Summary and Insights from the Long-Term Follow-Up of Ten PACE and HPOG 1.0 Job Training Evaluations

Six-Year Cross-Site Report

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SUMMARIZED IN THIS REPORT

Nine PACE Impact Evaluations

- **Bridge to Employment in the Healthcare Industry**, San Diego Workforce Partnership, County of San Diego, CA*
- **Carreras en Salud**, Instituto del Progreso Latino, Chicago, IL^
- **Health Careers for All**, Workforce Development Council of Seattle–King County, Seattle, WA*
- **Integrated Basic Education and Skills Training (IBEST)** program at three colleges (Bellingham Technical College, Everett Community College, and Whatcom Community College), WA
- **Pathways to Healthcare**, Pima Community College, Tucson, AZ*
- **Patient Care Pathway Program**, Madison Area Technical College, Madison, WI
- **Valley Initiative for Development and Advancement (VIDA)**, Lower Rio Grande Valley, TX
- **Workforce Training Academy (WTA) Connect**, 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.

INTRODUCTION

This report summarizes the six-year impact findings from the **Pathways for Advancing Careers and Education (PACE)** project and the **Health Profession Opportunity Grants Program (HPOG 1.0)** Impact Study.[1] These two large-scale evaluations estimated the effect of education and training programs for Temporary Assistance for Needy Families (TANF) recipients and other adults with low incomes. The programs represent a range of strategies within the career pathways framework, which posits that postsecondary training should be organized as a series of manageable and well-articulated steps accompanied by strong supports and connections to employment.

This report presents a concise summary of the six-year impact findings across all 10 evaluated programs in PACE and HPOG 1.0 and offers some high-level insights from both. Two earlier cross-site reports, *PACE Cross-Program Implementation and Impact Study Findings (Gardiner and Juras 2019)* and *Summary and Insights from the Ten PACE and HPOG 1.0 Job Training Evaluations: Three-Year Cross-Site Report (Juras and Buron 2021)* provide program implementation and short-term findings (at 15-18 months) and intermediate-term findings (at three years), respectively.[2]

THE CAREER PATHWAYS FRAMEWORK

Although definitions vary slightly, PACE and HPOG 1.0 generally define the career pathways framework as one in which postsecondary education and training is organized as a series of manageable steps that lead to successively higher credentials and employment opportunities in well-paying and growing occupations. Participants enter the pathway at the step aligned with their skills level then can seek employment upon completion of a step or proceed to the next step on the pathway. Each step should confer higher skills associated with better-paying jobs.

To effectively engage and retain participants, programs within the career pathways framework integrate varying combinations of four components (Fein 2012):

(1) **comprehensive assessment systems** (academic and non-academic) to identify service needs;

(2) **innovative approaches to basic skills** and **occupational skills instruction**;

(3) **supports** (academic and non-academic) to enhance success and foster persistence in training and employment steps (e.g., counseling, financial assistance); and

(4) **connections to employment** during and/or after the program.

The PACE and HPOG 1.0 short- and intermediate-term cross-site reports offer additional information on how programs combined these components consistent with their goals and their target populations.

PACE AND HPOG 1.0 EVALUATIONS BACKGROUND & METHODS

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 oversaw both projects. ACF's Office of Family Assistance administered the HPOG grants.

This section first shows features of both projects (Exhibit 1), and then briefly describes evaluation design, key measures, and data sources. An appendix volume (Judkins, Roessel, and Durham 2022) provides much more detail about the PACE project's six-year methodology and data sources. Methods used for the evaluation of HPOG 1.0 at six years are reported separately (Peck, Litwok, and Walton 2022).

Exhibit 1. Evaluation Features

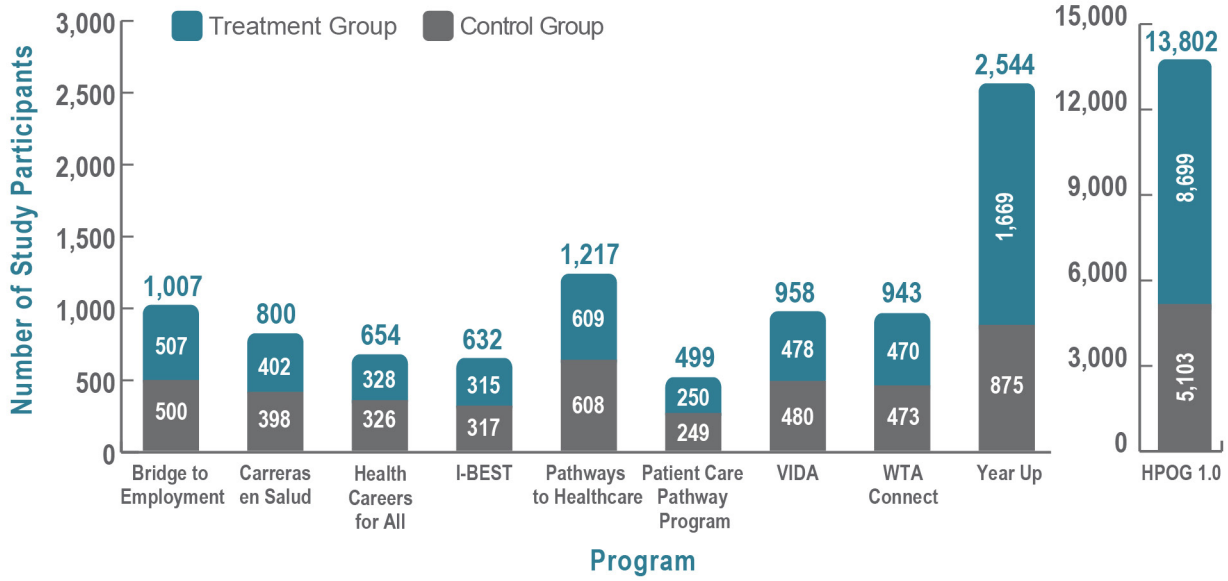
Feature	PACE	HPOG 1.0
Programs	Nine purposively selected programs with elements of the career pathways framework[a]	42 local programs implemented by 23 grantees operating under broad guidance from ACF
Occupational areas	Varies by program but includes healthcare, welding, advanced manufacturing, IT, financial services	Healthcare
Target population	Varies by program, but generally adults with low incomes	TANF recipients and other adults with low incomes
Study enrollment period	Varies by program; earliest enrollment began in November 2011, and all ended by December 2014	March 2013 to November 2014
Sample size	Ranged from 499 to 2,544	13,802
Impact study design	Program specific	HPOG Impact Study (all grantees pooled)
Implementation study design	Program specific	National Implementation Evaluation (all grantees pooled)[b]

[a] Four of the programs were fully or partially funded by HPOG; these four are included in both evaluations.
[b] See the National Implementation Evaluation report (Werner et al. 2018).

Design

The PACE and HPOG 1.0 evaluation designs are grounded in the career pathways framework. All 10 impact evaluations of PACE programs and HPOG 1.0 used experimental research designs to assess impacts of the interventions. At each program, staff randomly assigned eligible applicants to either a *treatment group* allowed to access the intervention or a *control group* that could not but could access other trainings, services, or supports available in the community. Exhibit 2 shows the number of participants enrolled in each evaluation.

Exhibit 2. Number of Participants Enrolled in Treatment and Control Groups, by Program



Note: Three PACE programs are fully funded by an HPOG grant (Bridge to Employment in the Healthcare Industry, Health Careers for All, and Pathways to Healthcare) and one is partially HPOG-funded (Carreras en Salud). Therefore, study participants in these four programs are double counted in the exhibit—once in their PACE program sample and once in the HPOG 1.0 sample.

Each evaluation estimated impacts of the intervention as the difference in mean outcomes between the treatment group and the control group. 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 1.0 grantees.

