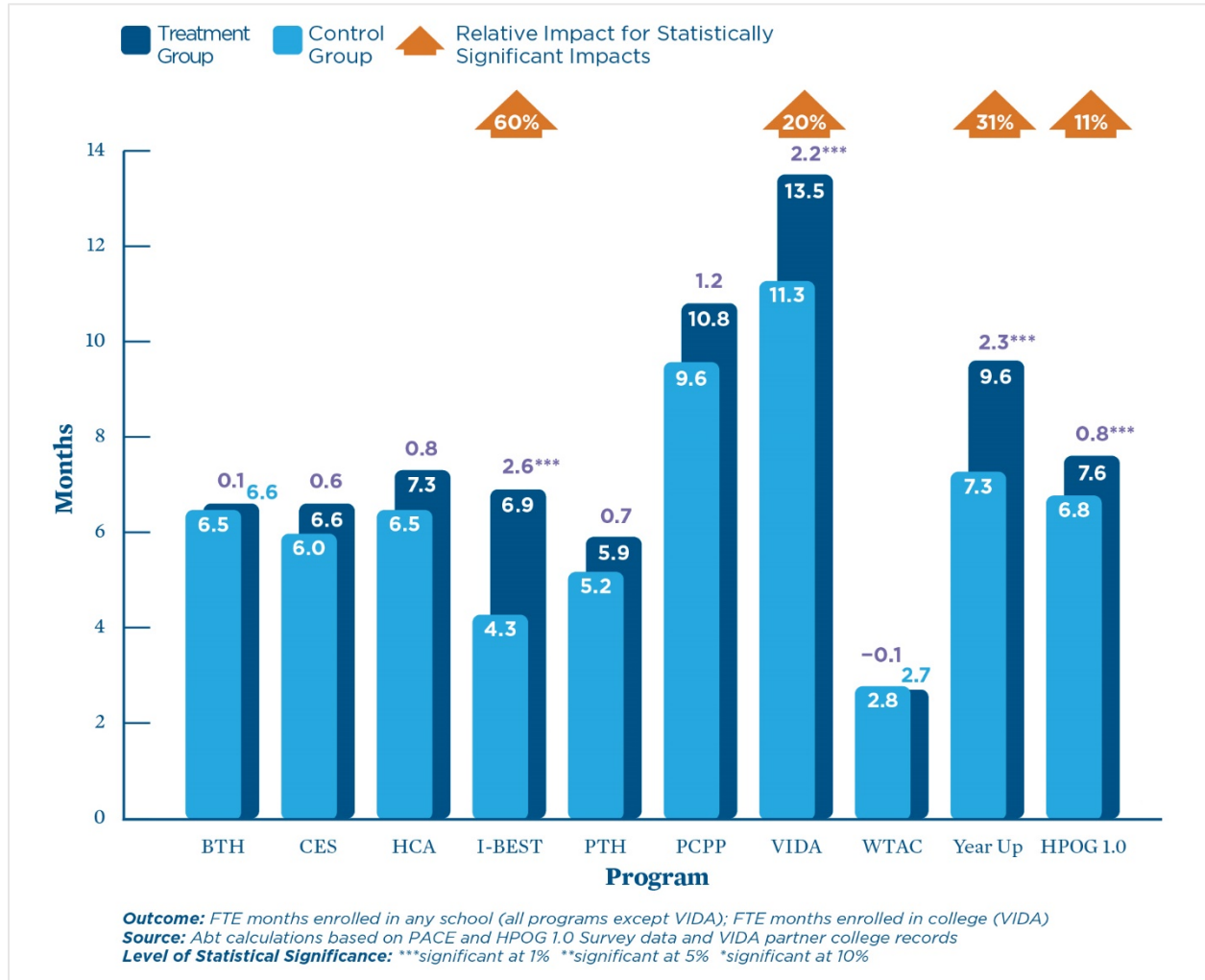
In general, the impact on training duration was small—less than one FTE month in most programs—although there were slightly larger impacts in some of the programs that emphasized or prepared participants for longer-term trainings. In particular, I-BEST, which prepared participants for longer-term trainings and offered a multi-step pathway, increased training duration by 2.6 FTE months. VIDA, which focused on earning an associate degree, increased training duration by 2.2 FTE months. Year Up, which had the highest enrollment rate of any program for its six months of training, increased training duration by 2.3 FTE months over the control group (Exhibit 3-1).²¹

In 9 of the 10 programs²², enrollment at three years and impact on enrollment at three years are sufficiently small that additional later growth in training and impact on training seems unlikely. The exception is VIDA. There the impact on FTE months of education (and related outcomes, such as degree attainment) seems likely to continue to grow beyond the three-year follow-up.

Five years of education and earnings records were available for an early cohort of VIDA study enrollees, representing 80 percent of the full sample. For this early VIDA cohort, favorable impacts on current period enrollment continued through five years even though few participants formally remained in the PACE program by then (not shown). This continuing enrollment impact—either the result of earlier financial support that reduced student debt or possibly the result of weekly counseling sessions that might have helped VIDA participants balance the competing demands of education, work, and home life—should result in persistent and possibly increasing impacts on both training duration and college credential receipt.

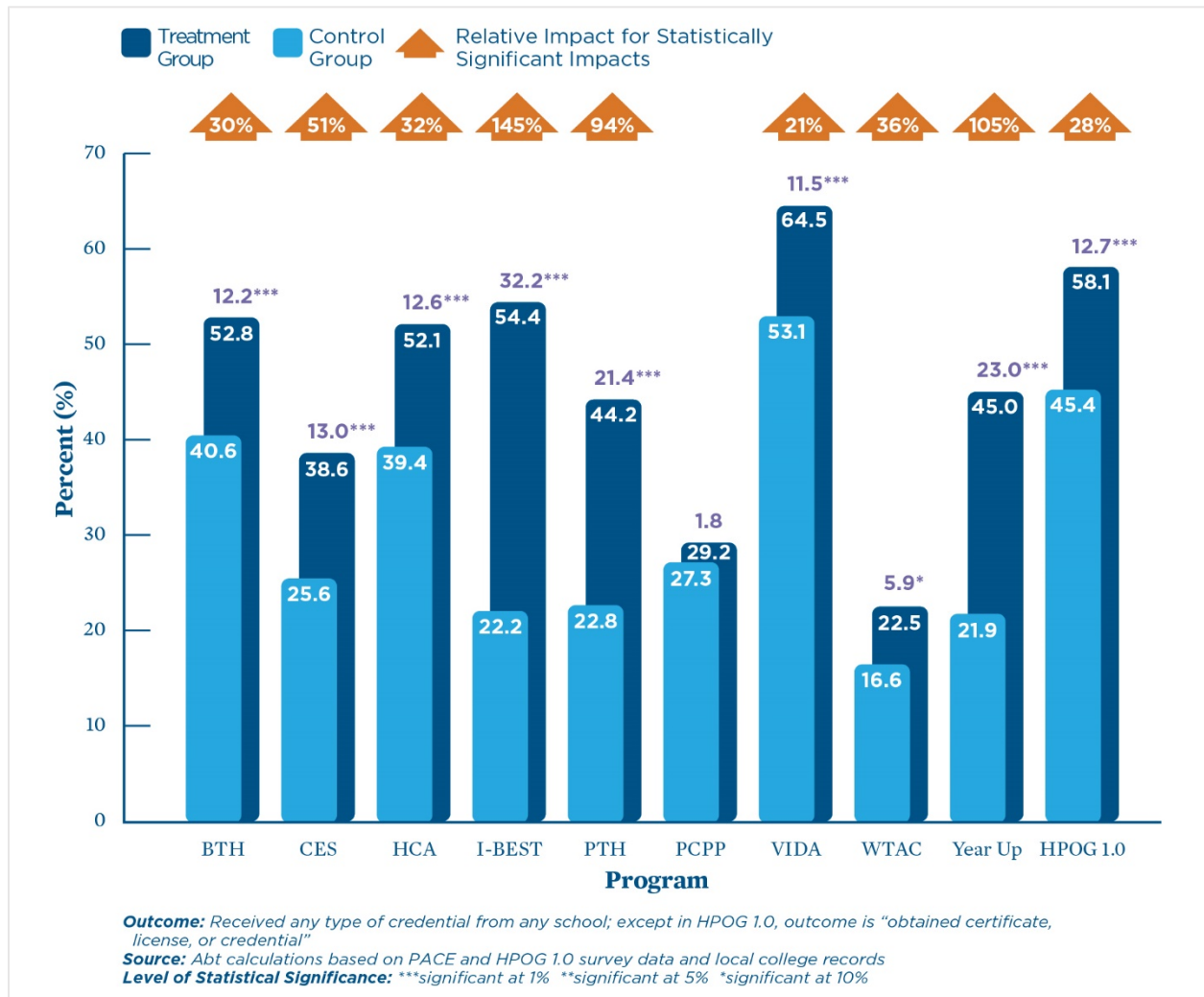
²¹ Evidence of under-reporting of Year Up participation in the survey, compared to program records, implies that this survey-based figure underestimates the program's impact on training duration.

²² Here and elsewhere, we describe results from the HPOG 1.0 pooled analysis as though they are the results from an evaluation of an "HPOG 1.0 program." In fact, as described elsewhere, these results represent a pooled analysis of 42 distinct programs exhibiting considerable variability. Nonetheless, the HPOG 1.0 project reported only pooled impact estimates, making this a convenient shorthand.

Exhibit 3-1 Impacts on Full-Time-Equivalent Months Enrolled in Any School, by Program


- All but one program increased credential receipt.**

Nine of the 10 evaluations found increases in credential receipt, ranging from 6 percentage points (36 percent) to 32 percentage points (145 percent). Because most PACE and HPOG programs enrolled participants in trainings that led directly (and quickly) to credentials (e.g., it can take as little as four weeks to become a CNA), it is not surprising that most programs affected this outcome even without producing large increases in training duration. Consistent with this interpretation, in most programs, the types of credentials participants received were, by and large, relatively short-term credentials.

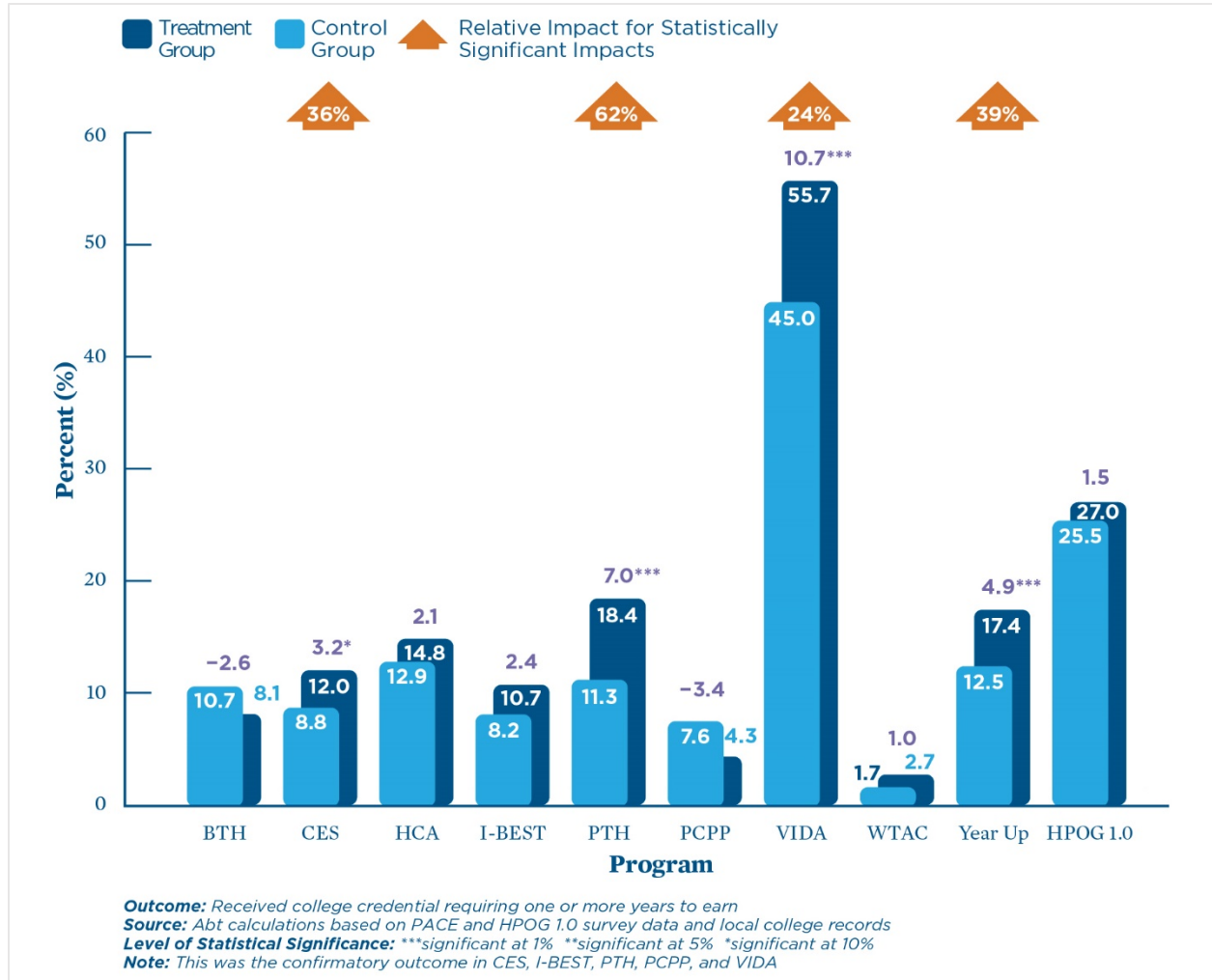
Exhibit 3-2 Impacts on Receiving Any Type of Credential from Any School, by Program


- Three of the five programs that focused on longer-term trainings increased receipt of college credentials that take a year or more to earn.

Five of the PACE programs offered either multi-step or longer-term trainings. In each of these five programs, the study teams designated *completion of a credential requiring one or more years of college study to earn* as the three-year confirmatory outcome in the educational progress domain. Three of these five programs (CES, PTH, and VIDA) increased receipt of such credentials, with increases between 3 percentage points (CES) and 11 percentage points (VIDA).²³

²³ Exhibit 3-3 also shows a favorable impact for Year Up, reflecting that several college partners offered credentials for completion of the Year Up program itself—which had a duration of one year, including the internship phase. Given that most colleges granted much less than a year's worth of credit for the program, these certificates are mostly what would be counted as short-term credentials in other evaluation sites. Year Up actually decreased receipt of associate or higher degrees.

Exhibit 3-3 Impacts on Receiving a Credential Typically Taking a Year or More of College Study to Earn, by Program



Summary of Educational Progress Impacts

Most programs had large impacts on credential receipt and more modest impacts on training duration. Nine of the 10 evaluations found increases in credential receipt, ranging from 6 percentage points (36 percent) to 32 percentage points (145 percent). Most of the increase was for short-term credentials such as a CNA certificate. Five programs (CES, I-BEST, PTH, PCPP, and VIDA) focused on longer-term trainings. Three of them increased receipt of college credentials that take a year or more to earn (although generally less than an associate degree)—with impacts between 3 percentage points (CES) and 11 percentage points (VIDA). For one site (VIDA), findings from an early cohort of participants with 5 years of data suggests that the impact on FTE months of education (and related outcomes, such as degree attainment) might continue to grow beyond the three-year follow-up.

Chapter 4 explores the extent to which these gains in credentialing translated into improvements in employment and earnings.

4. Few Programs Affected Labor Market Outcomes or Well-Being after Three Years

This chapter discusses program impacts on participants' labor market success and general well-being. The career pathways theory of change suggests that training completion and credential attainment should lead to employment and better-paying jobs. In turn, an important rationale for improving low-income adults' education and earnings is to enhance a range of other life outcomes connected with income, self-sufficiency, and for parents, the well-being of children. For that reason, the study teams estimated impacts on a variety of measures of labor market success and general well-being at the three-year follow-up. (Data sources are described in Appendix B.)

PACE Programs Key

BTH Bridge to Employment in the Healthcare Industry

CES Carreras en Salud

HCA Health Careers for All

I-BEST Integrated Basic Education and Skills Training

PTH Pathways to Healthcare

PCPP Patient Care Pathway Program

VIDA Valley Initiative for Development and Advancement

WTAC Workforce Training Academy Connect

Year Up Year Up

Overview of Outcome Measures: Labor Market

The outcomes in this chapter are based on two sources: study participant responses to the three-year follow-up survey and administrative data on earnings from the National Directory of New Hires (NDNH). In all 10 programs, the study teams designated **average quarterly earnings in the 12th and 13th quarters** after random assignment as the confirmatory outcome in the labor market domain. In addition to earnings, most programs reported impacts on measures of employment, employment conditions, and career progress. Findings for additional labor market and well-being outcomes not shown in this table are presented in Appendix C.

All 10 programs estimated impact on these measures:

Outcome	Outcome Type	Variable Description
Earnings (NDNH)		
Average quarterly earnings in Q12-Q13	Confirmatory	Average quarterly earnings in the 12th and 13th quarters after random assignment
Total earnings in Q1-Q13	Exploratory	Total earnings in quarters 1 to 13 after random assignment
Employment (Survey)		
Employment at time of follow-up survey	Secondary in 7 programs (BTH, CES, HCA, PCPP, PTH, VIDA, WTAC) Exploratory in 3 programs (I-BEST, Year Up, HPOG 1.0)	Currently employed at the time of the three-year follow-up (survey-reported)
Employment Conditions (Survey)		
Employed in a field closely related to training	Secondary in 5 programs (BTH, HCA, PTH, Year Up, HPOG 1.0) Exploratory in 5 programs (CES, I-BEST, PCPP, VIDA, WTAC)	Current or most recent job is in a field targeted by the program. For HPOG programs, the targeted field is healthcare (includes ancillary occupations in healthcare settings, such as Receptionist and File Clerk).

Labor Market Impacts

In each of the 10 evaluations, the three-year confirmatory labor market outcome was **average quarterly earnings in Q12-Q13**.²⁴ This outcome is a proxy for each program's goal of helping participants obtain better jobs with higher pay and job satisfaction than they otherwise could. In contrast to other employment-related outcomes, earnings captures the net effects of any changes in hours worked and hourly wages during these two quarters.