Each evaluation used an intent-to-treat (ITT) analysis. To maintain the comparability of the treatment and control groups requires comparing all of those in the treatment group with all of those in the control group. An implication is that the evaluations estimate the impact of access to the program, not the impact of participating in the program nor the impact of the programs' specific components. The evaluations do so by comparing the entire control group with the entire treatment group regardless of the treatment group's enrollment in the program or take-up of any particular program component. The ITT analysis is fitting for these evaluations because programs do not mandate participation. Participants in PACE and the HPOG 1.0 Impact Study chose whether, which, and how much of the offered services they used.

Six-Year Outcomes

Each program's theory of change identified priority outcomes and time horizons for expected impacts on those outcomes. Each research team used the program's theory of change to identify one or more *confirmatory* outcomes that would best measure the program's effectiveness after six years.[3] All 10 evaluations have a confirmatory outcome related to labor market success, and five have an additional confirmatory outcome related to educational attainment. Confirmatory outcomes for each program at the short-term (15-18 months), three-year, and six-year follow-ups appear in Appendix A.

Additional research questions generated hypotheses about *secondary* outcomes (other important indicators of program effectiveness) and *exploratory* outcomes (which aim to improve understanding of confirmatory and secondary analyses).

Data

To construct long-term confirmatory, secondary, and exploratory outcomes, all nine PACE evaluations and the HPOG 1.0 evaluation used administrative education and earnings data from the National Student Clearinghouse (NSC) and the National Directory of New Hires (NDNH), respectively. Additionally, the evaluations had participant survey data for four PACE evaluations (Carreras en Salud, I-BEST, VIDA, and Year Up) and for a subset of study participants in the HPOG 1.0 evaluation.[4]

KEY FINDINGS

The PACE and HPOG 1.0 six-year analyses explored whether educational progress impacts identified in the three-year reports translated into earnings impacts, and whether earnings impacts for one program at year three persisted into year six.

At the Three-Year Follow-up

At the three-year follow-up, most programs had increased educational progress, usually measured as credential receipt, mostly for short-term credentials such as Certified Nursing Assistant (CNA) certificates; and most programs also had increased the duration of training as well as other education-related outcomes (Juras and Buron 2021). However, impacts on credentials did not translate into detectable impacts on quarterly earnings or employment. Only one program, Year Up, had increased quarterly earnings after three years.[5] Consistent with the lack of earnings gains, there was little evidence that PACE or HPOG 1.0 programs reduced financial distress or public assistance receipt or affected family structure or parents' assessments of their children's well-being.

At the Six-Year Follow-up

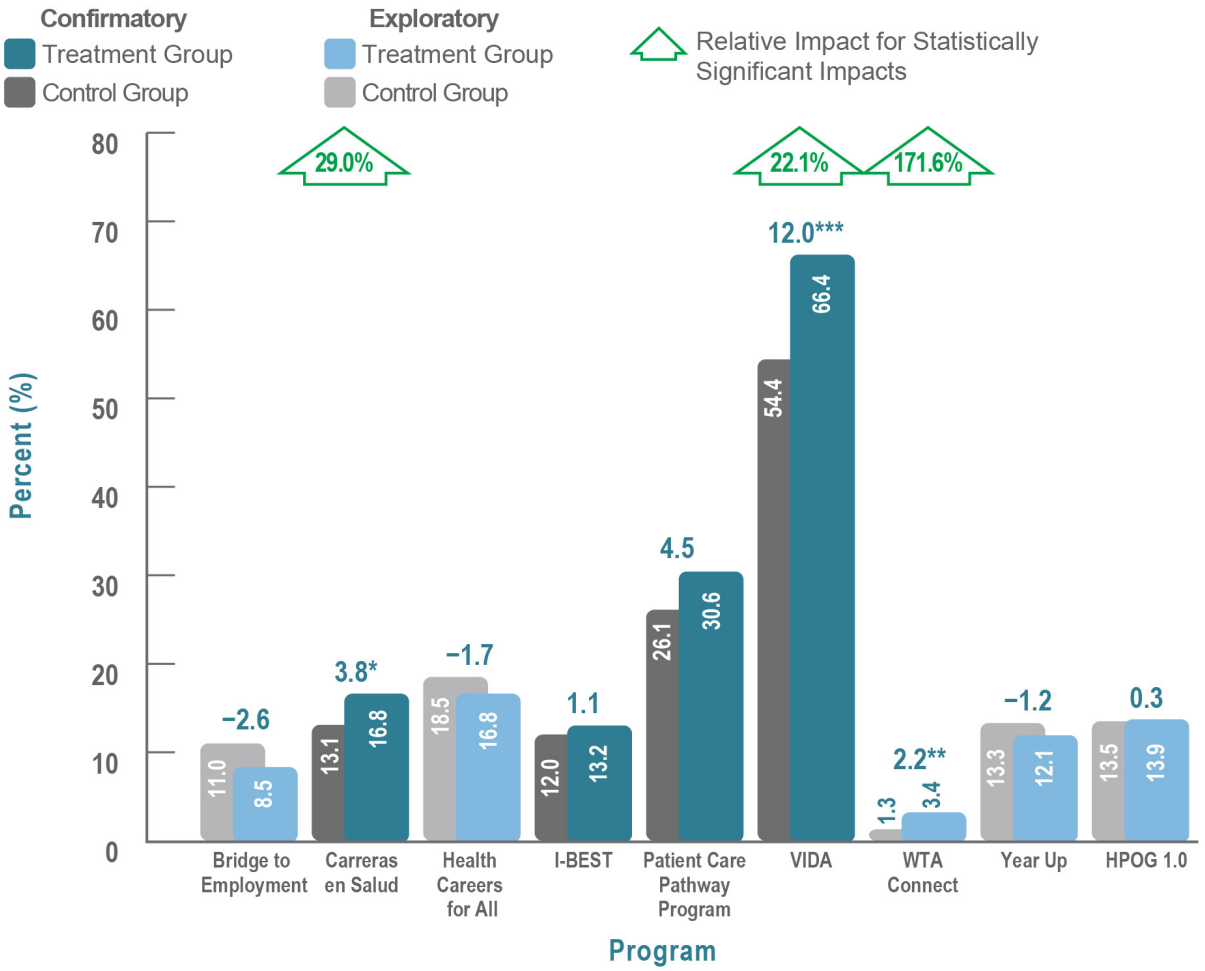
Despite the lack of detectable earnings gains for all but one program after three years, there was reason to believe that earnings impacts could emerge by six years for programs that had previous educational impacts if the impacts persisted. For example, if between year three and year six, the programs produced impacts on longer-term credentials associated with higher-paying jobs, such as Licensed Vocational Nurse (LVN), then it is plausible that earnings impacts could follow.

- **Three programs increased college credential receipt at six years; for two of these programs, the impacts are small.**

LVN and other credentials associated with higher-paying jobs generally take a minimum of the equivalent of one academic year of full-time college enrollment to earn; for participants attending part-time, such credentials could take multiple years to earn. Because NSC does not directly measure receipt of a credential requiring one academic year of full-time college enrollment, the research team used a proxy measure for a credential that takes one academic year (or about eight months of full-time enrollment) to complete: *receipt of a college credential preceded by eight or more months of full-time-equivalent college enrollment by the 24th follow-up quarter.*[6] This is the six-year confirmatory outcome for the five programs that put more emphasis on completing long-term training (Carreras en Salud, I-BEST, Patient Care Pathway Program, VIDA, and HPOG 1.0); it is an exploratory outcome in four other programs; it was not measured in one program due to data limitations (Pathways to Healthcare).[7]

As Exhibit 3 shows, three programs had an impact on this outcome: Carreras en Salud, VIDA, and WTA Connect. For two of these programs—Carreras en Salud and WTA Connect—the differences are small. None of the programs had an impact on college enrollment during the 24th follow up quarter, meaning that impacts on college credentials are unlikely to grow substantially in coming years.[8]

Exhibit 3. Receipt of a College Credential Preceded by Eight or More Full-Time-Equivalent Months of College Enrollment by the 24th Follow-Up Quarter



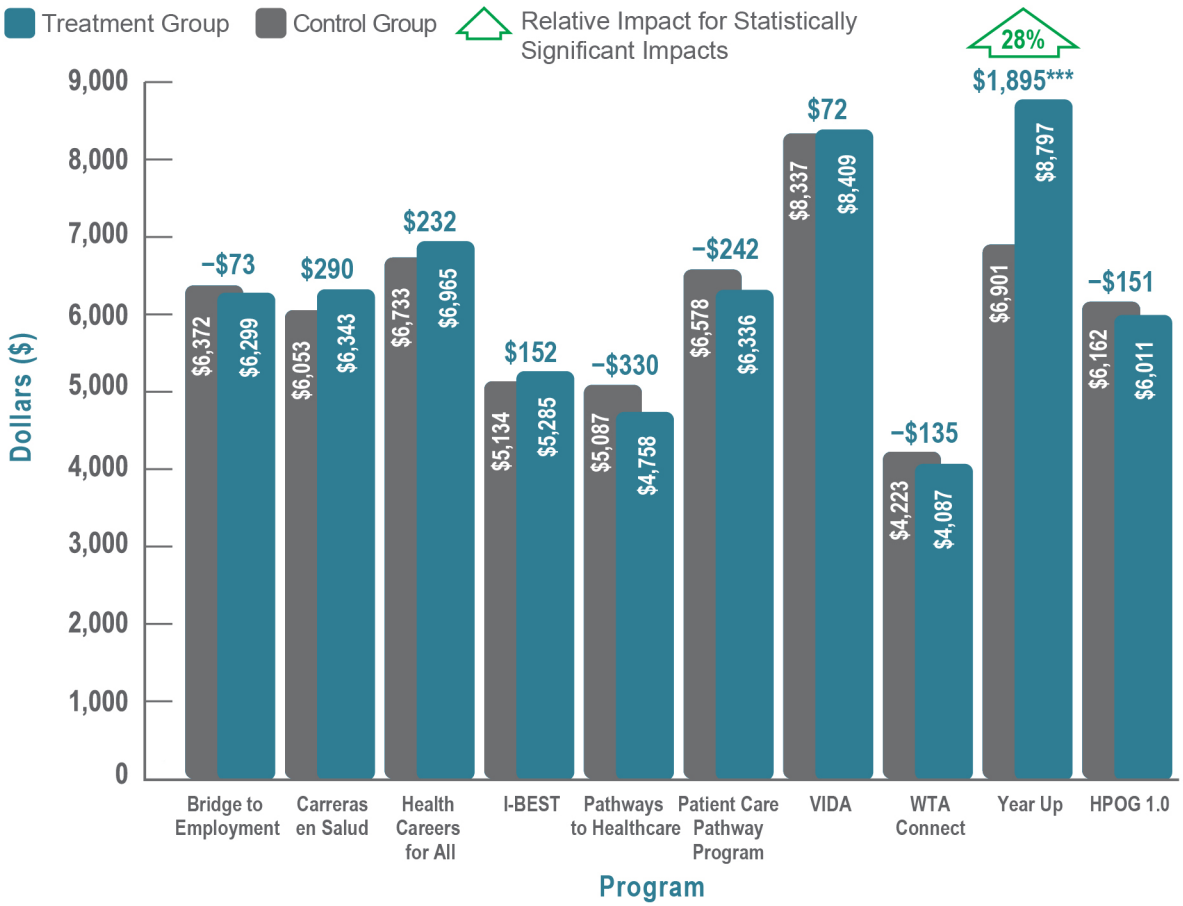
Notes: Pathways to Healthcare does not appear because that evaluation does not include this outcome measure for technical issues (see Judkins, Litwok, and Gardiner 2020). HPOG 1.0 has a confirmatory outcome in the educational progress domain that is akin to this measure, but it is based on survey data; we report this alternative measure here to support cross-site comparisons.
This outcome is confirmatory for four programs (Carreras en Salud, I-BEST, Patient Care Pathway Program, VIDA). Confirmatory outcome uses a one-sided test; secondary and exploratory outcomes use a two-sided test. Statistical significance is indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.
Source: Evaluation analysts' computations from National Student Clearinghouse data.

Some programs had impacts on other measures of educational progress that played important roles in their logic models, including receipt of an associate degree or higher. We report these alternative measures in the Program Profiles section.

■ One program—Year Up—resulted in large earnings gains.

Although some programs had educational impacts at six years, they did not translate into earnings impacts. Six years after study entry, only Year Up had a detectable impact on *average quarterly earnings over follow-up quarters 23 and 24* (about six years), the confirmatory outcome in the earnings domain (Exhibit 4). Year Up's six-year impact on quarterly earnings ($1,895) is similar in magnitude to its three-year impact. It is among the largest reported impacts from experimental evaluations of training programs for adults with low incomes to date.[9]

Exhibit 4. Impacts on Average Quarterly Earnings Over Follow-Up Quarters 23 and 24, by Program



Note: This outcome is confirmatory for all programs. Confirmatory hypotheses are tested using a one-sided test. Statistical significance is indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.
Source: Evaluation analysts' computations from National Directory of New Hires data.

The Remainder of the Report

The next section presents profiles for each of the nine PACE evaluations and for HPOG 1.0. The report's final sections discuss these findings in the context of the two projects and implications for programs and future research.

Appendix A describes confirmatory outcomes for each program at the short-term (15-18 months), three-year, and six-year follow-up periods. Appendix B provides detailed results, by program, for additional outcomes.

PROGRAM PROFILES

The 10 program profiles each begin with a short description of the intervention. Each profile then describes six-year impacts, following the theory of change, which posits that impacts on educational progress lead to earnings impacts.[10] The next section of the profile describes possible explanations for the findings. Each profile concludes with links to previous impact reports, where readers can find more details on additional outcomes and a more complete development of the explanations provided for the six-year findings. PACE programs are profiled alphabetically, followed by the HPOG 1.0 profile.

Outcomes

- All nine PACE programs and HPOG 1.0 have a confirmatory outcome in the **earnings domain**: *average quarterly earnings over follow-up quarters 23 and 24*. This outcome is depicted in a grey box embedded in a line chart in each profile.
- Only HPOG 1.0 has a confirmatory outcome in the **employment domain** (specifically, *employed in a healthcare occupation*).

As Appendix Exhibit A-1 details, in the **educational progress domain:**

- Four PACE programs and HPOG 1.0 have a confirmatory outcome in the educational progress domain: *receipt of a college credential preceded by eight or more months of full-time-equivalent college enrollment by the 24th follow-up quarter*. For these programs, this outcome is depicted using a bar chart.
- Of the five other PACE programs, four have the same measure designated as an exploratory outcome, rather than a confirmatory one. For consistency, we report this measure in each profile but without an accompanying graphic. The final PACE program does not include this measure. For this program, we report a secondary outcome.
  - » Year Up had as its central goal to connect participants with career-track employment rather than postsecondary education and so does not have a confirmatory outcome in the educational progress domain.
  - » Bridge to Employment, Health Careers for All, and WTA Connect focused nearly exclusively on very short-term training, making it inappropriate to have designated a confirmatory outcome in educational progress domain at the six-year follow-up, and so we report outcomes designated as exploratory.
  - » For Pathways to Healthcare, data limitations precluded accurate measurement of the preferred confirmatory outcome, and so the profile includes an outcome that is secondary.

Understanding the Exhibits

In each profile, the program's education and earnings outcomes are labelled in italic text. Each outcome is labeled with a **(C)** for confirmatory, an **(S)** for secondary, or an **(E)** for exploratory.

Confirmatory and secondary outcomes are analyzed using a one-tailed test, and exploratory outcomes are analyzed using a two-tailed test. Impacts on up to one confirmatory outcome per domain are depicted graphically in the profiles using line or bar charts. These exhibits indicate levels of statistical significance for each outcome as follows: *** 1 percent, ** 5 percent, * 10 percent. The exhibits indicate impacts in bold numerals, and relative impacts with a green arrow.