- **Nine of the 10 programs had no detectable impacts on average quarterly earnings in Q12-Q13. The exception was Year Up, where the impact was large.**

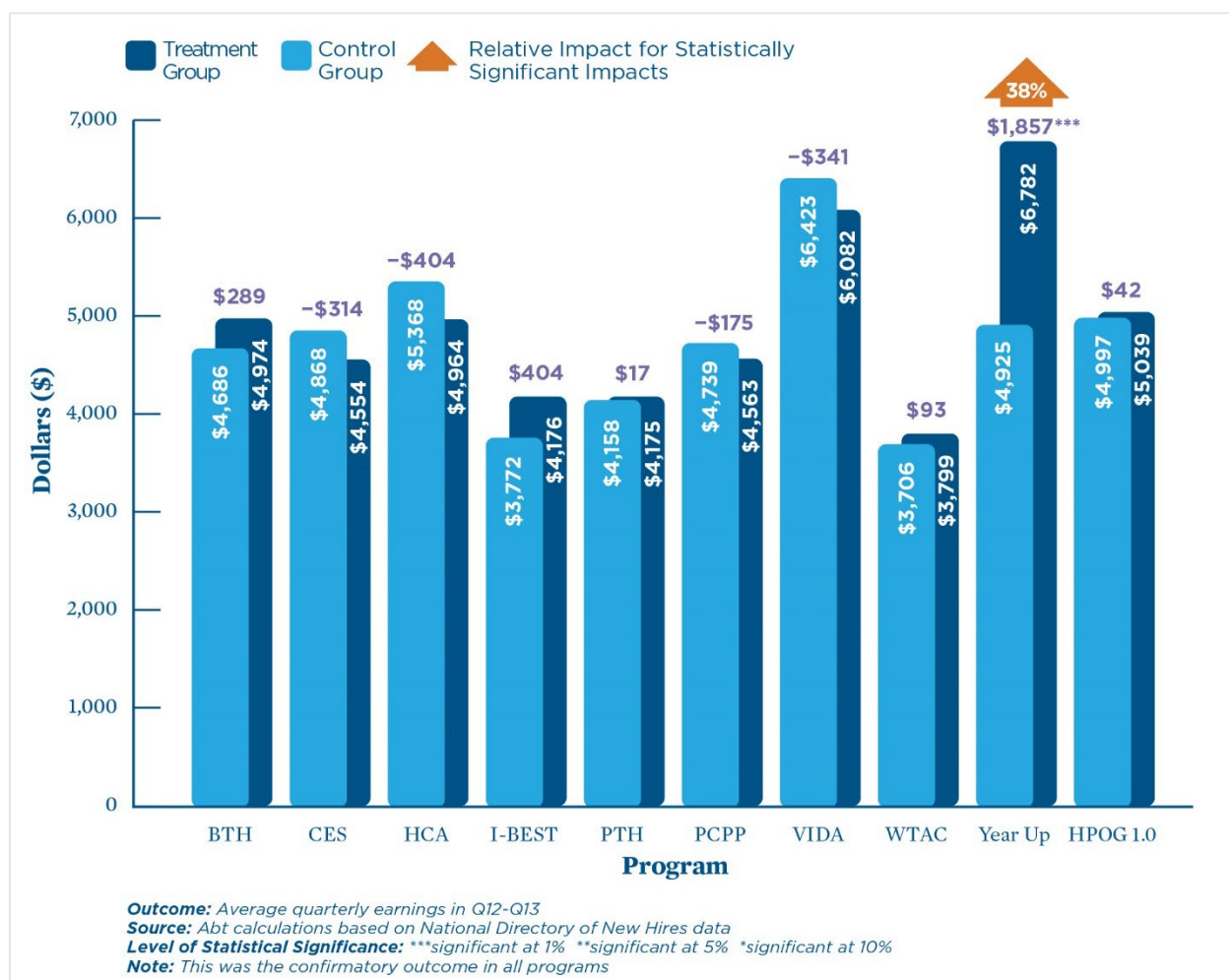
The widespread increases in credential receipt reported in the previous chapter did not, on average, translate into increases in earnings. Considering the point estimates without regard to statistical significance, the difference in average quarterly earnings in Q12-Q13 between treatment group and control group members was small and positive in five programs, large and positive in one program, and small and negative in four programs (Exhibit 4-1). The difference was statistically significant in one program: Year Up. Said differently, if any PACE or HPOG 1.0 programs other than Year Up had an impact on earnings, it was smaller than the evaluations could detect.

The large and statistically significant impact in Year Up, in contrast, is among the largest reported from randomized evaluations of training programs for low-income adults to date. Its \$1,857 impact on quarterly earnings compares favorably with the largest reported impacts in other studies—notably, an approximately \$1,570 per quarter impact for Per Scholas in its third year (Schaberg and Greenberg 2020) and a \$1,309 per quarter impact for Project QUEST in its ninth year (Roder and Elliot 2019).

Due to moderate sample sizes in the PACE evaluations, each program's impact on earnings was estimated with uncertainty, which is reflected in sometimes wide confidence intervals that occasionally include large favorable or unfavorable values. (A confidence interval is, roughly, a plausible range in which the true impact might lie.) For example, the 90 percent confidence interval for average quarterly earnings in Q12-Q13 in BTH runs from -\$129 to +\$707. A positive impact of \$707 would be considered a substantively important impact, and therefore the BTH report does not rule out either modest favorable or small unfavorable impacts.²⁵

²⁴ Better than any single quarter, averaging over two quarters improves statistical power slightly and aligns better with the three-year follow-up survey (mostly completed in the 12th and 13th quarters after randomization).

²⁵ Appendix Exhibit D-1 shows confidence intervals by program for earnings in quarters 12-13.

Exhibit 4-1 Impacts on Average Quarterly Earnings in Q12-Q13, by Program

Considering all 10 evaluations together in a single analysis, however, can yield insight into whether such impacts might be truly different from zero. In particular, we performed a formal analysis of the sources of variation across evaluations, called a *random effects meta-analysis*, (explained in the box). Findings from that analysis are consistent with the interpretation that Year Up strongly increases earnings and that the other nine programs each have impacts that are very close to zero.

In other words, the observed variation in estimated Q12-Q13 earnings impacts (from -\$404 in HCA to +\$404 in I-BEST) is likely to be primarily the result of sampling variability, rather than true variation in

Random Effects Meta-Analysis

A random effects meta-analysis is a method used to assess the mean impact across a number of evaluations, as well as to characterize the variability in impacts across those evaluations. This method conceptualizes variation in impacts as arising from two sources: sampling error (i.e., “noise”) in the individual estimates (which cannot be explained) and variation in true impacts due to programmatic or contextual differences across evaluations.

Using estimates of the variation from each source, researchers can characterize the likely amount of true variation in the impacts (as opposed to variation that is due to sampling noise), and the likely range of true impacts around the mean.

the impact across programs. Detailed findings from this random effects meta-analysis are provided in Appendix D.

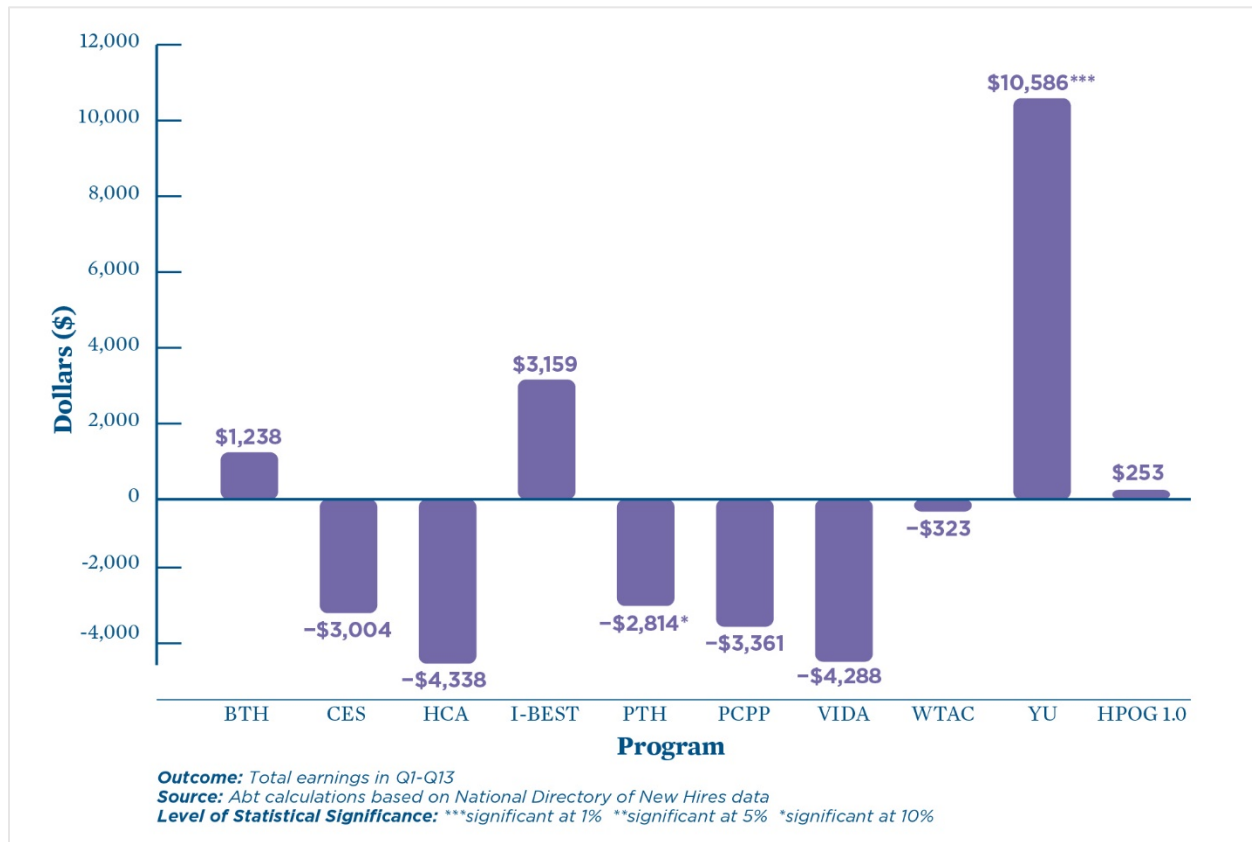
- **The cumulative impact on earnings during the first three years was positive in four programs and negative in six.**

Exhibit 4-2 below shows the cumulative impact on earnings during the first three years after random assignment. Participants in job training programs are expected to earn less than they otherwise would have for some time after they start training, because they are in training rather than working. In each of the 10 evaluations, the treatment group on average earned less than the control group in the first two quarters after random assignment, reflecting their higher training participation rates. However—because they gain experience, earn credentials, and benefit from job placement services—the programs’ logic models suggest that those participants will see their prospects for employment and earnings improve relative to the control group over time. In the long run, treatment group members should earn more in total than control group members, even after accounting for the short-term earnings loss.

Taking into account the decline in Q1 and Q2 earnings for treatment group members in all 10 programs, cumulative earnings impacts through the end of 13 quarters after random assignment (without regard to statistical significance) were negative in six evaluations and positive in four.^{26,27}

²⁶ At the time this report was written, administrative data on earnings were available past Q13 for some, but not all, programs. Data were available for the following lengths of time: 13 quarters (HPOG 1.0); 15 quarters (HCA); 16 quarters (CES, I-BEST, VIDA, WTAC); 18 quarters (PCPP, PTH); and 19 quarters (BTH, Year Up). Looking past Q13 for these programs, nothing in the available data suggests that there might be large impacts on earnings after the end of the three-year follow-up period that would alter the general picture presented in Exhibit 4-2. (Additional results by quarter using all available data for each program are presented in Appendix C.) The upcoming Career Pathways Long-Term Outcomes project will reexamine earnings and education impacts after at least six years of follow-up for HPOG 1.0 and all nine PACE programs.

²⁷ Cumulative earnings impacts were statistically significant in two evaluations: a statistically significant positive impact for Year Up ($p < .01$) and a statistically significant negative impact for PTH ($p < .10$).

Exhibit 4-2 Cumulative Earnings Impacts (Q1-Q13), by Program


- Two of the 10 programs increased employment.

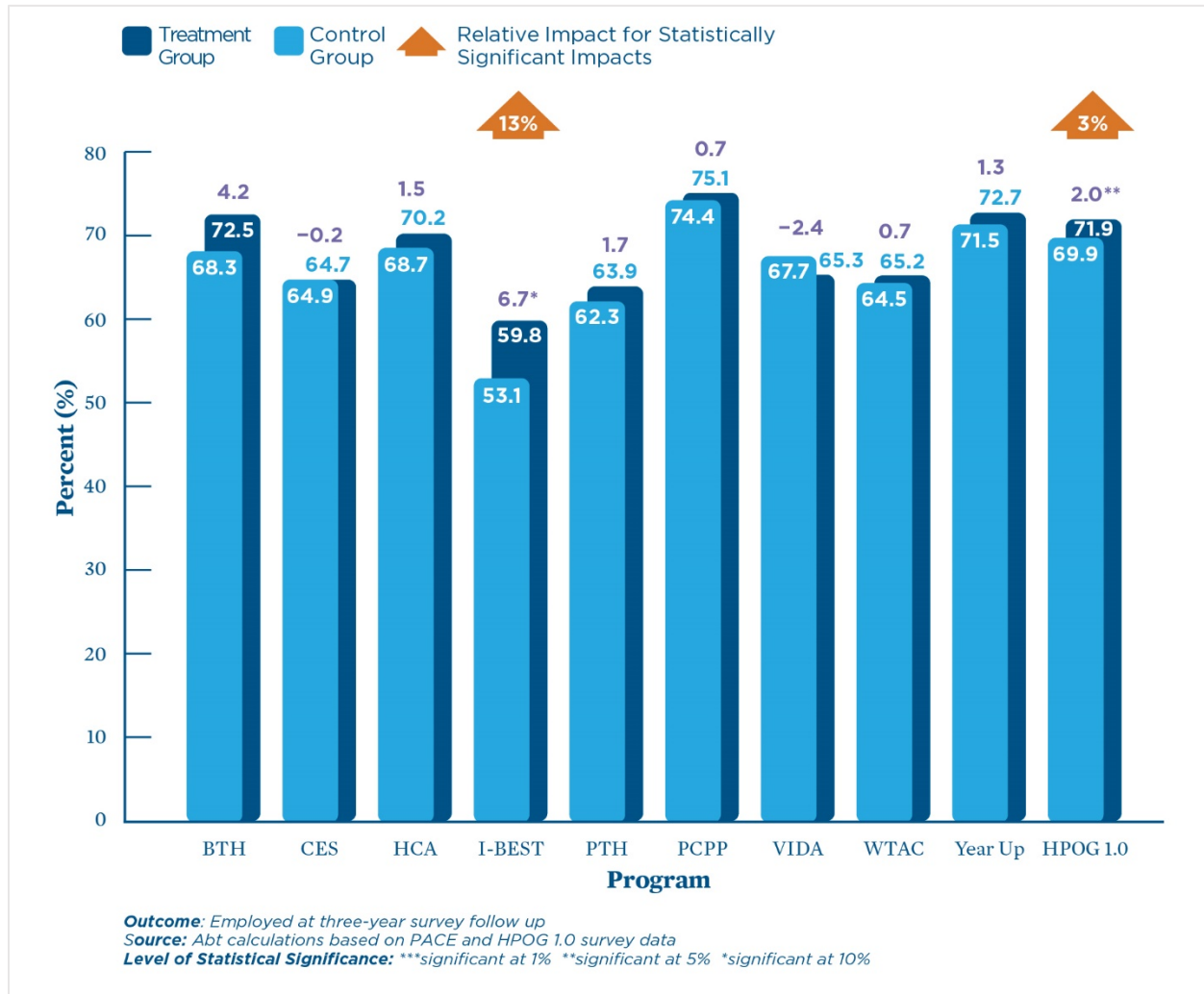
Exhibit 4-3 below shows impacts on employment at the time of the three-year survey. Employment rates were generally high in both the treatment and control groups, with control group employment rates ranging from 53 percent to 74 percent at the time of the follow-up survey and treatment group employment rates ranging from 60 percent to 75 percent.

Two of the 10 evaluations detected impacts: I-BEST and HPOG 1.0. The relatively large impact in I-BEST—which, notwithstanding its increase, had the lowest employment rate of all 10 programs—could reflect a more pressing role for labor market interventions in economies with lower employment levels or for harder-to-employ populations. In HPOG 1.0, the large sample size enabled the study to detect a small favorable impact—a 2 percentage point impact over an already high rate of employment in the control group.²⁸ The impact of HPOG 1.0 was statistically significant but not substantially larger than the (not significant) impacts seen in the

²⁸ In Peck et al. (2019), the secondary outcome for employment was based on employment in the 12th or 13th quarter after random assignment using NDNH data, rather than employment at the time of the survey. For the NDNH measure, HPOG 1.0 had a 1.0 percentage point impact on employment, rather than the 2.0 percentage point impact based on survey data shown here and in *HPOG 1.0 Impact Study Report Appendix* (Litwok et al. 2019) Exhibit D-3. Survey data for employment was reported here to be consistent with the PACE reports.

other nine evaluations. Quarterly employment impacts for each of the 13 quarters after random assignment for each of the 10 evaluations are presented in Appendix C.

Exhibit 4-3 Impacts on Employment after Three Years, by Program



- **Four of the five evaluations of HPOG-funded programs found increased employment in the healthcare field.**

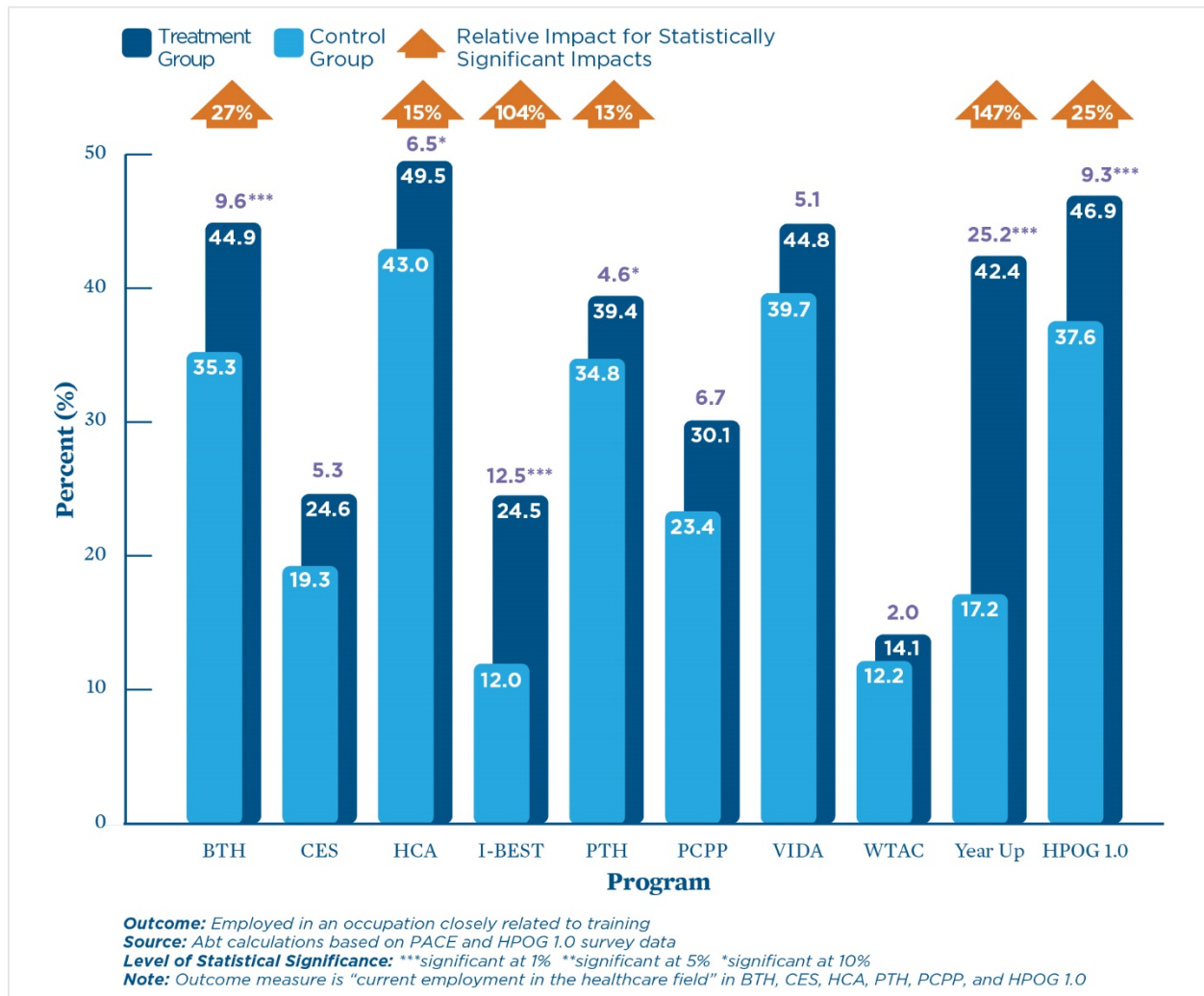
All the programs evaluated in PACE and HPOG 1.0 trained participants for jobs in specific occupational sectors. Six of those programs—including three of the four programs funded through HPOG and evaluated in PACE, plus the HPOG 1.0 pooled evaluation sample—increased employment in those specific sectors.