Finally, as noted earlier, all impacts reported are ITT estimates, which compare the entire treatment group with the entire control group, regardless of a given program's actual take-up rate.

PROGRAM PROFILE: **Bridge to Employment in the Healthcare Industry**

Program Operator: San Diego Workforce Partnership (HPOG 1.0 grantee)

Service Location: County of San Diego, CA

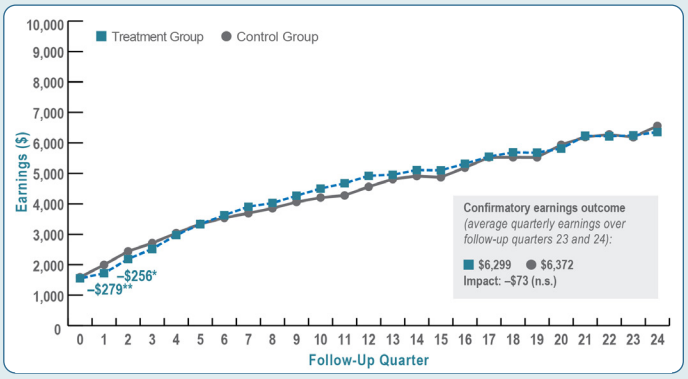
Description

The Bridge to Employment program used a consumer choice model to help adults with low incomes pay for healthcare training. Participants received an Individual Training Account voucher that they could use to fund healthcare training at any accredited community college or private for-profit school of their choice. Community-based "navigators" helped guide participants in their selection of a career path, training program, and provider. The navigators also helped participants access supports to address identified challenges to enrollment and persistence.

Six-Year Impacts

The program did not detectably increase *receipt of a college credential preceded by eight or more months of full-time-equivalent college enrollment by the 24th follow-up quarter* **(E).** Roughly one in 10 of the study sample received such a credential.

Bridge to Employment did not detectably increase *average quarterly earnings over follow-up quarters 23 and 24* **(C)**. The treatment and control groups both earned about $6,300.



Notes: Hypothesis tests are one-sided for the confirmatory outcome (*average quarterly earnings over follow-up quarters 23 and 24*) and two-sided for exploratory outcomes (*average quarterly earnings in each of quarters 0-24*). Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent; n.s. denotes not statistically significant.
Source: National Directory of New Hires.
Sample size: Treatment: 492; Control: 481.

Possible Explanation

Bridge to Employment's consumer choice model empowered participants to determine the provider and course best suited for them given their occupational goals. Most treatment group members used their Individual Training Accounts for short-term trainings at private, for-profit schools, and did not return for a second, higher-level training for myriad reasons, including many of the schools attended did not have a pathway, and the need to obtain employment. The credentials received are associated with jobs with low wages. Additionally, employment rates did not differ; almost three-quarters of both the treatment and control groups worked at the six-year follow-up. The program did not increase receipt of longer-term, college-based credentials, which are associated with higher-paying jobs. The finding suggests future earnings impacts are unlikely because participants are not advancing on a pathway.

Additional Information

Implementation and early impact report: https://www.acf.hhs.gov/opre/resource/san-diego-county-bridge-employment-healthcare-industry-program-implementation-early-impact-report

Three-year impact report: https://www.acf.hhs.gov/opre/report/san-diego-workforce-partnerships-bridge-employment-healthcare-industry-program-three

PROGRAM PROFILE: **Carreras en Salud**

Program Operator: Instituto del Progreso Latino (HPOG 1.0 sub-grantee)

Service Location: Chicago, IL

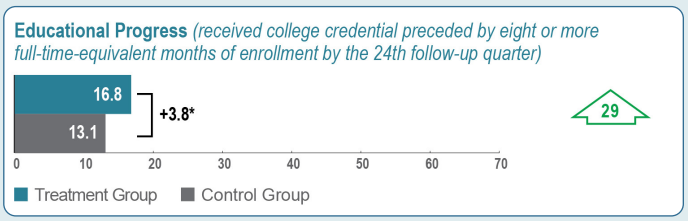
Description

Established in 2005, the Carreras en Salud **("Careers in Health") program is a seven-step nursing pathway that prepares** Latino adults with low incomes for employment in the healthcare sector. Citing the need for bilingual healthcare workers in the Chicago area, program planners embedded two credentials into the pathway: Certified Nursing Assistant (CNA) and Licensed Practical Nurse (LPN). Because LPNs earn significantly more than do CNAs, program staff describe the CNA as an interim credential only. Depending on the pathway step, Carreras provides academic and non-academic advising, basic skills classes contextualized for healthcare, and employment services.

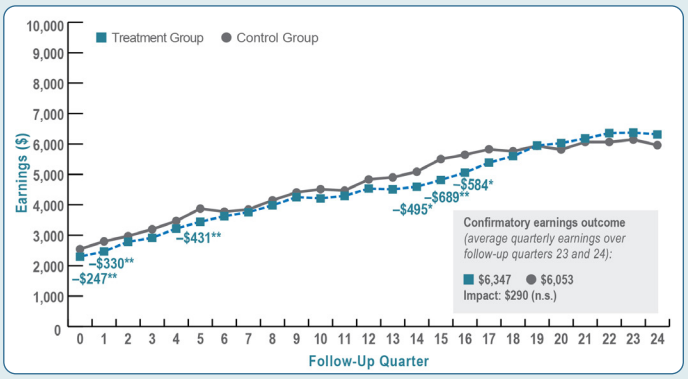
Six-Year Impacts

Carreras had a favorable 4 percentage point impact on *receipt of a college credential preceded by eight or more full-time-equivalent months of college enrollment by the 24th follow-up quarter* **(C)**. As of the six-year follow-up, 17 percent of the treatment group versus 13 percent of the control group had earned a longer-term college credential (e.g., LPN); that impact translates as a 29 percent relative increase.

Carreras's impact on college credentials did not translate into greater *average quarterly earnings over follow-up quarters 23 and 24* **(C)**. The treatment and control groups both earned slightly more than $6,000 per quarter on average.



Note: Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.
Source: National Student Clearinghouse.
Sample size: Treatment: 401; Control: 398.



Notes: Hypothesis tests are one-sided for the confirmatory outcome (average quarterly earnings over follow-up quarters 23 and 24) and two-sided for exploratory outcomes (average quarterly earnings in each of quarters 0-24). Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent; n.s. denotes not statistically significant.
Source: National Directory of New Hires.
Sample size: Treatment: 391; Control: 384.

Possible Explanation

Carreras's 4 percentage point impact on *receipt of a college credential preceded by eight or more full-time-equivalent months of college enrollment* was not sufficient to create an earnings impact. The LPN credential is critical to earnings gains because the average full-time LPN salary in the Chicago area is roughly twice the average full-time salary for the other pathway credential, CNA. As of six years, though, CNA was the predominant credential among those who earned a healthcare credential.

With similar levels of *full-time employment* for the treatment and control groups, and similar average hourly wages among those employed, there was insufficient change in these labor market outcomes to influence earnings.

A relatively large share (44 percent) of the treatment group participated in at least two pathway steps, but most did not reach the LPN step during the first three years of follow-up (program records were not available for the six-year analyses). Generally, only those who enrolled in a third step (15 percent of participants) reached the LPN step or the preparatory step preceding it.

Additional Information

Implementation and early impact report: https://www.acf.hhs.gov/opre/report/instituto-del-progreso-latinos-carreras-en-salud-program-implementation-and-early

Three-year impact report: https://www.acf.hhs.gov/opre/report/instituto-del-progreso-latinos-carreras-en-salud-program-three-year-impact-report

Six-year impact report: https://www.acf.hhs.gov/opre/report/instituto-del-progreso-latinos-carreras-en-salud-program-six-year-impact-report

PROGRAM PROFILE: **Health Careers for All**

Program Operator: Workforce Development Council of Seattle–King County (HPOG 1.0 grantee)

Service Location: King County (Seattle), WA

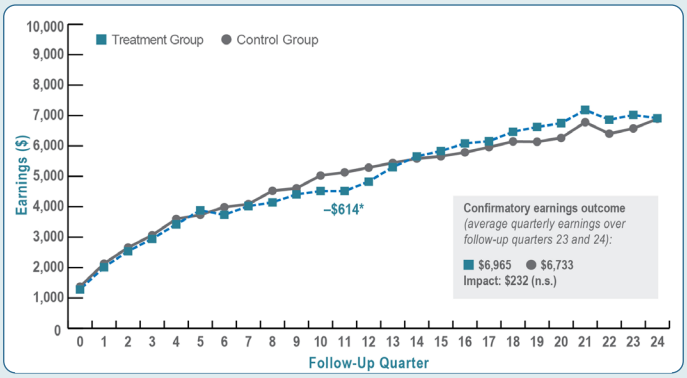
Description

The Health Careers for All program aimed to increase enrollment in and completion of healthcare occupational training by TANF recipients and other adults with low incomes. The program also sought to address the rising demand for healthcare workers in King County. Key program components included (1) career and course navigation assistance and case management services to identify and address challenges to enrollment and persistence, (2) access to healthcare occupational education and training, (3) job search assistance, and (4) financial assistance for training.

Six-Year Impacts

Health Careers for All did not detectably increase *receipt of a college credential preceded by eight or more full-time-equivalent months of college enrollment by the 24th follow-up quarter* **(E)**. About 17 percent of both the treatment and control groups had done so.

Health Careers for All did not detectably increase *average quarterly earnings over follow-up quarters 23 and 24* **(C)**. The treatment and control groups both earned slightly less than $7,000 per quarter on average.



Notes: Hypothesis tests are one-sided for the confirmatory outcome (*average quarterly earnings over follow-up quarters 23 and 24*) and two-sided for exploratory outcomes (*average quarterly earnings in each of quarters 0-24*). Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent; n.s. denotes not statistically significant.
Source: National Directory of New Hires.
Sample size: Treatment: 327; Control: 321.

Possible Explanation

The emphasis on short-term, entry-level jobs (such as Certified Nursing Assistant, for which most participants enrolled in training programs) may have contributed to the absence of earnings gains for treatment group members. Other factors that could have contributed to the lack of detectable earnings impacts include (1) similar occupational training options for control group members, often provided at no cost; and (2) the rising wage rates and decreasing unemployment rates in the Seattle area during the study period, which could have expanded employment and earnings opportunities for control group members. The program did not increase receipt of longer-term, college-based credentials, which are associated with higher-paying jobs.

Additional Information

Implementation and early impact report: https://www.acf.hhs.gov/opre/report/workforce-development-council-seattle-king-county-health-careers-all-program

Three-year impact report: https://www.acf.hhs.gov/opre/report/workforce-development-council-seattle-king-countys-health-careers-all-program-three

PROGRAM PROFILE: **Integrated Basic Education and Skills Training (I-BEST)**

Program Operator: Three Washington State community and technical colleges

Service Locations: Bellingham Technical College, Everett Community College, Whatcom Community College, WA

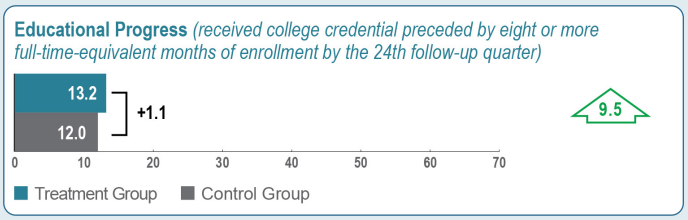
Description

I-BEST designers intended to increase access to and completion of college-level occupational training in a range of in-demand occupations for adults with lower academic skills. Specifically, I-BEST programs aimed to teach students academic and occupational skills concurrently, so they completed their credentials more quickly and entered employment or higher-level college-level courses. Key program components included (1) team-teaching that paired basic skills instructors with occupational training instructors; (2) attainment of workforce credits and credentials focused on specific technical skills and not transferable to four-year colleges; and (3) courses that are part of a structured career pathway that could lead to longer-term postsecondary credentials and employment. Two additional components that were only offered during PACE were dedicated advising to help students navigate the program and "fill-the-gap" financial support to cover the cost of students' training and associated materials and services.

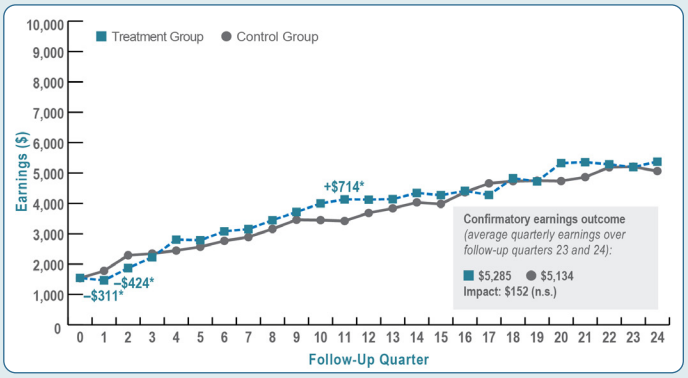
Six-Year Impacts

I-BEST did not detectably increase *receipt of a college credential preceded by eight or more full-time-equivalent months of college enrollment by the 24th follow-up quarter* **(C)**. About 13 percent of both the treatment and control groups had done so by six years.

I-BEST did not detectably increase *average quarterly earnings over follow-up quarters 23 and 24* **(C)**. Both the treatment and control groups earned slightly more than $5,000 per quarter on average.



Note: Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.
Source: National Student Clearinghouse.
Sample size: Treatment: 315; Control: 316.



Notes: Hypothesis tests are one-sided for the confirmatory outcome (average quarterly earnings over follow-up quarters 23 and 24) and two-sided for exploratory outcomes (average quarterly earnings in each of quarters 0-24). Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent; n.s. denotes not statistically significant.
Source: National Directory of New Hires.
Sample size: Treatment: 310; Control: 300.

Possible Explanation

Several factors may have contributed to these results. First, most participants did not achieve educational credentials beyond those provided through the I-BEST program. There were limited transitions from the short-term occupational programs to those providing longer-term credentials and degrees that could lead to higher earnings. The I-BEST program did achieve early impacts on the receipt of longer-term credentials, particularly in the second year of follow-up. Over time, however, control group members were also able to obtain these credentials. Thus, although the I-BEST program speeded the receipt of longer-term credentials, it did not affect the proportion of the treatment group who earned them overall. In addition, the initial jobs targeted by I-BEST may not have paid well enough to appreciably raise earnings. Finally, the implementation study of IBEST found that the program did not offer structured services to students in finding employment.

Additional Information

Implementation and early impact report: https://www.acf.hhs.gov/opre/report/washington-states-integrated-basic-education-and-skills-training-i-best-program-three

Three-year impact report: https://www.acf.hhs.gov/opre/report/washington-states-integrated-basic-education-and-skills-training-i-best-program-three-0

Six-year impact report: https://www.acf.hhs.gov/opre/report/washington-states-integrated-basic-education-and-skills-training-i-best-program-six

PROGRAM PROFILE: **Pathways to Healthcare**

Program Operator: Pima Community College (PCC) (HPOG 1.0 grantee)

Service Location: Pima County (Tucson), AZ

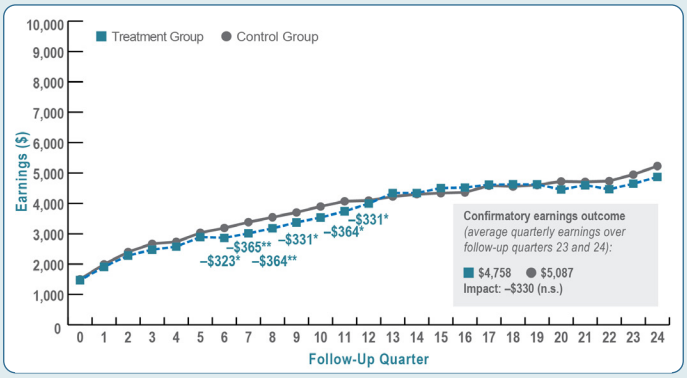
Description

The Pathways to Healthcare program aimed to help adults with low incomes and low academic skills in Pima County access and complete healthcare occupational training that could lead to healthcare employment and higher earnings and address expected healthcare labor shortages in the area. The program mapped 16 existing PCC healthcare occupational training programs into five pathways, each incorporating a ladder with two or three levels of stackable credentials. The program included proactive advising, scholarships, compressed basic skills programs for participants who needed to remediate skills, and job search assistance.