Programs funded or partially funded through HPOG (BTH, CES, HCA, PTH, and all programs evaluated in HPOG 1.0) trained participants for jobs only in the healthcare field. These programs were an effort to meet the dual policy goals of increasing the supply of healthcare workers while also improving the employment prospects of low-income adults. The findings from these five evaluations, presented in Exhibit 4-4 below, show that four of the five increased

healthcare employment. Given the minimal impacts on overall employment—no impact was statistically significant aside from the small (2.0 percentage point) impact in HPOG 1.0—the impacts on healthcare employment should be viewed as shifts from non-healthcare to healthcare employment rather than as “new jobs.” Nonetheless, these five programs appear to have produced modest increases in the supply of healthcare workers.

All the non-HPOG programs also provided training tailored to specific occupational sectors, with most targeting multiple sectors. For example, Year Up provided training in the information technology and financial service sectors. Of these, only Year Up and I-BEST increased employment in occupations closely related to the sectors the programs targeted.²⁹

Exhibit 4-4 Impacts on Employment in an Occupation Closely Related to Training, by Program



²⁹ Employment in an occupation not closely related to training was not reported in the I-BEST three-year impact report (Martinson et al. forthcoming). However, the data were available so we calculated the impact for this cross-program report.

The field-specific employment gains might not have translated into earnings gains because entry-level jobs in fields such as healthcare do not pay particularly well.³⁰ For example, entry-level healthcare jobs in the County of San Diego (where BTH is located) typically pay less than \$15 per hour, with CNA jobs generally starting at \$10 to \$11 per hour. Better-paying middle-skilled jobs typically require more than the 6.5 months of training received by the average BTH participant (Farrell et al. 2020).

- **Most PACE and HPOG 1.0 programs appear to have had little effect on job quality and career progress after three years.**

Non-wage characteristics of employment (e.g., benefits such as employer-provided health insurance or paid time off, regular shifts, opportunities for advancement) reflect a key aspect of job quality that is often lacking in jobs for low-wage workers. Even without producing impacts on earnings or overall employment, PACE and HPOG 1.0 programs might have enabled treatment group members to find jobs with more desirable employment conditions. Likewise, increased employment in healthcare and other targeted occupations might have helped to set up treatment group members to pursue careers more confidently.

Looking at one outcome measure related to employer-provided benefits and three related to career progress reveals little evidence that PACE or HPOG 1.0 programs affected these kinds of outcomes. Two programs (I-BEST and HPOG 1.0) increased the availability of employer-provided insurance; three (WTAC, Year Up, and HPOG 1.0) increased participants' confidence in their career knowledge, but only by a small amount; and two (PTH and VIDA) increased participants' self-assessed access to career supports, again by only a small amount. Appendix C discusses these findings in more detail.

Impacts on General Well-Being

The programs' logic models hypothesize that an increase in earnings would lead to improvements in other life outcomes. Given that most programs did not increase earnings three years out, we might expect them to have caused few if any impacts on financial and other life outcomes. Still, the program might have affected these outcomes through other mechanisms.

The PACE and HPOG 1.0 evaluations surveyed study participants about various kinds of financial distress, public assistance receipt, personal student debt, and—for selected programs—children's well-being. There was only scattered evidence that any of the programs affected these types of outcomes.

Only HPOG 1.0 found a decrease in the percentage of participants reporting financial distress, with no comparable effects found in other programs. Likewise, only one program, Year Up, reduced means-tested public assistance receipt. This is not surprising in light of the earlier findings for earnings: PACE and HPOG 1.0 programs were expected to reduce the rate of public assistance receipt through higher earnings for the treatment group, which should reduce the

³⁰ According to Loprest and Sick (2018), "On average, nursing assistants in the United States earn \$13.29 per hour, lower than many other occupations that require some postsecondary training or credential but less than a four-year degree."

need for public assistance. However, as Exhibit 4-1 showed, such earnings impacts did not materialize in any program except Year Up.

Reduced student debt seemed a likely effect given the prominent role of financial support from programs in several of their logic models. Three programs (BTH, VIDA, and Year Up) had impacts, with student debt reductions ranging from 25 percent to 50 percent.

The seven programs with sufficiently large samples of participants with minor children (BTH, CES, HCA, PTH, VIDA, WTAC, HPOG 1.0) assessed program impacts on various measures of child well-being including parental engagement and children's performance in school. The study teams found few impacts on these outcomes at any of the programs.

Detailed findings for each of these outcomes are presented in Appendix C.

Summary of Labor Market Impacts

With one exception—Year Up—there is little evidence that PACE and HPOG 1.0 programs significantly affected earnings, employment, or participants' well-being after three years. In particular, the impact on the evaluations' confirmatory outcome of quarterly earnings three years after random assignment (Q12-Q13) was not statistically significant for any program except Year Up. The large and statistically significant impact in Year Up, in contrast, is among the largest reported from randomized evaluations of training programs for low-income adults to date.

Only 2 of the 10 evaluations detected improvements in employment, and those impacts were modest. However, four of the five HPOG-funded programs that had a goal of increasing healthcare employment succeeded in doing so.

Consistent with the lack of impact on earnings, there is little evidence that PACE or HPOG 1.0 programs had substantial effects on participants' economic well-being, nor did they consistently affect the well-being of participants' children. However, some programs reduced personal student debt.

5. Key Elements of the Year Up Program

The general pattern of results described in Chapter 4 suggests that, after three years, Year Up had substantially larger labor market impacts—especially on earnings—than the other programs evaluated in PACE and HPOG 1.0.³¹ It thus seems worthwhile to briefly describe what appear to be Year Up’s key organizational and programmatic differences compared with those other programs. This discussion draws both on the Year Up 18-month and three-year reports (Fein and Hamadyk 2018; Fein et al. 2021) and on program-specific implementation and impact findings for other sites.

In brief, Year Up is a full-time, one-year program that serves young adults (ages 18-24) who are disconnected from work and school, or at risk of disconnection, and are motivated to do well in the program. The program is divided into two 6-month phases: a “Learning and Development” (L&D) training phase, followed by an internship phase. Students receive a weekly stipend, intensive advising, and connections to other resources and supports to aid in program persistence. Following the program, they receive assistance obtaining employment in the occupational area for which they trained.

The Year Up program evaluated in PACE was well implemented.³² As an organization, Year Up embodies stronger and more innovative organizational qualities and practices than does the typical workforce organization, as well as a long history of working in the community. Per Fein et al. (2021, p.74):

Its leaders consciously cultivate an entrepreneurial outlook and apply business practices and tools in operating this social program. They have put a strong emphasis on articulating the program’s mission and values and on mobilizing key stakeholders—staff, participants, and partner organization—to embrace and work towards these values. Year Up uses well-developed data systems to monitor outcomes, promote accountability, and support continuous improvement.

This organizational capability is central to Year Up’s ability to strongly implement other key elements of the model. Based on discussions with stakeholders, Fein and Hamadyk (2018) suggest that the key elements are (1) recruitment and applicant screening; (2) robust services focused on developing skills—particularly soft skills—and retention during the initial six-month L&D phase; and (3) internships and close connections to employers. Several stakeholders argued that these elements are not separable; rather, most or all components are important in Year Up’s theory of change.

³¹ As noted elsewhere, it is possible that certain other of those programs might “catch up” and show comparably large impacts after six years, a question that will be explored in upcoming six-year impact reports. Nonetheless, it seems worth discussing Year Up’s unique strengths based on the findings to date.

³² Analyses of field interviews and program data by Fein and Hamadyk (2018) show that local Year Up offices fully implemented all program components and generated strong performance on related metrics. For example, all offices met the evaluation’s requirement for expanding recruitment by 50 percent for the PACE evaluation. They did so while maintaining applicant quality, admitting only one in six applicants as in the past.

We posit that the third of these elements—employer engagement—is central to motivating other key elements of Year Up’s program model. In particular, we posit that ***Year Up’s funding structure incentivizes a strong focus on employers’ needs***. Like other job training programs, Year Up engages with local employers to understand their needs. Unlike most other programs, Year Up derives considerable direct financial support from local employers, with their payments for interns constituting a large share of its program budgets. Year Up is thus strongly and narrowly focused on producing the kind of employee those local employers want and—to ensure sustainability—on cultivating long-term relationships with them. Only if Year Up develops a reputation for producing high-quality interns will local employers be willing to repeatedly contribute to those interns’ training costs.³³

We conjecture that this employer-focused philosophy guides many aspects of Year Up’s program:

- Types of participants served (intensively screened to ensure a good fit—with the program and then with employers);
- Training duration and focus (long trainings focused on real-world skills rather than on formal credentials) coupled with absence of support for follow-on trainings; and
- Supportive services provided (intensive, to support participants through a long, full-time training and into internships).

Each of these aspects of Year Up is described in further detail below.

Year Up intensively screens applicants to ensure a good fit.

Producing *consistently* high quality graduates is a key factor in maintaining relationships with employers willing to pay to hire program interns and is thus key to Year Up’s sustainability. As a result, the program has an incentive to recruit trainees who are both capable and motivated to complete the program. To this end, Year Up administers an intensive, multi-stage assessment and screening process to select among applicants those who it judges are most likely to benefit from the program. The Year Up program evaluated in PACE admitted only one in six applicants.

As noted by Fein and Hamadyk (2018) and Fein et al. (2021), such screening is not unique to Year Up—it is also a characteristic of other effective programs with a strong sectoral focus (Maguire 2016; Kazis and Molina 2016). However, most other programs evaluated in PACE and HPOG 1.0 admitted nearly everyone who met the stated eligibility criteria—usually based on

³³ Employer payments also create incentives for employers to invest time and resources in these young adults, at least in part to realize returns in good work output during internships and subsequent potential hires.

income, basic education, geography, and interest in the program—and as a result admitted most applicants.³⁴

Year Up's exclusive focus on young adults (ages 18-24) also differentiates it from other PACE and HPOG 1.0 programs. Compared with older adults—who are more likely to be parents or supporting themselves—young adults might find it less challenging to commit to longer and more intensive trainings and more likely to complete them. At the time of program entry, Year Up's participants were less than a third as likely to have children and be living with them, and more than twice as likely to be living with their parents, as were participants in other PACE and HPOG 1.0 programs.³⁵ They also had higher family incomes and lower levels of public assistance receipt (Gardiner and Juras 2019). Having fewer obligations and more supports plausibly contributes to higher levels of engagement with and completion of a long and intensive training program such as Year Up's.

On the other hand, Year Up's three-year report (Fein et al. 2021) found impacts on quarterly earnings that were positive, large, and statistically significant for every subgroup, including for participants less committed to training and participants with higher depressive symptoms, more life challenges, weaker educational backgrounds, and lower high school grades. That impacts were positive even for the less-committed and less-advantaged might suggest a broader role for this type of service model. It also is noteworthy that impacts were large in—if not completely uniform across—all eight local Year Up offices evaluated. Although these findings are suggestive, further evaluation is needed to assess the extent to which Year Up would work for broader populations and in other geographic areas.

Year Up's long and intensive training focuses on practical skills rather than formal credentials.

Year Up provides six months of full-time training in the information technology and financial service sectors, followed by six-month internships. Each participant is expected to complete the full program. The training phase is tailored to the specific needs of employers and focused on real-world skills. Credential attainment is not a salient feature in the Year Up logic model; and as such, the program does not consistently incorporate additional trainings into the model for

³⁴ Many HPOG 1.0 programs assessed applicants' general suitability for training and employment in healthcare. However, despite the wide use of suitability criteria in the application process, programs screened out very few otherwise eligible applicants because of unsuitability. In only five programs did fewer than 70 percent of applicants meet suitability standards; and across all 42 HPOG 1.0 programs, the average admittance rate was approximately 90 percent (Peck et al. 2018). With the exception of Year Up, VIDA conducted the most intensive screening process among PACE programs, assessing each applicant for suitability through one-on-one conversations. Applicants had to be interested in one of the VIDA-supported programs of study and the types of jobs associated with them. Staff identified potential barriers to participation and applicants' ability to commit to full-time participation in coursework and VIDA services. VIDA staff reported they did not track how many applicants met their eligibility criteria.

³⁵ Per Appendix B of the PACE short-term cross-program report (Gardiner and Juras 2019), 9 percent of Year Up participants had children and were living with them, compared with between 34 and 56 percent in other PACE programs. Sixty-eight (68) percent of Year Up participants lived with their parents, compared with between 15 and 36 percent in other PACE programs. In HPOG 1.0, 63 percent of HPOG 1.0 participants had a dependent child. No information was collected on whether HPOG 1.0 participants were living with their parents at baseline.

advancement. Instead, Year Up emphasizes stable employment as the preferred first step following the program. The idea is that graduates will be in a better position to continue their education and training once their financial circumstances are stable.

Like in Year Up, most treatment group members in other programs enrolled in a single training. Unlike in Year Up, those trainings tended to be short in duration and focused on earning a credential.³⁶ Such credentials are unlikely to be sufficient, on their own, to secure a job that results in higher earnings. This is particularly true in the healthcare sector, which requires credentials even for entry-level jobs that—though helping those employees get started on a healthcare career track—sometimes pay less than similar non-credentialed jobs available to control group members.³⁷ For that reason, the career pathways theory of change envisions a career pathway with multiple steps of training. Among PACE and HPOG 1.0 programs, however, there is little evidence of meaningful support to participants for follow-on training or that programs encouraged participants to undertake follow-on training—and likewise little evidence that such training was received.³⁸

To ensure high retention and completion, Year Up offers comprehensive wraparound supports.

Participation in Year Up requires a full year of commitment. To ensure high retention and completion in such a lengthy program, Year Up provides participants with multiple intensive wraparound support services during both program phases (training and internship), applying a “high expectations, high support” philosophy.³⁹ Key strategies include behavior contracts (specifying expected professional behaviors), substantial financial stipends (of up to \$8,870 for the full year), social support from staff and peers organized as learning communities, staff

³⁶ One exception was VIDA, which required full-time participation and emphasized longer trainings. Unlike Year Up, which is a set length, VIDA required full-time training so that students could proceed more quickly through the program, reducing the time for other life events to interfere with completion.

³⁷ To give two examples: Across programs evaluated in HPOG 1.0, participants who completed “entry-level occupational training” earned on average \$13.94 per hour, which is lower than the \$14.41 average wage for those who did not complete training (Klerman, Litwok, and Morris, forthcoming). In the BTH evaluation in PACE, many treatment group members earned CNA certifications; however, in the county of San Diego, where BTH was located, the typical new CNA wage is between \$11 and \$12 per hour—compared with a median wage of around \$14 per hour in the control group (Hamadyk and Juras 2020).

³⁸ For example: Only 3 percent of HPOG participants who completed a CNA training (a first step on the healthcare career pathway) went on to train as either a Licensed Vocational/Practical Nurse or Registered Nurse—which are substantially higher paying occupations than CNA—within the first 15 months after random assignment (Loprest and Sick 2018). Overall, less than 10 percent of HPOG 1.0 treatment group members returned to complete any training within three years (Loprest and Sick 2018), and only 3 percent completed a second training at a *higher* level (Klerman, Litwok, and Morris, forthcoming). Some of this may be related to how the evaluation credited programs for serving individuals. The focus in HPOG 1.0 was on the number of *enrollees*, rather than the number of *trainings* enrolled in. As a result, programs were essentially disincentivized to support multiple trainings. ACF made changes in HPOG 2.0 to address this.

³⁹ These services are relatively expensive. Year Up had the highest cost per participant of any PACE program, at \$33,906 per participant. Employer payments for interns covered a large portion of this cost, and a cost-benefit analysis (Fein et al. 2021) showed that the average benefit to society overall per participant exceeded that average program cost.

advisors and social workers, and outside mentors.⁴⁰ Year Up further engages participants by making stipends conditional on meeting specified benchmarks and standards. Perhaps as a result, fully 96 percent of treatment group members in the PACE Year Up evaluation enrolled in training and 75 percent completed the program.

Consistent with Year Up's emphasis on stable employment as the preferred first career step, the program also provides intensive post-program employment services.

Several other PACE and HPOG 1.0 programs provided supportive services, but they tended to be substantially less intensive than Year Up's. Among those programs, VIDA—which also focused on longer trainings and employed a “high expectations, high support” philosophy—offered the most comprehensive supports. Those included financial assistance (tuition assistance up to \$5,500 per year; the cost of course-related books, tools, uniforms, and other materials; and childcare and transportation assistance; but no support for basic living expenses) and mandatory weekly individual and group counseling to help participants navigate and succeed in college. Almost all VIDA participants received these supports. Emergency financial assistance was available but rare.

Many programs provided at least some academic supports (e.g., supplemental support courses). However, beyond Year Up and VIDA, there were few examples of program-provided non-academic services. Many programs helped students access supports outside of the program, but in limited and idiosyncratic ways. Financial support, where offered, largely focused on reducing the direct cost of training: two programs were offered at no cost to students (CES lower bridge and WTAC), and several offered partial financial support for the training itself. Non-academic financial support was less common, although several programs offered limited emergency assistance (e.g., up to \$1,000 in BTH, up to \$600 in HCA; and up to \$1,400 in PTH). HPOG 1.0-funded programs could use some funds to provide childcare and transportation assistance.

Notably, no program other than Year Up offered stipends, even though, given the target population, few participants were likely to have had the means to engage in more than the shortest unpaid training without substantial external assistance.⁴¹

The next chapter discusses some of the ways in which these elements may have contributed to Year Up's success and considers whether other programs could adopt similar strategies.

⁴⁰ The stipend's purpose is to make it easier for participants to work fewer hours in order to focus on the program, rather than to provide a regular wage. Its amount is slightly more than half of what an individual would receive in a full-time minimum-wage job (\$15,080 at the \$7.25 per hour federal minimum wage). Another function of stipends is to incentivize compliance with the expectations specified in the behavior contract. Contract infractions trigger reductions in stipends and can result in exit from the program. The average treatment group member received \$7,142 in stipends during the program, or 81 percent of the maximum possible amount (Fein and Hamadyk 2018).

⁴¹ The authorizing legislation prohibited grantees funded by HPOG from offering stipends.

6. Discussion and Conclusions

The two projects described in this report—the PACE project and the HPOG 1.0 Impact Study—provide important new experimental evidence on the effectiveness of education and occupational training programs for TANF recipients and other low-income adults. Both projects are evaluating programs that varyingly represent a range of strategies from the career pathways framework to support getting people started and then advancing in careers.

There is some research evidence on selected elements of this framework, but PACE and HPOG 1.0 are among the first evaluations to use the career pathways model as an explicit framework for program effectiveness research. Because the PACE and HPOG 1.0 evaluations were conducted in a wide variety of settings, by organizations with varying levels of expertise, they offer insights into how effective such programs are likely to be when implemented under real-world conditions.

Together, PACE and HPOG 1.0 contribute evidence from 10 separate impact evaluations of dozens of diverse, locally implemented programs, with a total experimental sample size of more than 23,000 study participants.

This report has presented a summary of the findings from both studies through three years after random assignment. The career pathways theory of change as applied to all programs suggests that by the end of three years, early increases in treatment group members' training completion and credential attainment over the control groups' should have translated into increased employment and better-paying jobs.