Six-Year Impacts

In line with the program's logic model, Pathways to Healthcare did not have a confirmatory educational progress outcome, instead prioritizing earnings at this six-year follow-up point. On a secondary outcome, Pathways to Healthcare increased the share of the treatment group *receipt of an associate degree* **(S)** at six years by 23 percent, a 1.6 percentage point increase in the treatment group (8.3 percent) over the control group (6.7 percent). Despite the impact, the level of degree receipt is quite low.

Pathways to Healthcare did not increase *average quarterly earnings over follow-up quarters 23 and 24* **(C)**. Both the treatment and control groups earned about $5,000 per quarter on average.



Notes: Hypothesis tests are one-sided for the confirmatory outcome (average quarterly earnings over follow-up quarters 23 and 24) and two-sided for exploratory outcomes (average quarterly earnings in each of quarters 0-24). Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent; n.s. denotes not statistically significant.
Source: National Directory of New Hires.
Sample size: Treatment: 603; Control: 605.

Possible Explanation

A large share of the treatment group did not take up training or engage in any services: at the three-year follow-up, fully 44 percent of the treatment group had not engaged in any type of occupational training. With such a high no-show rate, the impact on those who did engage would have to be quite large to generate demonstrable impacts for the full sample.[11] Considering the treatment group as a whole—both those who did and did not participate—the lack of impacts on long-term credentials helps to explain the lack of earnings gains.

Additional Information

Implementation and early impact report: https://www.acf.hhs.gov/opre/report/pima-community-college-pathways-healthcare-program-implementation-and-early-impact

Three-year impact report: https://www.acf.hhs.gov/opre/report/pima-community-colleges-pathways-healthcare-program-three-year-impact-report

PROGRAM PROFILE: **Patient Care Pathway Program (PCPP)**

Program Operator: Madison Area Technical College

Service Location: Madison, WI

Description

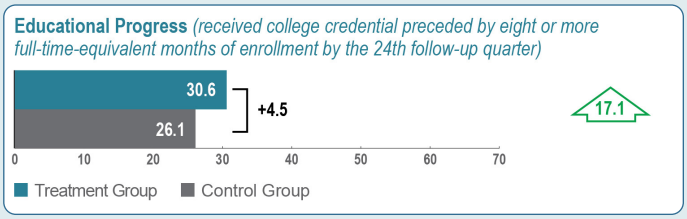
PCPP aimed to help adults with low academic skills access and complete college-level occupational training in the healthcare sector. PCPP consisted of semester-long "academies" designed to prepare students for quick enrollment in either a one-year healthcare diploma program or a two-year degree program by reducing the time needed to remediate basic skills. The implementation study found that 75 percent of participants who enrolled in any academy enrolled in the academy associated with a two-year degree. Each PCPP academy combined basic skills courses with credit-bearing courses needed for healthcare diploma and degree programs, but the academies themselves did not result in a credential.[12] Students in the PCPP academies also had access to a dedicated advisor who helped identify potential barriers to success and coordinated academic and non-academic supports.

Six-Year Impacts

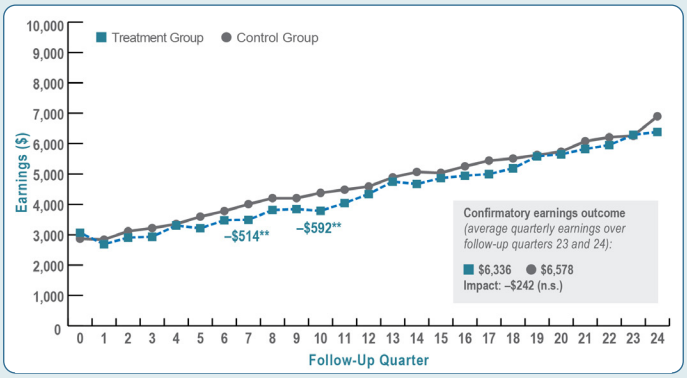
PCPP did not detectably increase *receipt of a college credential preceded by eight or more full-time-equivalent months of college enrollment by the 24th follow-up quarter* **(C)**. Slightly fewer than one-third of both the treatment and control groups had done so by the six-year follow-up.

PCPP, however, increased *receipt of an associate degree or higher* **(S)** by about 7 percentage points (21 percent of the treatment group versus 14 percent of the control group), a 50 percent relative increase.

PCPP did not detectably increase *average quarterly earnings over follow-up quarters 23 and 24* **(C)**. Both the treatment and control groups earned around $6,500 per quarter on average.



Note: Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.
Source: National Student Clearinghouse.
Sample size: Treatment: 250; Control: 249.



Notes: Hypothesis tests are one-sided for the confirmatory outcome (average quarterly earnings over follow-up quarters 23 and 24) and two-sided for exploratory outcomes (average quarterly earnings in each of quarters 0-24). Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent; n.s. denotes not statistically significant.
Source: National Directory of New Hires.
Sample size: Treatment 603; Control: 605.

Possible Explanation

PCPP designers intended academies as an "on-ramp" to diploma and degree programs; upon completing an academy, the participant would enroll immediately in a program, rather than wait one or more semesters. However, several healthcare program admissions issues, including lags between admission into a program and its start (sometimes a semester or more), long waitlists for core healthcare courses needed for the credential, and implementation of new skills tests for admission to healthcare degree programs affected the timing of enrollment into programs and, by extension, receipt of credentials.

Although the evaluation did not detect an impact on the confirmatory earnings outcome, the program's impact *on receipt of an associate degree or higher* is promising. This impact did not emerge until six years following enrollment. These credentials could lead to jobs with higher earnings. Should this impact grow in the years to come, the program could lead to earnings gains in the future.

Additional Information

Implementation and early impact report: https://www.acf.hhs.gov/opre/report/madison-area-technical-college-patient-care-pathway-program-implementation-and-early

Three-year impact report: https://www.acf.hhs.gov/opre/report/madison-area-technical-colleges-patient-care-pathway-program-three-year-impact-report

PROGRAM PROFILE: **Valley Initiative for Development and Advancement (VIDA)**

Program Operator: VIDA

Service Location: Lower Rio Grande Valley, Texas

Description

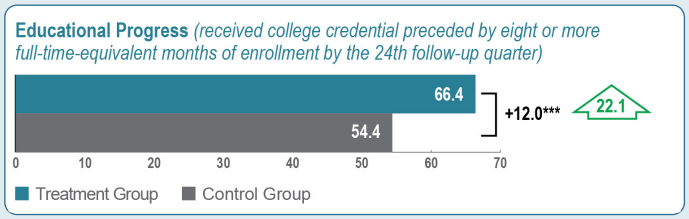
VIDA is a nonprofit, community-based organization that supports training for adults with low incomes to obtain certificates and degrees that are expected to lead to jobs that pay well and are in demand locally. VIDA requires full-time college attendance and mandates participation in weekly group or individual counseling sessions. The weekly sessions aim to identify and address barriers to participation early, before they affect persistence. Additionally, through workshops and presentations, the sessions help participants succeed in school (e.g., study skills and time management) and find employment (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 College Prep Academy.

Six-Year Impacts

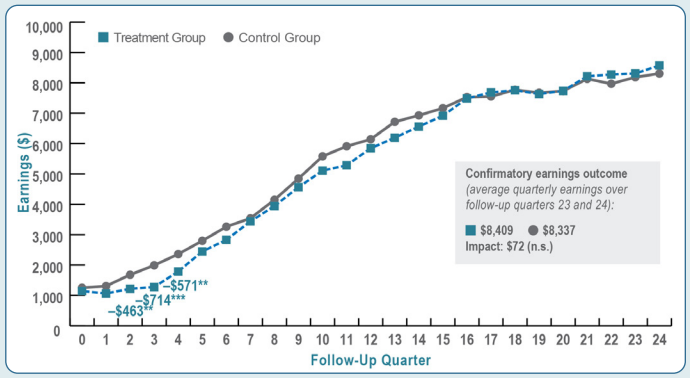
VIDA had a favorable 12 percentage point impact on *receipt of a college credential preceded by eight or more full-time-equivalent months of college enrollment by the 24th follow-up quarter* **(C)** (66 percent of the treatment group versus 55 percent of the control group).

VIDA also had a favorable 9 percentage point impact on *receipt of an associate degree or higher* **(S)** (49 percent of the treatment group versus 40 percent of the control group).

VIDA did not detectably increase *average quarterly earnings over follow-up quarters 23 and 24* **(C)**. Both the treatment and control groups earned about $8,400 per quarter on average.



Note: Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.
Source: National Student Clearinghouse.
Sample size: Treatment: 478; Control: 480.



Notes: Hypothesis tests are one-sided for the confirmatory outcome (average quarterly earnings over follow-up quarters 23 and 24) and two-sided for exploratory outcomes (average quarterly earnings in each of quarters 0-24). Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent; n.s. denotes not statistically significant.
Source: National Directory of New Hires.
Sample size: Treatment: 379; Control: 383.

Possible Explanation

Although VIDA produced a favorable impact on credentials, it did not affect earnings. One possible reason is that the program did not have a detectable impact on credentials with high economic returns. Prior non-experimental research found that the economic return of healthcare credentials, especially degrees and longer-term certificates of the kind that VIDA supported, provide a much larger increase in earnings on average than do non-healthcare credentials (Stevens, Kurlaender, and Grosz 2019). However, VIDA did not have a detectable impact on receipt of these types of credentials, such as Licensed Vocational Nurse or Associate Degree in Nursing.

Additionally, 70 percent of the study sample was already enrolled in college at the time they entered the study. Thus, some proportion of the control group had demonstrated an ability to select a course, register, and possibly obtain financial assistance. For these already-enrolled participants, VIDA's impact on *receipt of a college credential after eight or more months of full-time-equivalent college enrollment by the 24th follow-up quarter* was smaller (6 percentage points) than for study participants not already enrolled (23 percentage points). Although neither group experienced a detectable increase in earnings, the large share of already-enrolled participants may have limited VIDA's credential impact, which in turn limited its earnings impact.

PROGRAM PROFILE: **Valley Initiative for Development and Advancement (VIDA)**

Additional Information

Implementation and early impact report: https://www.acf.hhs.gov/opre/report/valley-initiative-development-and-advancement-implementation-and-early-impact-report

Three-year impact report: https://www.acf.hhs.gov/opre/report/valley-initiative-development-and-advancement-vida-three-year-impact-report

Six-year impact report: https://www.acf.hhs.gov/opre/report/valley-initiative-development-advancement-vida-six-year-impact-report

PROGRAM PROFILE: **Workforce Training Academy (WTA) Connect**

Program Operator: Des Moines Area Community College

Service Location: Des Moines, IA

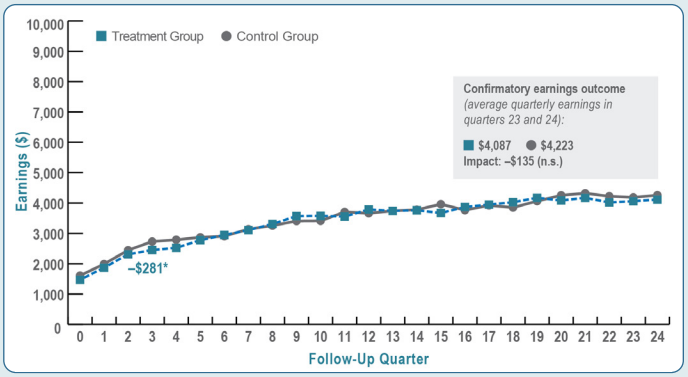
Description

WTA Connect aimed to provide a pathway for students whose reading and/or math skills made them ineligible to enroll in occupational certificate courses. To that end, the program provided reading and math skills remediation (including enrollment in high school equivalency classes if needed), development of self-efficacy and goal-setting skills, and proactive advising. After completing the skills remediation, WTA Connect participants could enroll in occupational certificate courses in fields such as healthcare, advanced manufacturing, and administrative support. The entire package of program components was provided free to participants.

Six-Year Impacts

WTA Connect increased receipt of a college credential preceded by eight or more full-time-equivalent months of college enrollment by the 24th follow-up quarter **(E)**. In absolute terms, the level was low (3 percent of the treatment group) and the impact small (2 percentage points).

WTA Connect did not detectably increase *average quarterly earnings over follow-up quarters 23 and 24* **(C)**. Both the treatment and control groups earned slightly more than $4,000 per quarter on average.



Notes: Hypothesis tests are one-sided for the confirmatory outcome (average quarterly earnings over follow-up quarters 23 and 24) and two-sided for exploratory outcomes (average quarterly earnings in each of quarters 0-24). Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent; n.s. denotes not statistically significant.
Source: National Directory of New Hires.
Sample size: Treatment: 461; Control: 459.

Possible Explanation

Although there was an impact on educational progress at six years, it was small. One potential reason is that, as described in WTA Connect's three-year impact report, 50 percent of treatment group members did not engage in any education, training, or services. With such a high no-show rate, it would have been difficult for the program to have an impact on average earnings for all treatment group members without having an exceptionally large impact on credentials among those who did engage.[13] Many control group members, moreover, accessed similar services.

Among treatment group members who did engage, only 56 percent (28 percent of all treatment group members) completed any occupational training. The WTA Connect program designers intentionally created a flexible and self-paced program to accommodate participants' work schedules and family demands. However, the target population may have needed more structure and support services to persist in and complete the program.

Additional Information

Implementation and early impact report: https://www.acf.hhs.gov/opre/report/des-moines-area-community-college-workforce-training-academy-connect-program

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

PROGRAM PROFILE: **Year Up**

Program Operator: Year Up

Service Locations: Atlanta, GA; Boston, MA; Chicago, IL; National Capital Region (Washington, DC area); New York City; Providence, RI; San Francisco Bay Area (San Francisco and San Jose, CA); Greater Seattle, WA

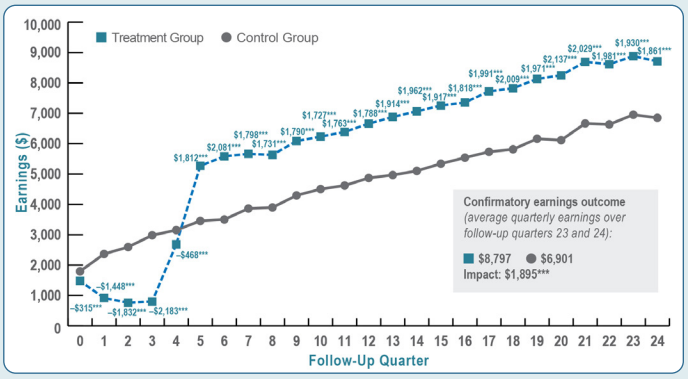
Description

Year Up is a national sectoral training program for young adults ages 18-24 with low income who are disconnected from school and work. The one-year program provides young adults with six months of full-time training in the IT and financial service sectors followed by six-month internships at major firms. The program provides extensive and intensive supports—including weekly stipends—and puts a heavy emphasis on the development of workplace and technical skills. Following the program, participants receive assistance obtaining employment in the occupational area for which they trained.