Summary of Three-Year Impact Findings

For a job training program to have detectable positive impacts on employment, earnings, and well-being, its participants must receive substantially more education and training than they would have otherwise. As described in the PACE Cross-Program Implementation and Impact Study Findings report (Gardiner and Juras 2019), most programs succeeded in increasing enrollment in education and training programs. Though enrollment increased, those increases were modest. These modest increases in enrollment nonetheless translated into substantial impacts on credential receipt in 9 of the 10 evaluations. Most of the increase was for short-term credentials, which is consistent with the small impacts on length of training—less than one FTE month in most programs. These credentials appear to have helped treatment group members obtain jobs in the industries for which they were training. In particular, five of the programs were funded by HPOG 1.0 and specifically trained participants for jobs in the healthcare field. Four of those programs increased healthcare employment, thus furthering the important goal of increasing the supply of healthcare workers.

Notably, however, the increases in credentialing and healthcare employment did not lead to increases in earnings. With a single exception—Year Up—the impact on quarterly earnings after three years (Q12-Q13) was not statistically significant in any of the 10 evaluations. The large

impact in Year Up, in contrast, is among the largest reported from randomized evaluations of training programs for low-income adults to date.

What Explains This Pattern of Impacts?

As described above, the career pathways framework suggests that programs can foster entry and advancement in well-paying jobs by providing training, supports, and employment connections in manageable steps. Yet with the exception of the Year Up program, these programs did not increase earnings over what was available in their absence. Why not?

One way to answer the question is to assess the extent to which programs effectively embodied key strategies included in the framework. Did they clearly target a promising *series* of education and training steps, or at least an initial step sufficient to boost earnings and provide a foundation for further career progress? Did they support entry and progress in training through careful assessment and targeting; high-quality instruction in needed basic, life, and occupational skills; and robust supports to ensure persistence and completion? Having fostered skills and credentials, did they then provide strong connections to employers and job opportunities?

Most programs evaluated in PACE and HPOG 1.0 were successful at getting at least some treatment group members into and through a first training, which often led to short-term credentials such as a CNA certificate. However, the programs appear to have done little to foster employment connections or to encourage subsequent education or training steps. The PACE short-term cross-program report found that many programs provided minimal services to connect participants with employers and jobs (Gardiner and Juras 2019). Few programs provided employment counseling or job development, and in-program experiential learning was generally limited to existing clinical practicums.

Likewise, as noted Section 5, there is little evidence that PACE and HPOG 1.0 trainees returned for follow-on training within the respective study's timeframe, perhaps because most sites offered limited support for follow-on training. The HPOG 1.0 three-year impact report notes that the time-limited structure of the HPOG grants discouraged grantees from offering support for follow-on training. Some grantees explained that they did not want to risk having participants in the middle of training when their grant ended (Werner et al. 2018). Such issues are also likely to have pertained to the PACE sites that had time-limited grants from HPOG and elsewhere.

Without connections to employment or support for longer-term and/or follow-on training, there is little reason to expect substantial earnings impacts, as, particularly in healthcare, the short-term credentials obtained by treatment group members typically do not lead, on their own, to well-paying jobs.^{42,43}

⁴² Dadgar and Trimble (2015) found that short-term credentials from community colleges do not translate into measurable earnings impacts, at least without subsequent training.

⁴³ In some occupations targeted by HPOG 1.0 and PACE—especially healthcare—the amount or level of training required for the next formal credential required for advancing on the career pathway might be too much to be realistically undertaken by low-skilled participants without substantial additional support. For example, a new CNA seeking advancement would need to take Licensed Vocational/Licensed Practical

Other Programs Referenced in This Section

The **WIA Adult and Dislocated Worker Programs Gold Standard Evaluation**, funded by DOL, assessed the effectiveness of three tiers of services offered by the Workforce Investment Act (WIA): (1) *core* services, consisting mainly of information and online tools available to everyone at American Job Centers; (2) *intensive* services, which included more staff-assisted employment services; and (3) *training* services, the majority of which were funded through Individual Training Accounts. The study randomly assigned eligible applicants into one of three study groups: (a) the *full-WIA* group, who were offered all three tiers of services; (b) the *core-and-intensive* group, who could receive core and intensive services only; and (c) the *core* group, who could receive core services only. The array of services offered to the full-WIA group is closest to the services offered by PACE and HPOG 1.0 programs, making the full-WIA group versus the core group the most apt comparison to impacts from these studies.

Project QUEST targeted adults from low-income households who were interested in attending one of its healthcare career-track programs full-time, after completing any necessary remedial and prerequisite classes. Its training programs included Licensed Vocational Nurse; Registered Nurse; Medical Records Coder; and Radiography, Respiratory, Sonography, and Surgical Technicians. Most of these programs took one to two years after students met prerequisite requirements.

Per Scholas was evaluated as part of the WorkAdvance study, which evaluated four separate programs that specialized in specific sectors (information technology, environmental remediation, transportation and manufacturing, and healthcare). It implemented a rigorous screening process that included several steps and required interested applicants to report to the provider on multiple occasions. The training was relatively short term—lasting 4 weeks to 32 weeks, depending on the program.

Findings from other evaluations also support this conjecture. For example, the Workforce Investment Act (WIA) Gold Standard Evaluation funded short-term occupational training, case management, and employment services (Fortson et al. 2017). Like PACE and HPOG 1.0, that evaluation found a modest impact on credential receipt (14 percentage points for receipt of any credential), but little evidence of positive impacts on average quarterly earnings (the only significant finding was a +\$543 impact in Q5).

This lack of earnings impacts is not atypical: a review of earnings impacts from other job training programs conducted for the HPOG 2.0 impact evaluation (Klerman et al. forthcoming) found that among 22 recent evaluations, 16 found no impact on earnings in any quarter. Likewise, an ongoing systematic review and meta-analysis of 46 evaluations of career pathways job training programs—mostly short-term trainings—being conducted for DOL has so far yielded no evidence of long-term impacts on earnings or employment (Peck et al. 2020).

In contrast, programs that offer longer trainings sometimes have large earnings impacts. For example, Project QUEST—a well-known healthcare training program—provided a larger dose of training than most of the PACE/HPOG programs and produced large, statistically significant earnings increases that emerged four years after random assignment (Roder and Elliot 2019). VIDA's program is similar to Project QUEST, however VIDA has not had earnings impacts four

Nurse or Registered Nurse training, which takes from one to four years—and could require participants to increase their basic skills levels or take academic prerequisites before even starting the additional training.

years after random assignment (Rolston, Copson, and Buron 2021). Further follow-up of VIDA will determine whether earnings impacts emerge later.

An important consideration is that increases in short-term credentials may lead to larger earnings increases in some high-demand fields but not others. Year Up's focus on entry-level jobs in the information technology and financial services sectors is one possible contributor to its success—a hypothesis that the strong result for Per Scholas (Schaberg and Greenberg 2020), another IT-focused program, tends to bolster.

Taken together, this evidence suggests that consistent with the career pathways framework, robust employer engagement and meaningful support for follow-on training—over a long timeframe—may be required for programs such as these to generate meaningful increases in earnings. In turn, evaluations with longer follow-up periods would likely be required to detect those impacts.

Could Other Programs Adopt Elements of Year Up's Approach?

Chapter 5 offered conjectures about key elements of the Year Up program that might individually or jointly help to explain the program's success—program and organizational maturity; an employer-focused philosophy; intensively screened, high-quality recruits; longer trainings; comprehensive wraparound support services; and a sole focus on young adults who are less likely to have children or other responsibilities that interfere with their training. It seems worthwhile to consider whether other programs could easily adopt similar strategies (which could then potentially be tested in a variety of circumstances). In other words, is Year Up's approach, or elements of it, widely replicable in the public workforce system?

First, given Year Up's strong organizational characteristics, potential replication efforts would do well to study and attempt to emulate those characteristics that appear to help knit together Year Up's extensive and interrelated services.

For other organizations in the public workforce system, orienting programs toward more intensive employer engagement—seemingly the most important factor in Year Up's model—will be another critical challenge. In sectoral training programs, establishing relationships with employers is critical to ensuring a match between the occupations participants are training for and the occupations for which employers are hiring. Interviews with staff at many of the other PACE and HPOG 1.0 programs suggest that the importance of employer engagement is widely recognized. For varying reasons, however, few programs implemented robust responses on this front.

One potential reason is that building relationships with local employers is difficult for time-limited programs. Local employers might be hesitant to engage with a program whose funding is time-limited, sensing a poor return on their investment. (The program will not be a useful pipeline if it will operate for only a short time). Likewise, a program with time-limited funding might not want to invest scarce resources to set up relationships with employers (which is time-consuming), devise programming to respond to the needs of employers, and set up work placement slots (which could happen only after employer relationships had been established).

Struggling to meaningfully engage employers appears to be a widespread problem in training programs. For example, the Center for Employment Training (CET)'s original program model included close relationships with employers. An effort to replicate that model found that only 4 of the 12 sites were able to do so with high fidelity in this and other respects (Miller et al. 2005). The lower-fidelity programs struggled to identify job opportunities for participants and had little or no employment and earnings impacts. The authors concluded that “successful program models—even when they are very prescriptive and are centrally operated—are difficult to transfer from one context to another” (Miller et al. 2005, p.97).

The four CET replication sites with high fidelity in the CET evaluation all were better established, existing programs. Time and experience are needed to develop relationships and trust with local employers and hit the mark in other aspects of program operations. Year Up and other effective sectoral programs (e.g., Per Scholas, Project QUEST) tend to be well-established programs.

The careful applicant screening processes that appear to be typical of successful sectoral programs may be challenging to apply in other contexts. The purpose of screening in these programs is to identify and enroll participants who are in a position to benefit from program services. For example, in addition to screening for basic eligibility (e.g., target age range, high school credentials), Year Up also assesses living circumstances, proxies for low-income status, interest and motivation, interpersonal styles, and other factors. Programs designed to serve broader populations of disadvantaged adults may not be able to screen to the same degree on such factors. It may be worth testing Year Up–type services or Year Up–type services with additional supports for a broader population of disadvantaged adults to help understand which array of services works for which groups.

Year Up's success also may suggest benefits from offering more intensive and longer-duration training than workforce programs usually offer, potentially with stipends to allow more participants to attend full-time. Recognizing this possibility, OFA designed the funding opportunity announcement for the second round of HPOG grants to encourage longer training programs and follow-on training; however, the HPOG authorizing legislation does not permit stipends (OFA/ACF 2015).⁴⁴

Finally, it is important to note that Fein and Hamadyk's (2018) interviews with stakeholders suggested that Year Up's components are mutually reinforcing, and we argue, possibly driven by the need to maintain strong employer relationships to ensure continued program funding. Adopting selected components in a piecemeal manner therefore could be challenging. Nonetheless, more research on the impact of such components, considered individually, would be helpful.

Looking Ahead

Longer-term analyses are already underway. Planned PACE and HPOG 1.0 impact analyses will examine outcomes for at least six years of follow-up. With follow-up periods extending

⁴⁴ See Klerman, Litwok, and Morris (forthcoming) for analysis of whether HPOG 2.0 had an impact on longer term or follow-on trainings.

through 2020 for most programs, the six-year analysis will extend into the period when the COVID-19 pandemic was affecting the labor force. That longer follow-up will be informative about the pandemic's effects on study outcomes and impacts.

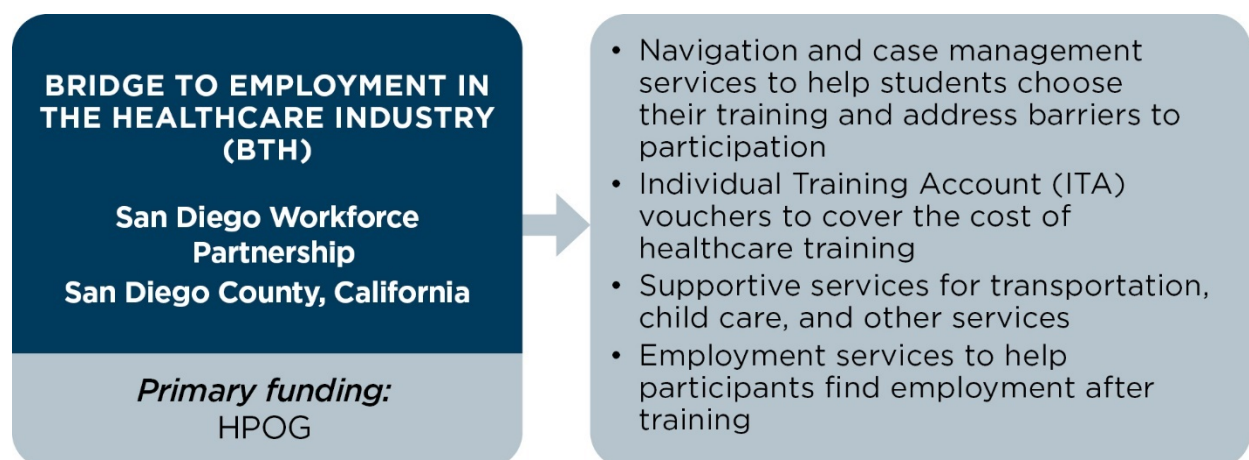
Although the three-year reports showed no detectable earnings impacts for most programs, impacts could emerge by six years. For example, in some HPOG 1.0 programs, treatment group members are more likely to be employed in the healthcare sector, which may provide more steady employment or higher wages over the longer term relative to the sectors that employ the control group. In other programs, emerging impacts on college credential receipt could translate into longer-term gains in earnings. For the Year Up program, the six-year report will focus on whether the program's large impact on earnings at three years is sustained and whether there are radiating effects in other life domains.

Appendix A: Program Descriptions

Bridge to Employment in the Healthcare Industry (BTH)

San Diego Workforce Partnership's Bridge to Employment in the Healthcare Industry (BTH) program used an Individual Training Account (ITA) model to help adults with low incomes, including Temporary Assistance for Needy Families (TANF) recipients, pay for healthcare training. BTH participants could use ITA vouchers to fund training at any accredited private for-profit school or community college of their choice. Community-based "navigators" helped guide participants in their selection of a training program and provider. Navigators also identified barriers to program participation and supports to address those barriers and provided job search assistance.

BTH operated between 2010 and 2015 with funding from the Administration for Children and Families' Office of Family Assistance's (ACF/OFA) Health Profession Opportunity Grants (HPOG) Program. The HPOG 1.0 Impact Study included BTH findings in the average impacts reported and BTH was one of nine programs separately evaluated in the Pathways for Advancing Careers and Education (PACE) project. Both studies covered BTH enrollment from July 2012 through October 2013.



Prior Bridge to Employment Impact Reports

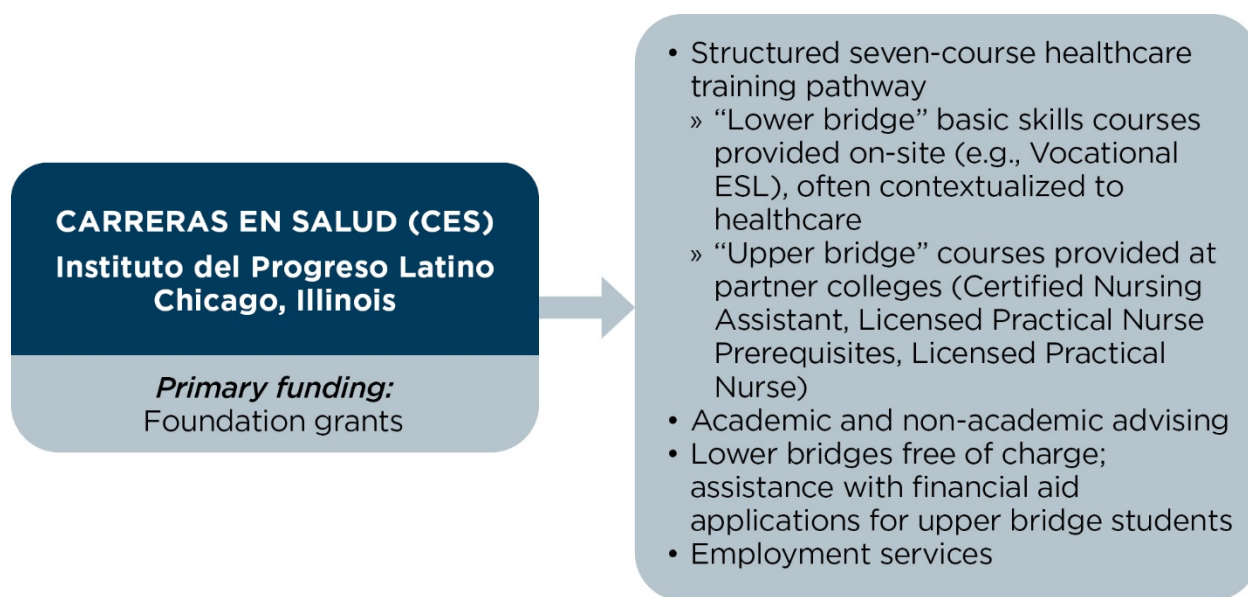
Farrell, Mary, and Karin Martinson. 2017. *The San Diego County Bridge to Employment in the Healthcare Industry Program: Implementation and Early Impact Report*. OPRE Report 2017-41. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.
<https://www.acf.hhs.gov/opre/resource/san-diego-county-bridge-employment-healthcare-industry-program-implementation-early-impact-report>.

Farrell, Mary, Randall Juras, David Judkins, and Samuel Dastrup. 2020. *The San Diego Workforce Partnership's Bridge to Employment in the Healthcare Industry Program: Three-Year Impact Report*. OPRE Report 2020-105. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. <https://www.acf.hhs.gov/opre/resource/the-san-diego-workforce-partnerships-bridge-to-employment-in-the-healthcare-industry-program-three-year-impact-report-0>.

Carreras en Salud (CES)

Instituto del Progreso Latino in Chicago, Illinois, implemented the Carreras en Salud (CES) program in 2005 to help low-income, low-skilled Latinx adults access and complete healthcare occupational training and increase the supply of bilingual healthcare workers in the Chicago area. CES features a series of seven pathway steps (“bridges”) leading first to a Certified Nursing Assistant credential and culminating in the Licensed Practical Nurse credential. The pathway starts with basic skills instruction (English as a Second Language for participants who need it, designed specifically for those interested in nursing occupations) provided at Instituto and continues through college-level instruction. To help participants complete bridges and ultimately obtain credentials, CES provides academic advising to all participants and financial support for training, ranging from no-cost courses for some bridges to assistance filling out financial aid paperwork.

Carreras continues to provide healthcare training. This evaluation covers program enrollment between November 2011 and September 2014. Carreras was partially funded by the HPOG Program during this enrollment period.⁴⁵



Prior Carreras en Salud Impact Reports

Martinson, Karin, Elizabeth Copson, Karen Gardiner, and Daniel Kitrosser. 2018. *Instituto del Progreso Latino’s Carreras en Salud Program: Implementation and Early Impact Report*. OPRE Report 2018-06. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.
<https://www.acf.hhs.gov/opre/resource/instituto-del-progreso-latinos-carreras-en-salud-program-implementation-and-early-impact-report>.

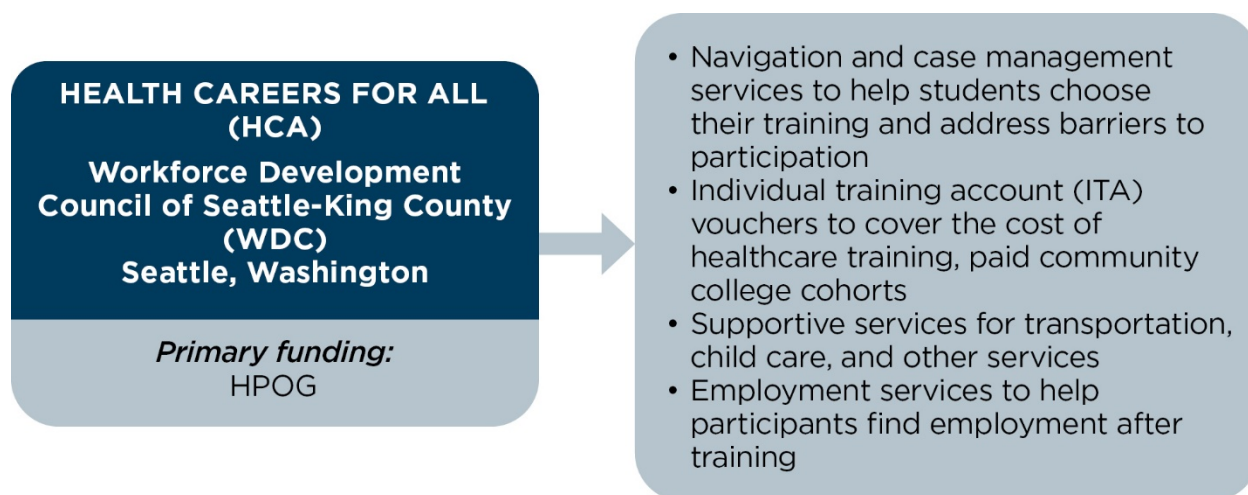
⁴⁵ Carreras received HPOG funds from 2010 to 2015 as a sub-grantee to the Workforce Investment Board of Will County

Gardiner, Karen, Karen Martinson, and Samuel Dastrup. 2021. *Instituto del Progreso Latino's Carreras en Salud Program: Three-Year Impact Report*. OPRE Report 2021-97. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. <https://www.acf.hhs.gov/opre/report/instituto-del-progreso-latinos-carreras-en-salud-program-three-year-impact-report>

Health Careers for All (HCA)

The Workforce Development Council of Seattle–King County’s Health Careers for All (HCA) program used an ITA model to help adults with low incomes, including TANF recipients, pay for healthcare training. HCA participants could use ITA vouchers to fund training at any accredited private for-profit school or community college of their choice. HCA also purchased classes at local community colleges, which allowed its students to enroll in the program as a cohort. Depending on their skill level, participants could enter training at the foundation level (basic skills), entry level (e.g., Certified Nursing Assistant), or advanced level (e.g., Licensed Practical Nurse). Community-based “navigators” helped guide participants in their selection of a training program and provider. Navigators also identified barriers to program participation and supports to address those barriers and provided job search assistance. Participants could receive some financial assistance, such as bus passes, to alleviate barriers to program completion or employment.

HCA operated between 2010 and 2016 with funding from ACF/OFA’s HPOG Program.⁴⁶ The HPOG 1.0 Impact Study included HCA findings in the average impacts reported and HCA was one of nine programs separately evaluated in the in the PACE project. Both studies covered HCA enrollment from September 2012 through December 2014.



Prior Health Careers for All Impact Reports

Glosser, Asaph, David Judkins, and Carly Morrison. 2017. *Workforce Development Council of Seattle–King County Health Careers for All Program: Implementation and Early Impact Report*. OPRE Report 2017-106. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. <https://www.acf.hhs.gov/opre/resource/workforce-development-council-seattle-king-county-health-careers-all-program-implementation-early-impact-report>.

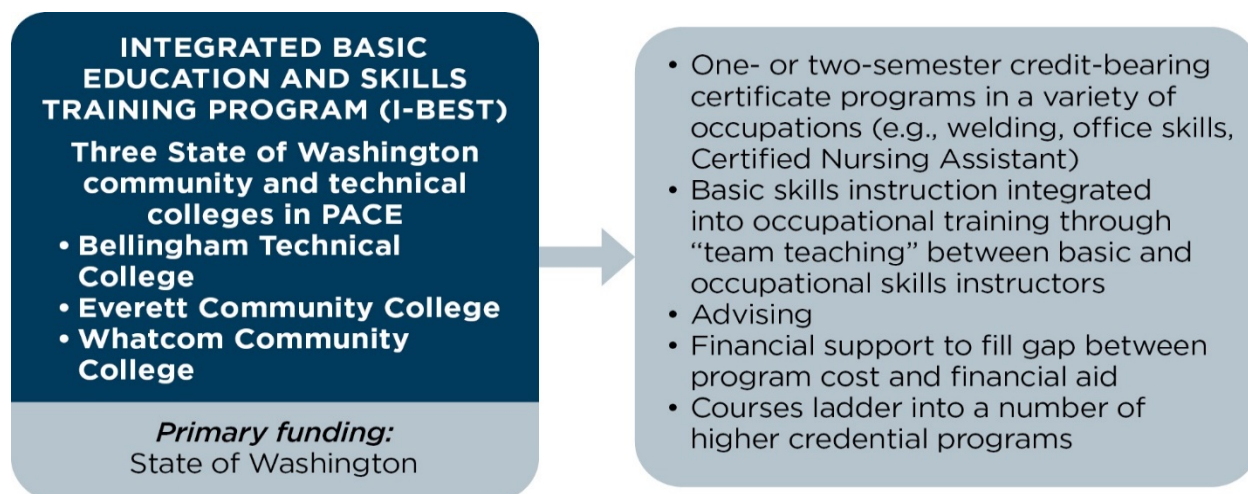
⁴⁶ WDC was also awarded a grant in the second round of HPOG and is operating a revised version of the program evaluated as part of PACE.

Glosser, Asaph, and David Judkins. 2020. *Workforce Development Council of Seattle–King County’s Health Careers for All Program: Three-Year Impact Report*. OPRE Report 2020-112. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. [Workforce Development Council of Seattle–King County’s Health Careers for All Program: Three-Year Impact Report | The Administration for Children and Families \(hhs.gov\)](#).

Integrated Basic Education and Skills Training (I-BEST)

Washington State’s Integrated Basic Education and Skills Training (I-BEST) program launched statewide in 2006, is designed to increase low-skilled adults’ access to and completion of college-level occupational training in a range of in-demand occupational areas (e.g., healthcare, welding, and office services). I-BEST’s signature feature is team-teaching, in which basic skills instruction is integrated into occupational training courses. By teaching basic skills and occupational skills concurrently, I-BEST aims to prevent students from getting stuck in remediation courses so they can move more quickly into college-level courses that lead to credentials. The three colleges in the I-PACE evaluation of I-BEST (at Bellingham Technical College, Everett Community College, and Whatcom Community College) received funds from the evaluation to add dedicated academic advisors and “fill-the-gap” financial support beyond typical sources for training and associated materials.

I-BEST continues to operate statewide. This evaluation covers program enrollment between November 2011 and September 2014 at the three colleges.



Prior I-BEST Impact Reports

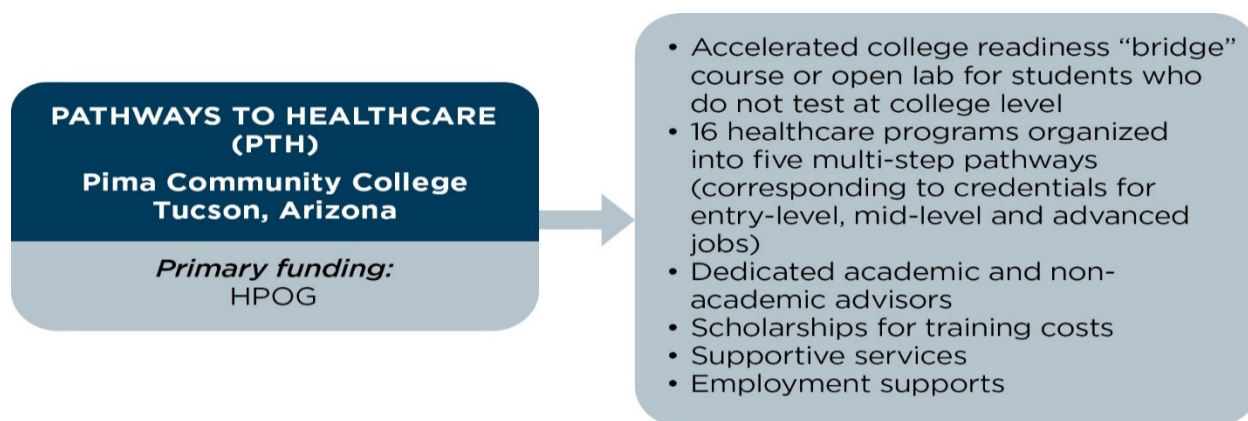
Glosser, Asaph, Karin Martinson, Sung-Woo Cho, and Karen Gardiner. 2018. *Washington State’s Integrated Basic Education and Skills Training (I-BEST) Program in Three Colleges: Implementation and Early Impact Report*. OPRE Report 2018-87. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. <https://www.acf.hhs.gov/opre/resource/washington-states-integrated-basic-education-skills-training-i-best-program-three-colleges-implementation-early-impact-report>.

Martinson, Karin, Sung-Woo Cho, Asaph Glosser, Karen Loya, and Samuel Dastrup. 2021. *Washington State's Integrated Basic Education and Skills Training (I-BEST) Program: Three-Year Impact Report*. OPRE Report 2021-102. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. <https://www.acf.hhs.gov/opre/report/washington-states-integrated-basic-education-and-skills-training-i-best-program-three-0>

Pathways to Healthcare (PTH)

Pima Community College and Pima County One-Stop in Tucson, Arizona, implemented the Pathways to Healthcare (PTH) program to help low-income, low-skilled adults access and complete healthcare occupational training that could lead to increased healthcare employment and higher earnings. PTH mapped 16 existing healthcare occupational training programs into five pathways and aspired to guide participants along them: Medical Office, Nursing, Medical and Physician Support, Emergency Medicine, and Other. Within these pathways, each program was designated as entry level (Level 1), mid-level (Level 2), or advanced level (Level 3), and resulted in a credential. For students who needed to improve their basic skills to enroll in college-level courses, PTH included two college readiness courses. The program also included proactive academic and non-academic advising; scholarships for tuition and books; two compressed basic skills programs that in one semester remediated students whose low skills prevented them from enrolling directly in training; and job search assistance.

PTH operated between 2010 and 2016 with funding from ACF/OFA's HPOG Program.⁴⁷ The HPOG 1.0 Impact Study included PTH findings in the average impacts reported and PTH was one of nine programs evaluated separately in the PACE project. Both studies covered PTH enrollment from February 2012 through February 2014.



Prior Pathways to Healthcare Impact Reports

Gardiner, Karen, Howard Rolston, David Fein, and Sung-Woo Cho. 2017. *Pima Community College Pathways to Healthcare Program: Implementation and Early Impact Report*. OPRE Report 2017-10. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

<https://www.acf.hhs.gov/opre/resource/pima-community-college-pathways-to-healthcare-program-implementation-early-impact-report>.

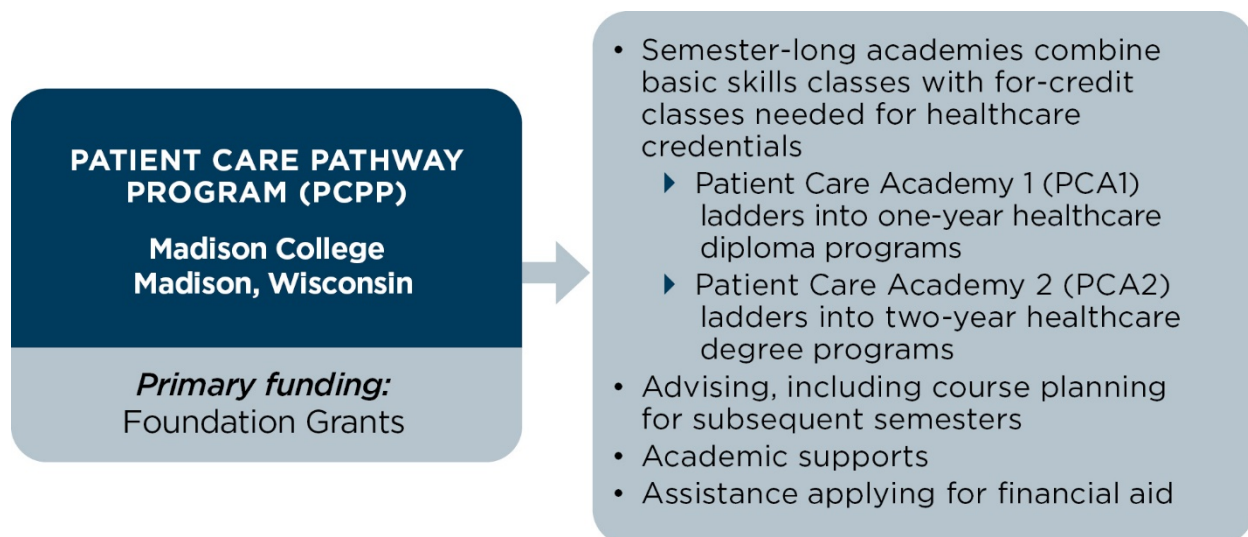
⁴⁷ PCC was also awarded a grant in the second round of HPOG and is operating a revised version of the program evaluated as part of PACE.

Litwok, Daniel, and Karen Gardiner. 2020. *Pima Community College's Pathways to Healthcare Program: Three-Year Impact Report*. OPRE Report 2020-43. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. <https://www.acf.hhs.gov/opre/resource/pima-community-colleges-pathways-to-healthcare-program-three-year-impact-report>.

Patient Care Pathway Program (PCPP)

Madison Area Technical College (“Madison College”) in Madison, Wisconsin, implemented in 2011 the Patient Care Pathway Program (PCPP) to help low-skilled adults access and complete occupational training in the healthcare sector. PCPP’s “academies” (Patient Care Academy 1/PCA1 and Patient Care Academy 2/PCA2) aimed to help students improve their basic skills concurrently with enrollment in for-credit occupational training courses and transition into a one-year diploma program (PCA1) or a two-year degree program (PCA2). In both academies, an advisor worked with students to identify potential barriers to success and coordinate academic and non-academic supports. PCPP also offered a Certified Nursing Assistant (CNA) with supports academy (PCNA) at one of its satellite campuses for part of the evaluation period.

PCPP operated through mid-2014. This evaluation covers enrollment from November 2011 through January 2014.



Prior Patient Care Pathway Program Impact Reports

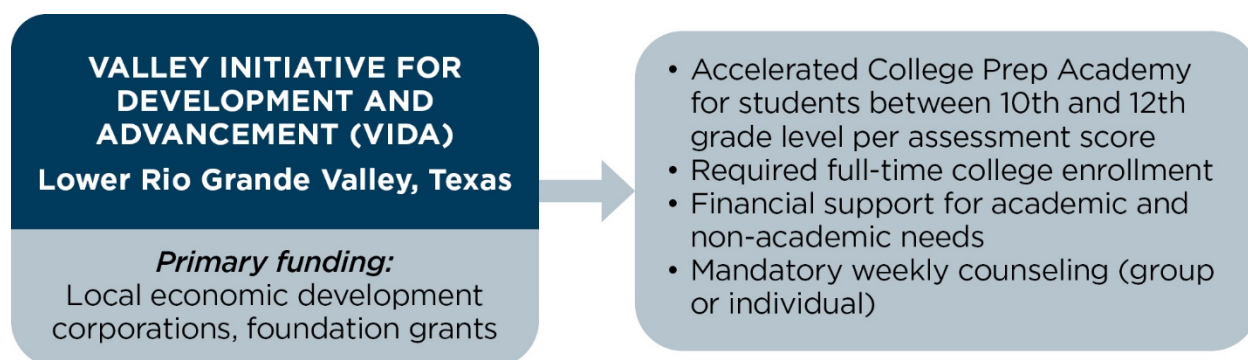
Cook, Rachel, Jill Hamadyk, Matthew Zeidenberg, Howard Rolston, and Karen Gardiner. 2018. *Madison Area Technical College Patient Care Pathway Program: Implementation and Early Impact Report*. OPRE Report 2018-48. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. <https://www.acf.hhs.gov/opre/resource/madison-area-technical-college-patient-care-pathway-program-implementation-and-early-impact-report>.

Walton, Douglas, and Rachel Cook. 2020. *Madison Area Technical College's Patient Care Pathway Program: Three-Year Impact Report*. OPRE Report 2020-161. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. [Madison Area Technical College's Patient Care Pathway Program: Three-Year Impact Report | The Administration for Children and Families \(hhs.gov\)](https://www.hhs.gov/children-families/opre/reports-and-publications/madison-area-technical-college-patient-care-pathway-program-three-year-impact-report).

Valley Initiative for Development and Advancement (VIDA)

The Valley Initiative for Development and Advancement (VIDA), founded in 1995, supports training for unemployed and other low-income adults in the Lower Rio Grande Valley, Texas. VIDA's primary goal is for its participants to graduate with an associate degree or industry-recognized certificate in a high-demand occupation and find employment that pays a living-wage. VIDA requires full-time college attendance and participation in weekly mandatory group or individual counseling sessions. The purpose of the weekly sessions is to identify and address participant barriers early and to present workshops to help participants succeed in school (e.g., study skills) and in the labor market (e.g., resume writing). VIDA also provides financial support—after accounting for eligibility for other financial support such as Pell grants—for tuition, books, and other needs to reduce financial barriers to completion. For participants who are not college-ready, VIDA offers an accelerated 16-week basic skills academy.

VIDA continues to operate. This evaluation covers the November 2011 through September 2014 enrollment period.



Prior VIDA Impact Reports

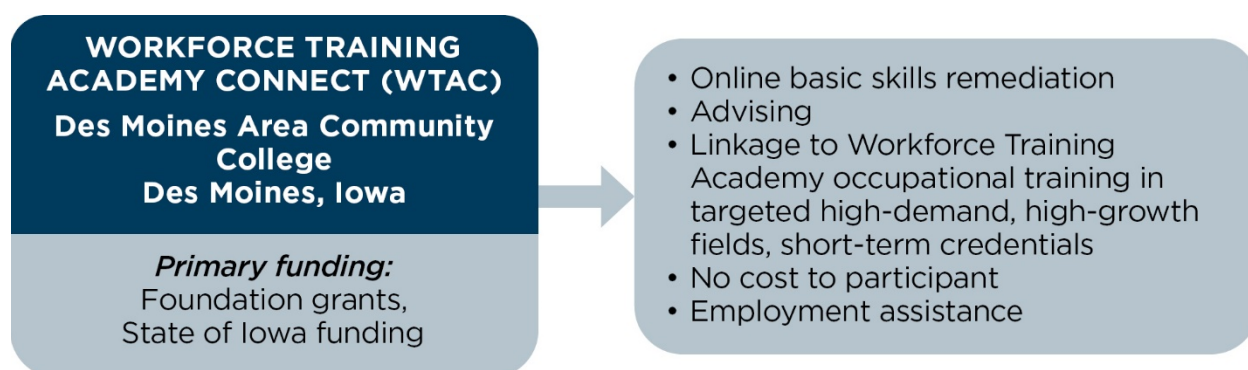
Rolston, Howard, Elizabeth Copson, and Karen Gardiner. 2017. *Valley Initiative for Development and Advancement: Implementation and Early Impact Report*. OPRE Report 2017-83. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.
<https://www.acf.hhs.gov/opre/resource/valley-initiative-development-advancement-implementation-early-impact-report>.

Rolston, Howard, Elizabeth Copson, and Larry Buron. 2021. *Valley Initiative for Development and Advancement: Three-Year Impact Report*. OPRE Report 2021-96. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. <https://www.acf.hhs.gov/opre/report/valley-initiative-development-and-advancement-vida-three-year-impact-report>

Workforce Training Academy Connect (WTAC)

Des Moines Area Community College (DMACC) in Des Moines, Iowa, operated the Workforce Training Academy Connect (WTAC) program, focused on remediating students' basic skills to prepare for occupational training. After improving their math and reading skills in WTAC, participants enrolled in occupational certificate courses in high-growth, high-demand sectors such as healthcare, advanced manufacturing, and administrative support at DMACC's Workforce Training Academy. An advisor worked with students to identify potential barriers to success and coordinate academic and non-academic supports.

WTAC operated between 2012 and 2015. This evaluation covers enrollment at WTAC from April 2012 through December 2014.



Prior Workforce Training Academy Connect Impact Reports

Hamadyk, Jill, and Matthew Zeidenberg. 2018. *Des Moines Area Community College Workforce Training Academy Connect Program: Implementation and Early Impact Report*. OPRE Report 2018-82. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

<https://www.acf.hhs.gov/opre/resource/des-moines-area-community-college-workforce-training-academy-connect-program-implementation-early-impact-report>.

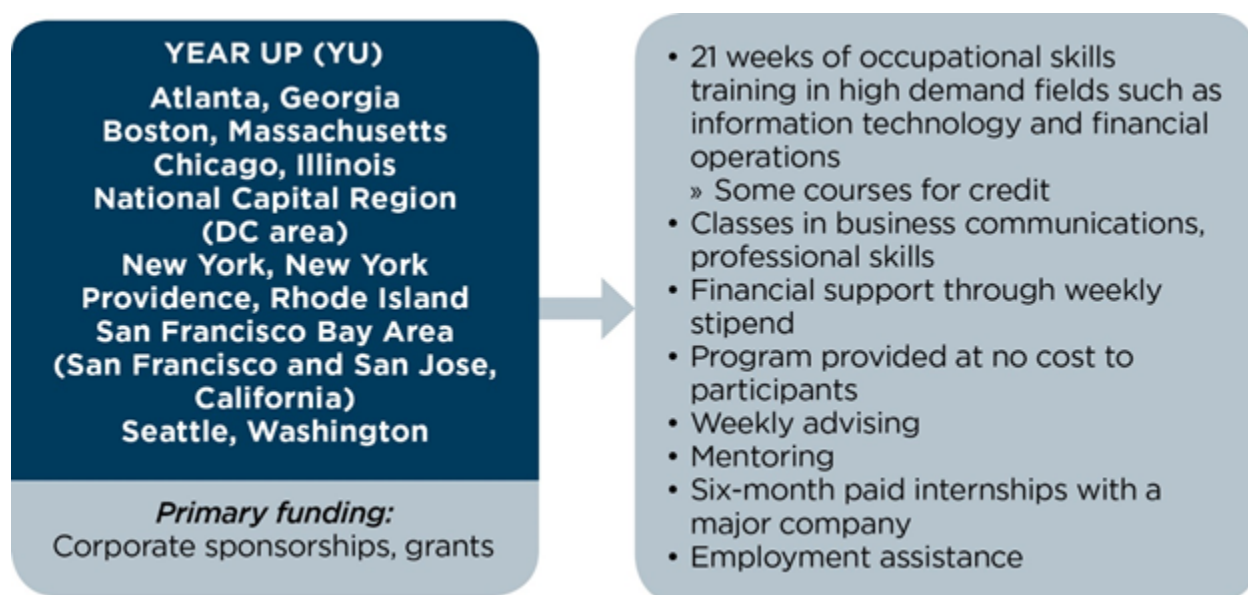
Hamadyk, Jill, and Randall Juras. 2021. *Des Moines Area Community College's Workforce Training Academy Connect Program: Three-Year Impact Report*. OPRE Report 2021-98. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

<https://www.acf.hhs.gov/opre/report/des-moines-area-community-colleges-workforce-training-academy-connect-program-three>

Year Up

Run by an organization of the same name, Year Up, founded in 2000, operates in nine U.S. cities. The full-time, one-year program serves young adults (ages 18-24) who are disconnected from work and school, or at risk of disconnection, and are motivated to do well in the program. Year Up is divided into two 6-month phases: a “Learning and Development,” or L&D training phase, followed by an internship phase. Students receive a weekly stipend, advising, and connections to other resources and supports to aid in program persistence. Following the program, they receive assistance obtaining employment in the occupational area for which they trained.

Year Up continues to operate in nine cities.⁴⁸ This evaluation covers the January 2013 through August 2014 enrollment period.



Prior Year Up Impact Reports

Fein, David, and Jill Hamadyk. 2018. *Bridging the Opportunity Divide for Low-Income Youth: Implementation and Early Impacts of the Year Up Program*. OPRE Report 2018-65. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.
<https://www.acf.hhs.gov/opre/resource/bridging-the-opportunity-divide-for-low-income-youth-implementation-and-early-impacts-of-the-year-up-program>.

⁴⁸ The Year Up program evaluated in the PACE reports is Year Up’s original, stand-alone (“core”) program—which continues at the nine sites. A newer Year Up model—the Professional Training Corps—operates on more than 15 college campuses and is being evaluated separately. Fein et al. (2020) provide an early assessment of that model’s implementation and impacts.

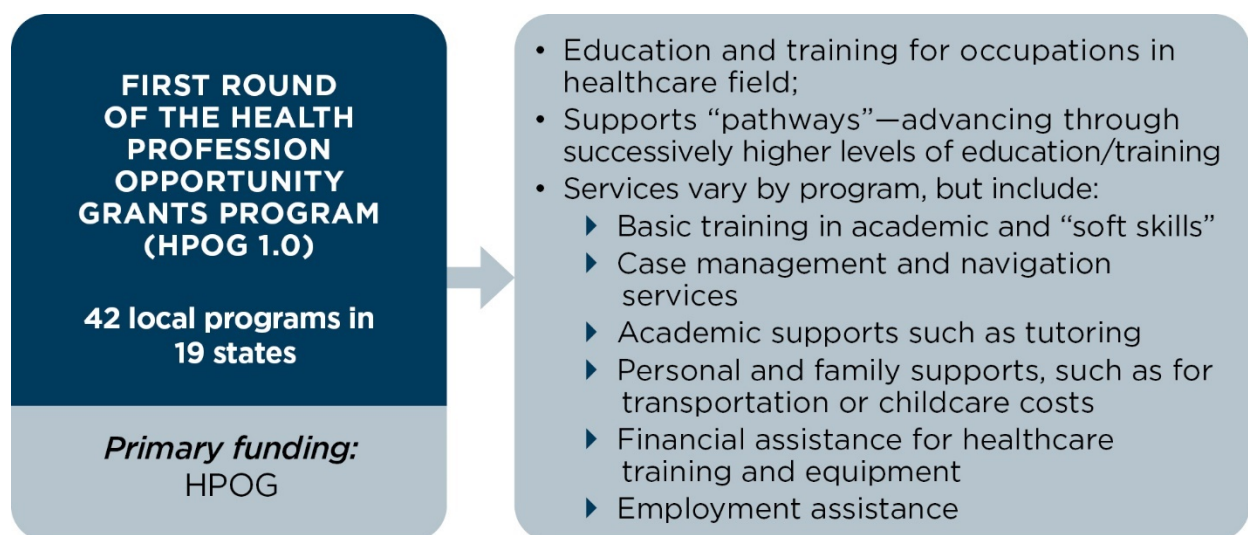
Fein, David, Samuel Dastrup, and Kimberly Burnett. 2021. *Still Bridging the Opportunity Divide for Low-Income Youth: Year Up's Longer-Term Impacts*. OPRE Report 2021-56. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. <https://www.acf.hhs.gov/opre/report/still-bridging-opportunity-divide-low-income-youth-year-ups-longer-term-impacts>.

HPOG 1.0 Program

The Health Profession Opportunity Grants (HPOG) Program provides education and training to TANF recipients and other low-income individuals for occupations in the healthcare field that pay well and are expected to either experience labor shortages or be in high demand. ACF's Office of Family Assistance (OFA) awarded the first round of HPOG grants (HPOG 1.0) in 2010 to 32 grantees.⁴⁹

The HPOG 1.0 Impact Study estimates the average impact of the 42 programs implemented by 23 of the 32 grantees. These programs operated in 19 states and varied in context (including local labor markets and community resources), design, and implementation. Grantee types varied, and included workforce development agencies, postsecondary educational institutions, local government agencies, and nonprofit agencies. Each grantee determined eligibility requirements, pre-training activities, healthcare occupational training courses, support services, and its approach to engaging employers. As a result, the HPOG program characteristics varied across grantees. Three of the 23 HPOG 1.0 grantees were also separately evaluated as part of the PACE project.⁵⁰

HPOG 1.0 grants ended in 2015. The HPOG Impact Study enrolled participants at the 23 HPOG 1.0 grantees between March 2013 and December 2014.



⁴⁹ ACF awarded a second round of grants under the HPOG Program in 2015. These grants are expected to end in September 2021. A subset of HPOG 1.0 grantees received funding under HPOG 2.0.

⁵⁰ In addition, a fourth PACE program, Carreras, was partially funded by HPOG. Carreras received HPOG funds as a sub-grantee to the Workforce Investment Board of Will County.

Prior HPOG 1.0 Impact Study Reports

Peck, Laura R., Alan Werner, Eleanor Harvill, Daniel Litwok, Shawn Moulton, Alyssa Rulf Fountain, and Gretchen Locke. 2018. *Health Profession Opportunity Grants (HPOG 1.0) Impact Study Interim Report: Program Implementation and Short-Term Impacts*. OPRE Report 2018-16a. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

<https://www.acf.hhs.gov/opre/resource/health-profession-opportunity-grants-hpog-10-impact-study-interim-report-implementation-short-term-impacts>.

Peck, Laura R., Daniel Litwok, Douglas Walton, Eleanor Harvill, and Alan Werner. 2019. *Health Profession Opportunity Grants (HPOG 1.0) Impact Study: Three-Year Impacts Report*. OPRE Report 2019-114. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

<https://www.acf.hhs.gov/opre/resource/health-profession-opportunity-grants-hpog-10-impact-study-three-year-impacts-report>.

Werner, Alan, Pamela Loprest, Deena Schwartz, Robin Koralek, and Nathan Sick. 2018. *Final Report: National Implementation Evaluation of the First Round Health Profession Opportunity Grants (HPOG 1.0)*. OPRE Report 2018-09. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. <https://www.acf.hhs.gov/opre/report/final-report-national-implementation-evaluation-first-round-health-profession>.

Appendix B: Data Sources

Analyses in the three-year reports that this cross-site report draws on are from several sources: baseline surveys administered to study participants immediately prior to their random assignment; follow-up surveys of study participants conducted at approximately 18 months and three years after random assignment; school enrollment data from the National Student Clearinghouse; and employment and earnings data from the National Directory of New Hires. For four of the programs (I-BEST, PCPP, PTH, and VIDA), the reports also used college records from the local colleges and universities attended by most study participants who attended any college. We describe each of these data sources below.

Baseline Surveys

These data were used for describing the sample, defining subgroups of interest, and regression adjustment. In each PACE evaluation, just prior to random assignment, all study participants completed the Basic Information Form. This form captured demographic information, family characteristics, educational history, and work and earnings information. Participants also completed the Self-Administered Questionnaire at baseline, which collected sensitive personal information such as training commitment and academic confidence. HPOG 1.0 administered a short baseline survey at intake, including a household roster.

Follow-up Surveys

The three-year reports describe outcomes measured in a three-year participant follow-up survey, although some references are made to 18-month participant follow-up survey data analyzed in previous reports.

18-month Survey. The first follow-up survey provided measures of outcomes that the theory of change indicated each program might affect in the short term. The other use of the 18-month survey data for the three-year follow-up is to help impute values for missing data on job and education spells from the three-year survey. Administration of the survey began at 15 months after random assignment in all evaluations.

Three-year Survey. The second follow-up survey was designed to measure outcomes that the theory of change indicated the programs might affect over a longer time horizon, such as employment and other life outcomes. Administration of the survey began at 36 months after random assignment.

National Student Clearinghouse (NSC)

Some three-year evaluations used data on college enrollment from the NSC to evaluate local college records and for a number of technical purposes, such as nonresponse analysis and weighting. NSC is a nonprofit organization that collects data on student enrollment, degrees earned, and other credential completion from most U.S. institutions of higher education to aid the administration of student loan programs. Researchers also use NSC data to study college

access and persistence. As in most administrative data systems, data are subject to various coverage and content limitations. Most critically, coverage of private, for-profit, two-year colleges is very low (less than 30 percent), and the NSC makes no attempt to collect data from schools that are not accredited to grant degrees.

National Directory of New Hires (NDNH)

Wage records from NDNH are the primary data source for employment and earnings analyses in the three-year reports. Maintained by the federal Office of Child Support Enforcement, the NDNH includes quarterly earnings measured by state Unemployment Insurance systems and earnings of federal civilian and military employees provided by various federal agencies.⁵¹ The PACE and HPOG 1.0 evaluations had access to these data for study sample members for two years prior to random assignment through the end of the evaluation period.⁵²

Local College Records

For four programs (I-BEST, PCPP, PTH, and VIDA), evaluations used local college records to measure treatment and control group members' enrollment in education and training as well as their credit and credential receipt. Additional details are provided in the program-level three-year reports.

⁵¹ More detail is available at: <https://www.acf.hhs.gov/css/training-technical-assistance/guide-national-directory-new-hires>.

⁵² At the time the three-year reports were written, at least 13 quarters of NDNH data were available for the full sample for all program evaluations. For that reason, the pre-specified confirmatory and secondary outcomes use only the first 13 quarters of data, even though additional quarters are available for some programs.

Appendix C: Supplementary Exhibits

This appendix provides supplementary findings and interpretation for additional labor market and well-being outcomes that are mentioned, but not discussed in detail, in the main text.

Supplementary Findings for Labor Market Outcomes

This section provides findings for five supplementary labor market outcomes related to earnings, employment, employment conditions, and career progress. The specific outcome measures are described in the box below.

Overview of Supplementary Outcome Measures: Labor Market

The outcomes in this section are based on two sources: participant responses to the three-year follow-up survey and administrative data on earnings from the National Directory of New Hires (NDNH).

Outcome	Outcome Type	Variable Description
Earnings (NDNH)		
Earnings in each quarter of follow-up	Exploratory	Average earnings in each of the quarters, starting two quarters before randomization (in most programs) and ending in the last quarter for which data were reported (Q13-Q19, depending on the program)
Employment (NDNH)		
Employment in each quarter of follow-up	Exploratory	Employment in each of the quarters, starting two quarters before randomization (in most programs) and ending in the last quarter for which data were reported (Q13-Q19, depending on the program)
Employment Conditions (Survey)		
Job offers health insurance	Exploratory in PACE Secondary in HPOG 1.0	Current or most recent job offers health insurance
Career Progress (Survey)		
Confidence in career knowledge	Secondary	Seven-item scale tapping self-assessed career knowledge with response categories ranging from 1=Strongly disagree to 4=Strongly agree
Access to career supports	Secondary in 8 programs Not reported in 2 programs	Six-item scale tapping self-assessed access to career supports with response categories ranging from 1=No to 2=Yes

Quarterly Earnings

As described in Chapter 4, treatment group members in job training programs are expected to earn less than their counterparts in the control group for some time after random assignment because they are expected to be in training rather than working more frequently than control group members. In time—because they gain experience, earn credentials, and benefit from job placement services that are more effective or of higher quality than services the control group receives—treatment group members should see their prospects for employment and earnings

not just improve but improve more than the control group's prospects. As a result, the net effect of the programs on quarterly earnings should become positive in the longer term.

Exhibit C-1 below shows earnings impacts in each quarter for which data were available and reported in the program-specific reports (between 13 and 19 quarters, depending on the program). The graphic shows the magnitude of the impact in each quarter without regard to statistical significance. It shows that, as hypothesized, members of the treatment group appear to have earned less than the control group for some time after random assignment, with negative earnings impacts in every program in Q1 and Q2.

Thereafter, there is no consistent evidence of large increases or decreases in earnings through the end of the follow-up period in any program except Year Up. Taking into account the uniform decline in Q1 and Q2 earnings, cumulative earnings through the end of 13 quarters are negative in six programs and positive in four. Looking past Q13, there is little in the available data to suggest that large increases toward the end of the follow-up period might alter this general picture.

Exhibit C-1 Earnings Impacts by Quarter

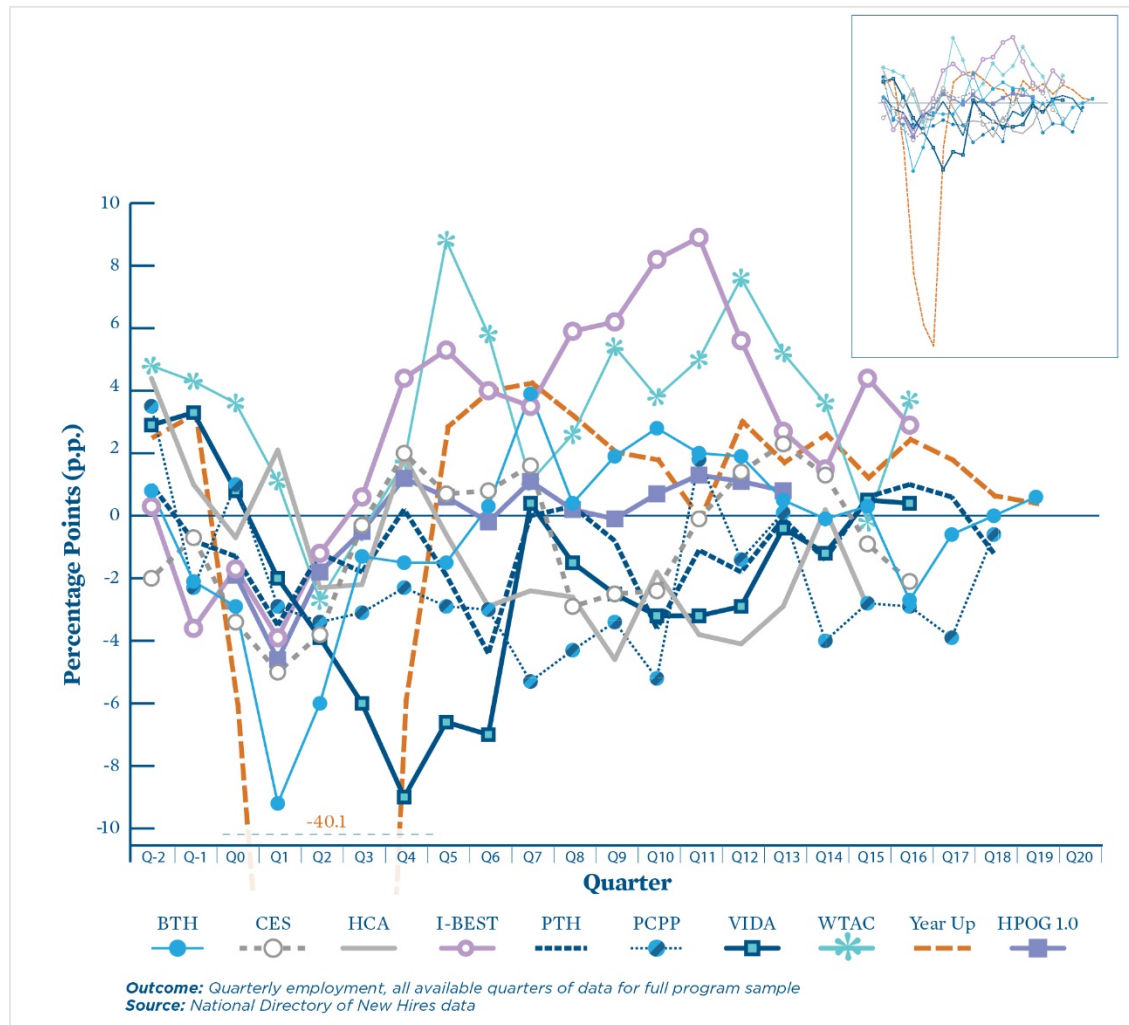


Quarterly Employment

Exhibit C-2 below, showing employment impacts by quarter for each of the 10 evaluations (again without regard for statistical significance), reinforces findings for quarterly earnings. Consistent with earnings impacts, there was a decline in the second quarter in all programs while treatment group members were in training. There was not a consistently favorable or unfavorable pattern after Q2. The only clear exception was Year Up, in which there was a large and statistically significant negative effect on employment during the entire one-year training period.

Across programs, estimated employment impacts—favorable or unfavorable—never exceeded 10 percentage points in any program for any quarter of available data through Q19. It should be noted though that employment rates at the end of the survey follow-up period were 65 percent or higher for both the treatment and control groups across programs (see Exhibit 4-3).

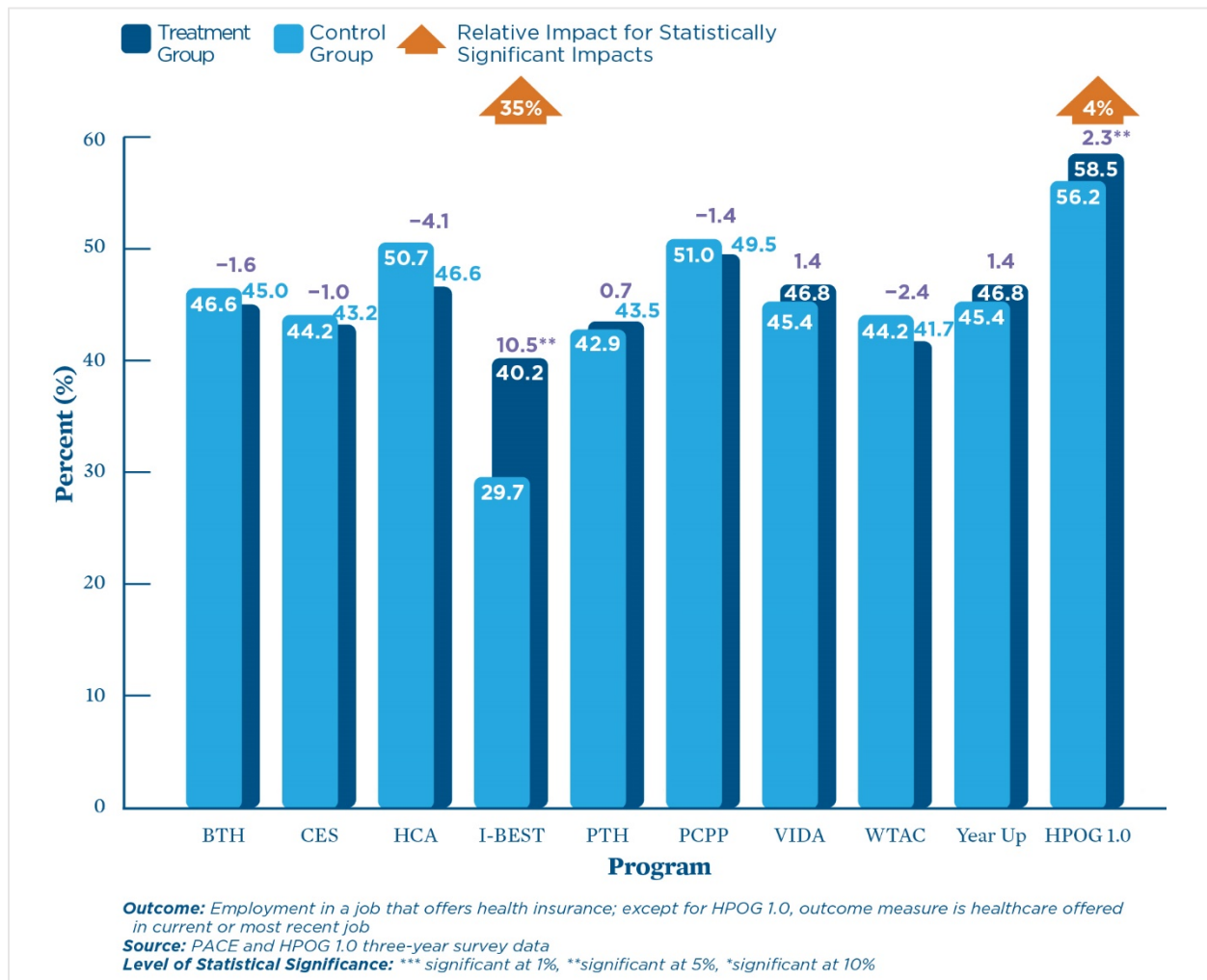
Exhibit C-2 Employment Impacts by Quarter



Job Quality

Access to employer-provided health insurance is a key form of non-wage compensation for many employees. Two programs increased the availability of employer-provided insurance: a 2.3 percentage point average impact in HPOG 1.0 and a 10.5 percentage point impact in I-BEST. However, the latter program's impact on employer-provided health insurance appears to simply reflect the program's impact on employment; I-BEST had no corresponding impact on health insurance coverage from any source. In other words, employer-provided insurance seems to be replacing insurance that participants would have obtained from other sources without the program.

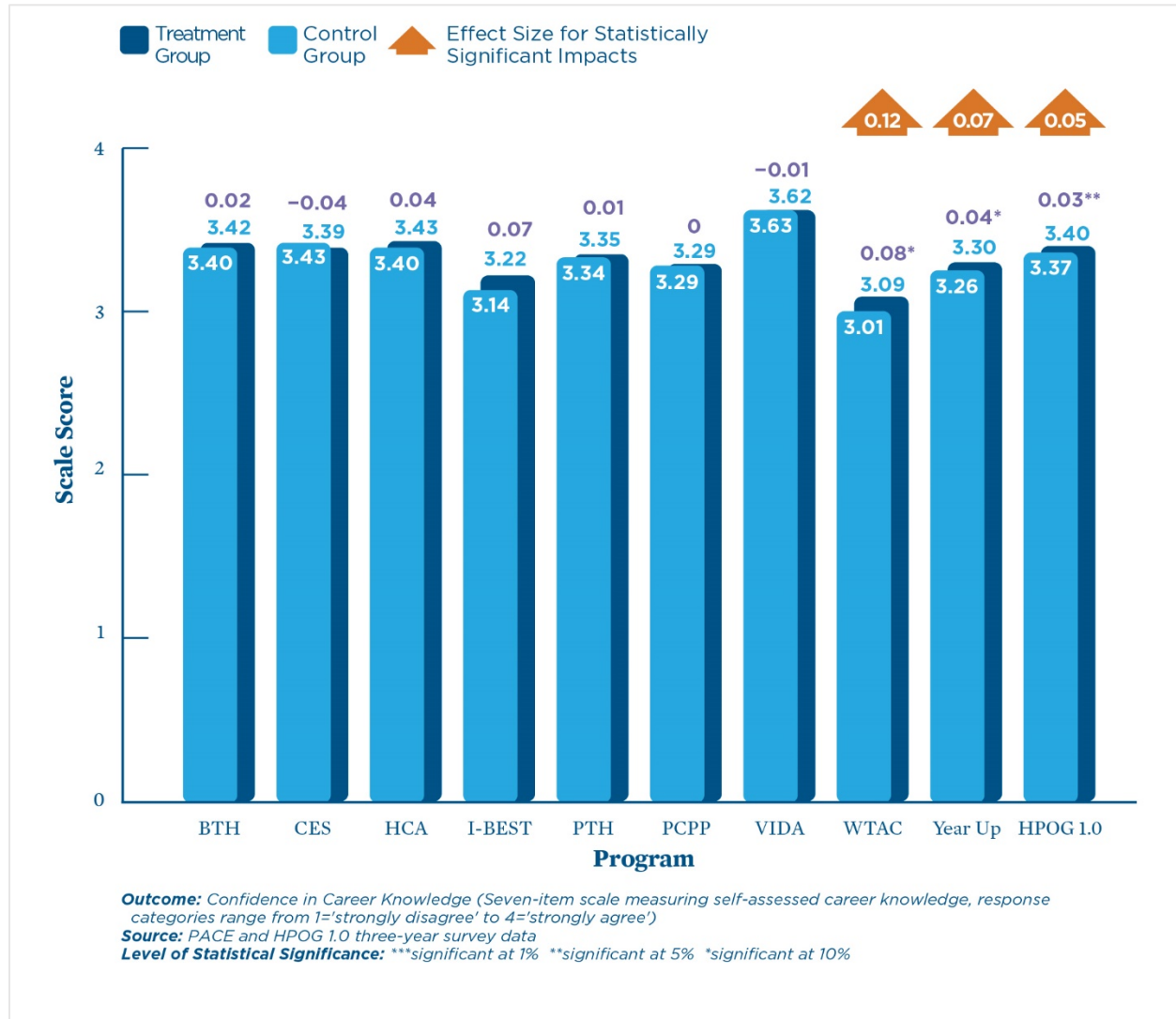
Exhibit C-3 Impacts on Employment in a Job That Offers Health Insurance, by Program



Confidence in Career Knowledge

Exhibit C-4 shows impacts on participants' confidence in their career knowledge. There was a statistically significant impact on this measure in three programs (Year Up, WTAC, and HPOG 1.0). These impacts (effect sizes of around 0.12, 0.07, and 0.05) would generally be characterized as small.⁵³

Exhibit C-4 Impacts on Confidence in Career Knowledge, by Program

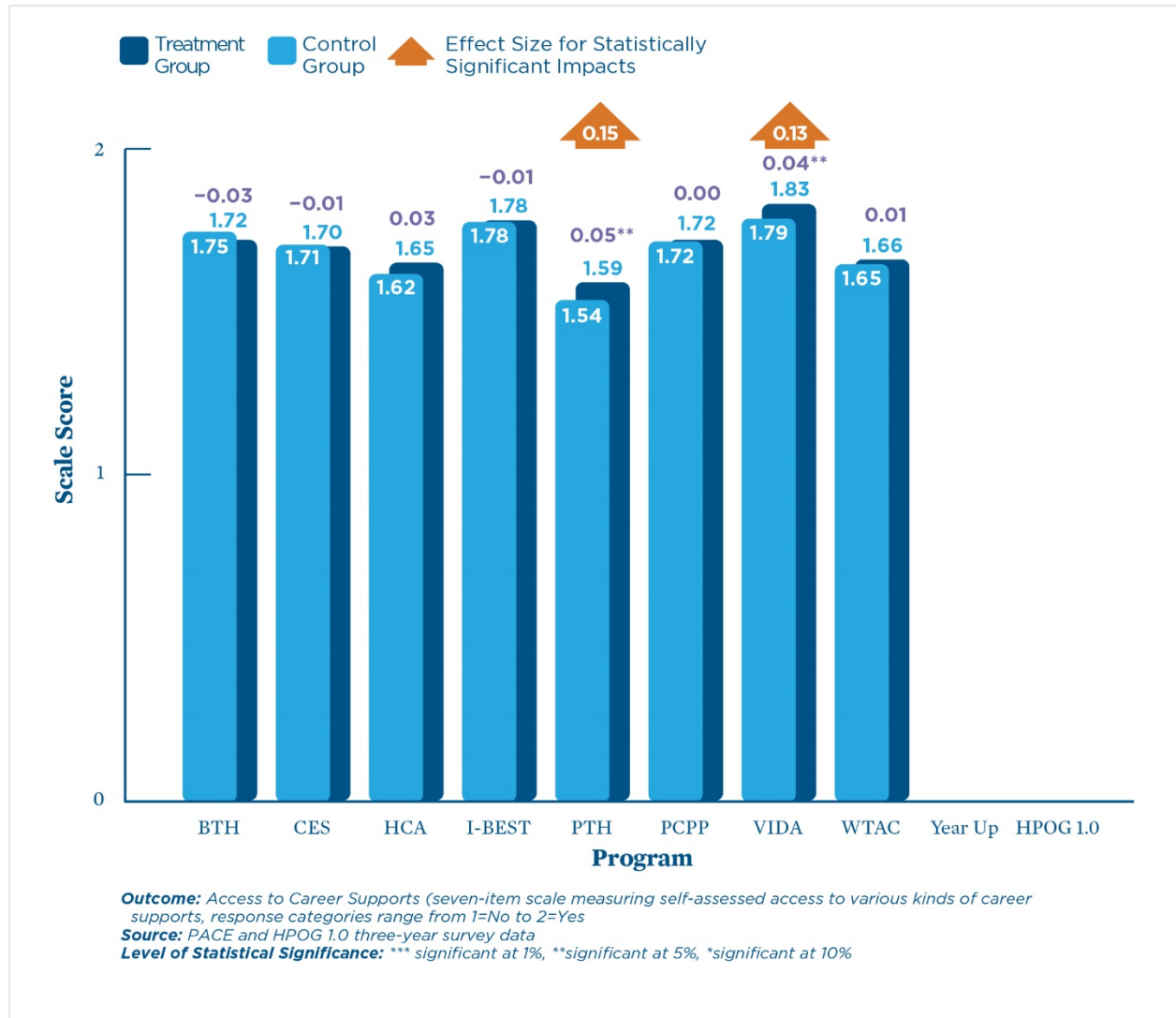


⁵³ For outcomes with no natural unit of measurement, PACE and HPOG 1.0 reported **effect sizes** instead of relative impacts. The effect size is a standardized measure that defines impacts as a fraction of the pooled standard deviation across the treatment and control groups. It offers a sense of the size of the impact relative to how much the outcome varies across the full sample and allows for comparison of the size of the impact across scale outcomes. Note that Cohen's (1988) rule of thumb is that effect sizes of 0.2 or lower are small.

Access to Career Supports

The second indicator of career progress we examined was participants' self-assessed access to career supports, shown in Exhibit C-5. There was an impact in only two of the eight programs (PTH and VIDA) in which this outcome was reported, and the impacts (effect sizes of 0.15 and 0.13) would generally be considered small. This outcome was not reported in Year Up or HPOG 1.0 reports, and thus is not reported here.

Exhibit C-5 Impacts on Access to Career Supports, by Program



Supplementary Findings for Well-Being Outcomes

This section provides findings for three supplementary outcomes related to well-being. The specific outcomes are described in the box below.

Overview of Supplementary Outcome Measures: Well-Being

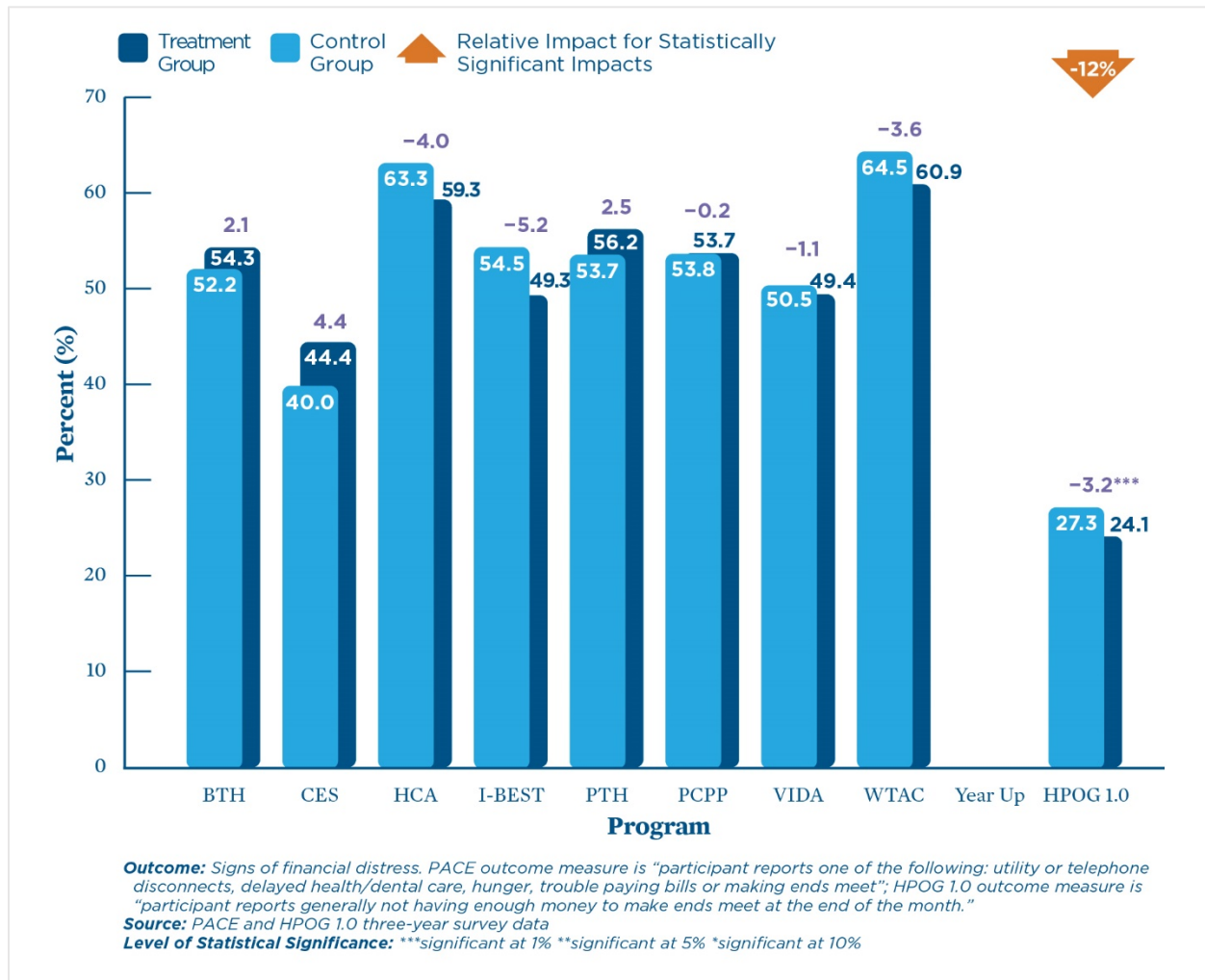
The outcomes in this section are based on participant responses to the three-year follow-up survey. Two of these measures, **any signs of financial distress** and **receipt of public assistance**, were designated as secondary outcomes in most programs.

Outcome	Outcome Type	Variable Description
Any signs of financial distress	Secondary in 9 programs Exploratory in 1 program	In PACE, this was an indicator for whether any of the following was reported: utility or telephone disconnects, delayed health/dental care, hunger, or trouble paying bills or making ends meet In HPOG, it was a self-reported measure of whether the participant reported generally not having enough to make ends meet at the end of the month over the past year
Household received public assistance	Secondary	In PACE, this was an indicator for whether the respondent or anyone in their household received TANF, SNAP, WIC, Medicaid, subsidized childcare, Section 8 or Public Housing, LIHEAP, or FRPL In HPOG 1.0, it was a self-reported measure of whether the respondent or anyone in their household received any government benefits in the prior month
Personal student debt	Secondary in 6 programs Exploratory in 3 programs Not reported in 1 program	Amount borrowed for education or training (not including parents' borrowing)

KEY: FRPL is free or reduced-price lunch; LIHEAP is Low Income Home Energy Assistance Program; SNAP is Supplemental Nutrition Assistance Program; TANF is Temporary Assistance for Needy Families; WIC is Special Supplemental Nutrition Program for Women, Infants, and Children

Signs of Financial Distress

There is little evidence that PACE programs reduced participants' financial distress. HPOG 1.0 found a 3.2 percentage point (12 percent) reduction. The HPOG 1.0 study team hypothesized that the increased healthcare coverage for treatment group members could be providing them a cushion that results in their higher self-reported ability to make ends meet. This pattern is not observed in PACE programs (e.g., I-BEST had a larger impact on employer-provided healthcare than did HPOG 1.0, but not a significant impact on financial distress); however, the PACE sample sizes were smaller than HPOG 1.0 and likely would not be able to detect a 3 percentage point impact. Note that the Year Up report did not include this outcome, so it is not included Exhibit C-6.

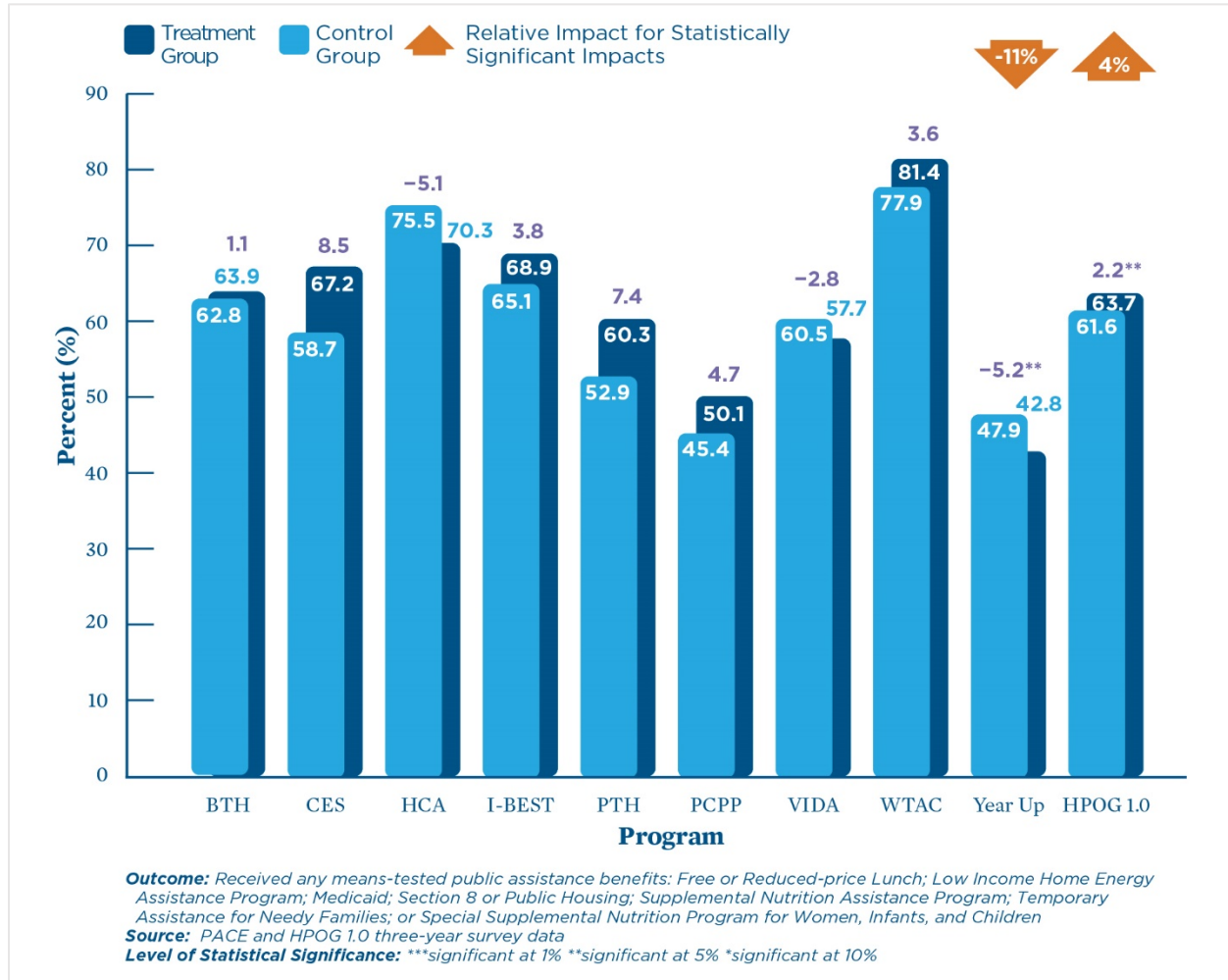
Exhibit C-6 Impacts on Signs of Financial Distress, by Program*Public Assistance Receipt*

Three years after random assignment, substantial portions of both sample groups in each program—between 45 percent and 78 percent of control group members and between 40 percent and 81 percent of treatment group members, depending on the program—received assistance from at least one means-tested public assistance program: free or reduced-price lunch; Low Income Home Energy Assistance Program (LIHEAP); Medicaid; Section 8 or Public Housing; Supplemental Nutrition Assistance Program (SNAP); TANF; or Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).

With average quarterly earnings at the three-year follow-up of less than \$5,000 in both groups in most programs (which implies annual earnings at about the federal poverty level for a family of three in 2017), these high rates are not surprising.

PACE and HPOG 1.0 programs were expected to reduce the rate through higher treatment group earnings, which should reduce the need for public assistance. However, as Exhibit C-7 shows, that reduction did not materialize for any program except Year Up.^{54,55}

Exhibit C-7 Impacts on Household Receipt of Any Means-Tested Public Assistance Benefits, by Program



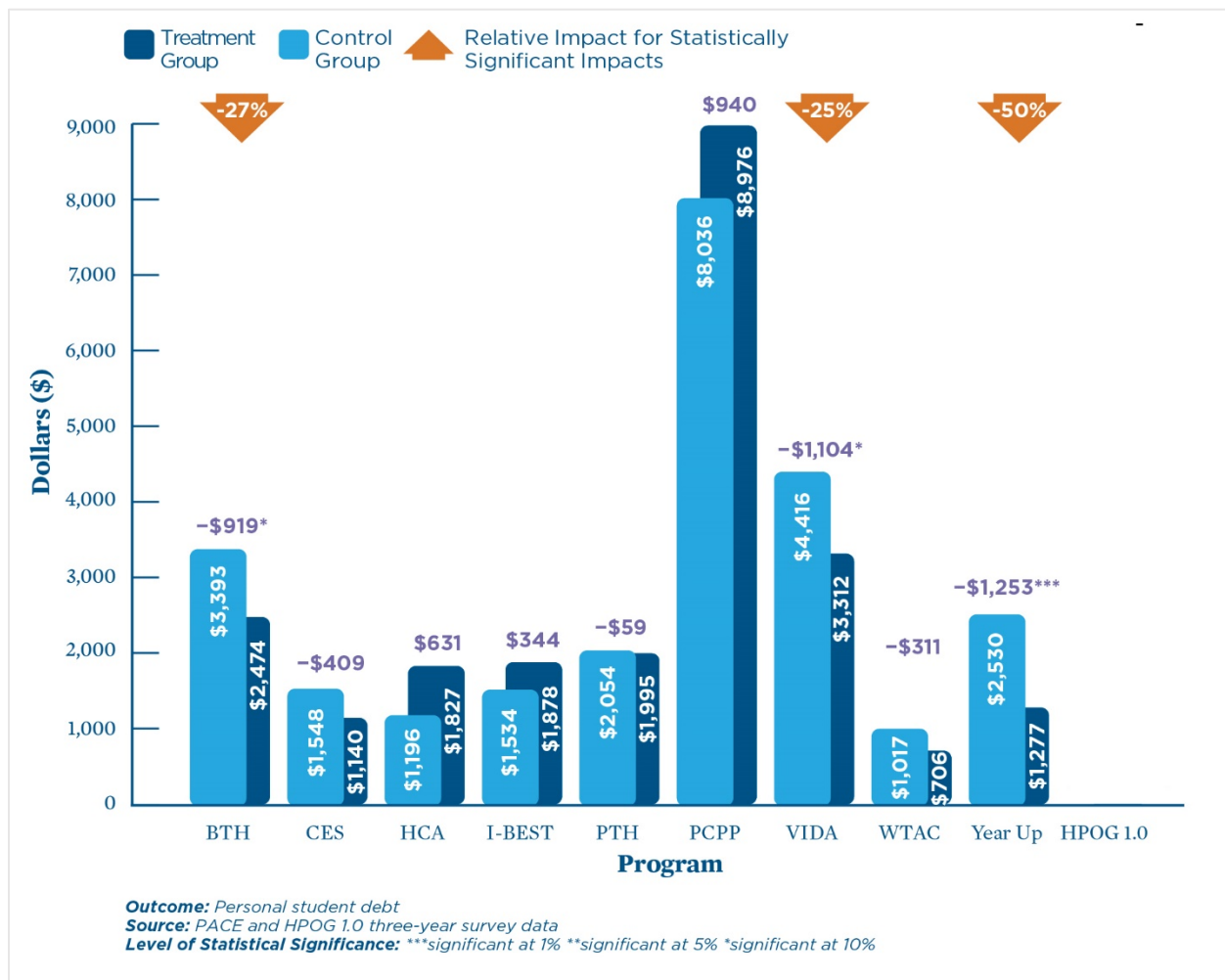
⁵⁴ Year Up substantially reduced public assistance receipt, by 5.2 percentage points (11 percent), consistent with the large earnings impact in that program (+\$21,986). HPOG 1.0 had a small but statistically significant adverse effect on the receipt of any means-tested public benefits; however, focusing on the elements that make up this measure reveals a small decrease in TANF use coupled with a somewhat larger increase in Medicaid use. The statistical significance of this result compared with the PACE results is a function of HPOG 1.0's large sample size. It is consistent with—and smaller than—the point estimates observed in PACE programs that had less statistical power.

⁵⁵ The secondary outcome reported in the HPOG 1.0 Impact Study was individual receipt of TANF, SNAP, or Medicaid in the prior month. The impact on this outcome (+1.3 percentage points over the control group mean of 46.3 percent) was not statistically significant. To harmonize with the PACE programs, Exhibit C-7 reports the broader measure of household receipt of any means-tested benefits.

Personal Student Debt

Given the prominent role of enhanced financial support in several programs' logic models, reduced student debt seemed a likely effect, and the study teams treated it as a secondary hypothesis in six programs. Three of 10 programs had impacts, with student debt reductions ranging from 25 percent to 50 percent (Exhibit C-8). The HPOG 1.0 analysis did not report the dollar amount of participants' student debt, but it did report the percentage of participants who used loans to pay for school or living expenses since the study started. HPOG 1.0 did not detectably change this outcome.

Exhibit C-8 Impacts on Personal Student Debt, by Program



In one program, VIDA, the reduced student debt load may be responsible for ongoing impacts on educational attainment (shown in Chapter 3). The VIDA study team hypothesized that because treatment group members had less student debt than control group members did, former VIDA participants were able to enroll in school at higher rates than the control group, even after their participation in VIDA ended.

Appendix D: Meta-Analysis of Earnings

Findings presented in Chapter 4 demonstrate that Year Up has a much larger impact on earnings than any other program. On the surface, there appears to be substantial variability in the magnitude of impacts among the other nine programs: a low of -\$404 in HCA to a high of +\$404 in I-BEST for the confirmatory outcome of average quarterly earnings in Q12-Q13.

This variation may reflect true differences in program effectiveness across programs, or simple sampling variability, or some combination of the two. Put differently, if all the true impacts were exactly \$0, then we would expect about half of the estimates to be positive and about half negative due to sampling variability. In fact, among the confirmatory earnings impacts, four are negative and small, five are positive and small, and one (Year Up) is positive and large. In the absence of a convincing explanation for how four of the programs would have harmed participants, it seems reasonable to conclude that the unfavorable impact estimates are simply “noise” (i.e., sampling error)—but then, unavoidably, we must consider the possibility that the favorable estimates are likewise simply noise.

Here, we use a formal model—*random effects meta-analysis*—to determine whether there is sufficient variability in the distribution to warrant further exploration. The analysis was performed using the “robumeta” package in R.

About Random Effects Meta-Analysis

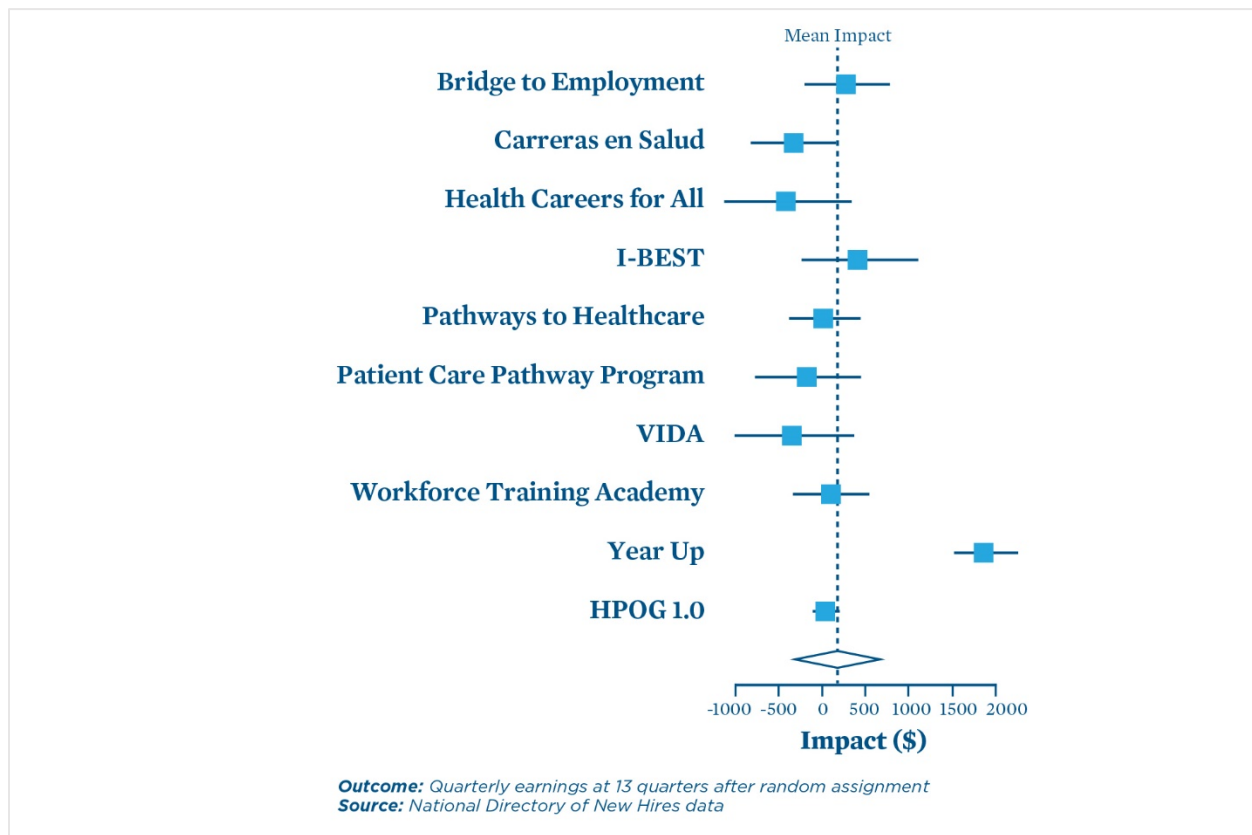
- A random effects meta-analysis is a method used to assess the **mean impact** across a number of evaluations, as well as to characterize the **variability in impacts** across those evaluations. This method conceptualizes variation in impacts as arising from two sources: (1) sampling error in the individual estimates (which cannot be explained) and (2) variation in true impacts due to programmatic or contextual differences across evaluations.
- Formally, variance is disaggregated into two components: τ^2 and I^2 . The τ^2 statistic is a direct estimate of the between-study variance. The square root of τ^2 (i.e., τ) is often used to describe the range of the between-study effects. The I^2 statistic reflects the proportion of the total effect size variation that represents the between-study portion. I^2 values greater than 50% are generally considered to indicate sufficient effect size variability to warrant exploration of program characteristics associated with larger or smaller effects.
- Overall findings from a meta-analysis are presented using a **forest plot**, which facilitates easy visual comparison of the findings across programs. The forest plot in Exhibit D-1 shows the mean impact, in dollars, for each program on a horizontal scale, as well as the overall impact on average across programs. The confidence interval for each program—which represents the uncertainty due to sampling error—is shown as a horizontal line whose endpoints correspond to the upper and lower bounds of the traditional 95% confidence interval. The overall mean impact (a weighted average across all the programs) is represented by the vertical dashed line, and the 95% confidence interval of the mean impact estimate is defined by the endpoints of the diamond at the bottom.

Meta-Analysis Findings

- **The results strongly suggest that through 13 quarters of follow-up, Year Up had a more favorable impact on earnings than any of the other programs.**

Exhibit D-1 presents the meta-analysis findings for earnings at 13 quarters of follow-up across all 10 PACE/HPOG 1.0 programs. The evaluation-reported impact for each program is shown as a blue square centered on the impact estimate. With the exception of Year Up, the confidence intervals represented by horizontal lines all include zero impact (as shown elsewhere in the report) and cross the vertical line representing the mean impact. A visual examination of Exhibit D-1 confirms that Year Up appears to be an outlier among them. Impact estimates in the remaining nine programs are clustered fairly close together, and fully seven of the nine have impact estimates that are below the full-sample mean of +\$168, with a confidence interval ranging from -\$324 to +\$661.

Exhibit D-1 Meta-Analysis of PACE and HPOG 1.0 Programs: Earnings Impact



Some of the variability in the impact estimates shown in Exhibit D-1 can be attributed to sampling error. After accounting for this noise, the analysis suggests that there remains substantial variability in the programs' impacts, with 90 percent of the total variability in the sample estimated to be variation in true impacts across programs.

Year Up appears to be largely responsible for this variation. Exhibit D-2 shows the overall findings from the random effects meta-analysis both with Year Up (first panel) and without Year Up (second panel); the top row of the first panel repeats in tabular form the overall findings from Exhibit D-1).⁵⁶ With Year Up included in the sample, the analysis reveals substantial estimated variability in true impacts, shown in the columns labeled τ and I^2 .

HPOG 1.0 has a very large sample, yet has very little effect on these findings. Removing HPOG 1.0, as shown in the second row of each panel, does not materially change the mean effect size, confidence interval, or heterogeneity parameters in either analysis.

Exhibit D-2 Meta-Analysis of PACE and HPOG 1.0 Programs With and Without Year Up

	Impact (dollars)	Confidence Interval	p-Value	τ	I^2	Number of Evaluations
All Programs Including Year Up						
PACE + HPOG 1.0	+\$168	(-324, 661)	0.46	642	90%	10
PACE only	+\$176	(-382, 734)	0.49	807	90%	9
Without Year Up						
PACE (excluding Year Up) + HPOG 1.0	+\$19	(-132, 169)	0.68	0	0	9
PACE (excluding Year Up) only	-\$17	(-230, 196)	0.85	0	0	8

Outcome: Quarterly earnings at 13 quarters after random assignment

Source: National Directory of New Hires data

- **For all programs other than Year Up, the estimated impacts and standard errors are consistent with sampling variability around a common true impact of approximately \$0 (less than \$20).**

As the second panel of Exhibit D-2 shows, without Year Up in the sample, the estimates both of true variation across programs (τ) and of the portion of the total variation in the sample that is across programs (I^2) are precisely \$0. In other words, with the exception of Year Up, the findings strongly suggest that the variation in estimated impacts across programs is likely to be the result of sampling variability alone, rather than true variation in the impact across programs.

Conclusion

Taken together, these results strongly suggest that **the most meaningful comparison from a policy perspective is between Year Up and the rest of the programs taken together as a group.** But what is it that makes Year Up substantially more effective than any of the other programs? This question forms the basis for the discussion in Chapter 5.

⁵⁶ Note that the τ value of 642 in the first row implies that for a mean effect size of +\$168, we can expect that about 95 percent of the distribution of between-study effects—when the universe of programs being studied includes programs such as Year Up—will fall between -\$1,090 and +\$1,426 (i.e., +\$168 +/- 1.96 * τ), a rather large range.

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