Six-Year Impacts

In line with the program's logic model, Year Up did not have a confirmatory educational progress outcome, instead prioritizing earnings at this six-year follow-up point. For comparison with other programs, we note that about 12 percent of both the treatment and control groups had *received a college credential preceded by eight or more full-time-equivalent months of college enrollment by the 24th follow-up quarter* **(E)**.

Year Up's early impacts extended through six years and show no signs of diminishing: *Average quarterly earnings over follow-up quarters 23 and 24* **(C)** were $1,895 higher for treatment than control group members (a 28 percent relative increase).



Notes: Hypothesis tests are one-sided for the confirmatory outcome (average quarterly earnings over follow-up quarters 23 and 24) and two-sided for exploratory outcomes (average quarterly earnings in each of quarters 0-24). Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent; n.s. denotes not statistically significant.
Source: National Directory of New Hires.
Sample size: Treatment: 1,637; Control: 858.

An analysis of costs and benefits shows that Year Up was financially worthwhile not only for its participants but also for society overall. After five years, Year Up returned $1.66 in net benefits to society for every dollar in costs. After seven years, with financial benefits continuing and little new costs, the net return to society for each dollar of program costs rose to $2.46.

Possible Explanation

Implementation research and stakeholder interviews conducted earlier in the Year Up evaluation suggest elements that could contribute to Year Up's earnings impacts: (1) types of participants served (intensively screened to ensure a good fit—with the program and then with employers); (2) training duration and focus (long trainings focused on real-world skills); and (3) supportive services provided (intensive, to support participants through the six months of full-time training and into the six-month internships).

Also likely important is Year Up's engagement with employers, which contribute about three-fifths of the $28,290 per participant cost of the program. The program evaluators posit that Year Up's funding structure incentivizes a strong focus on employers' needs; that is, only if Year Up produces high-quality interns will employers be willing to contribute to interns' training costs.

Additional Information

Implementation and early impact report: https://acfmain-stage.acf.hhs.gov/opre/report/bridging-opportunity-divide-low-income-youth-implementation-and-early-impacts-year

Three-year impact report: https://www.acf.hhs.gov/opre/report/still-bridging-opportunity-divide-low-income-youth-year-ups-longer-term-impacts

Six-year impact report: https://www.acf.hhs.gov/opre/report/benefits-last-long-term-impact-and-cost-benefit-findings-year-up

PROGRAM PROFILE: **Health Profession Opportunity Grants Program (HPOG 1.0)**

Program Operator: 23 grantees

Service Location: 42 programs in 19 states

Description

The first round of HPOG grants (HPOG 1.0)[14] aimed to provide education and training to Temporary Assistance for Needy Families recipients and other adults with low incomes for occupations in the healthcare field that pay well and are expected either to experience labor shortages or to be in high demand. Because HPOG 1.0 is a collection of 42 programs, there is wide variety in their design and implementation. This summary therefore characterizes the programs in the aggregate.

The major difference between opportunities available to the treatment group and those available to the control group was HPOG's richer support services. Most HPOG treatment group members had more financial assistance and support services available to them than did the control group members. The difference in training course offerings—most were short-term—was qualitatively more modest. Most control group members had courses available to them that were similar in type, amount, and quality to the courses available to the HPOG treatment group members.

Six-Year Impacts

HPOG did not detectably increase *receipt of a postsecondary credential requiring a year or more of training* **(C)**. About one-third of both the treatment and control groups had completed such a credential, according to survey data.

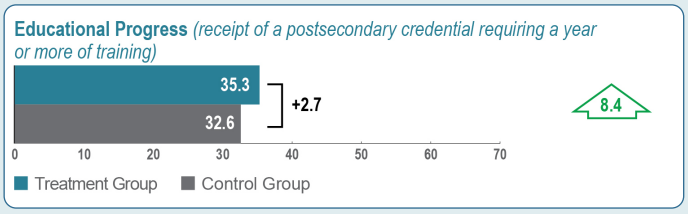
HPOG increased *receipt of a postsecondary credential of any length* **(S)** by 8 percentage points, from 70 percent in the control group to 78 percent in the treatment group, according to National Student Clearinghouse data.

HPOG increased the share *currently employment in a healthcare occupation* **(C)** from 32 percent in the control group to 37 percent in the treatment group, as of the follow-up survey. A clear program success, this 5 percentage point impact represents a 15 percent relative increase, in line with HPOG's statutory goal to increase in employment in healthcare.

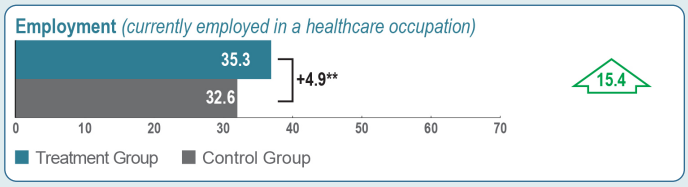
HPOG did not detectably improve *average quarterly earnings over follow-up quarters 23 and 24* **(C)**. Both the treatment and control groups had quarterly earnings of just over $6,000 as of the six-year follow-up.

Possible Explanation

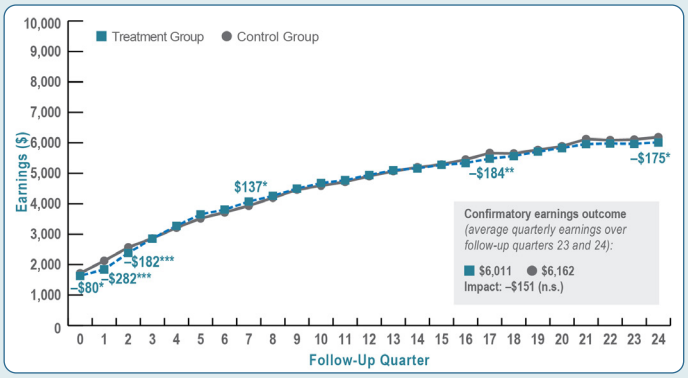
That a large share of study participants was already enrolled in school or training likely contributes to modest impacts on credentials. In addition to small impacts on credentials, the nature of the occupations in the healthcare sector likely also plays a role in the lack of earnings impacts. HPOG participants who earned credentials tended to earn short-term ones, such as Certified Nursing Assistant (CNA), rather than longer-term ones, such as Licensed Vocational Nurse or Associate Degree of Nursing. As noted in the discussion, hourly wages for CNAs are not different from entry-level wages in other industries such as hospitality (e.g., restaurant servers).



Note: Hypothesis tests are one-sided for the confirmatory outcomes. Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.
Source: Six-year participant follow-up survey.
Sample size: Treatment:1,162; Control: 612.



Note: Hypothesis tests are one-sided for the confirmatory outcomes. Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.
Source: Six-year participant follow-up survey.
Sample size: Treatment: 1,116; Control: 612.



Notes: Hypothesis tests are one-sided for the confirmatory outcome (average quarterly earnings over follow-up quarters 23 and 24) and two-sided for exploratory outcomes (average quarterly earnings in each of quarters 0-24). Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent; n.s. denotes not statistically significant.
Source: National Directory of New Hires.
Sample size: Treatment: 8,271; Control: 4,476.

PROGRAM PROFILE: **Health Profession Opportunity Grants Program (HPOG 1.0)**

Additional Information

Implementation and early impact report: https://www.acf.hhs.gov/opre/report/health-profession-opportunity-grants-hpog-10-impact-study-interim-report-program

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

Six-year impact report: https://www.acf.hhs.gov/opre/report/health-profession-opportunity-grants-hpog-10-impact-study-six-year-impacts-report

DISCUSSION

The career pathways framework posits that postsecondary education and training organized as a series of manageable steps leading to successively higher credentials and employment opportunities will lead to higher levels of credential receipt and higher earnings over time. To engage, retain, and facilitate learning and completion, programs within this framework integrate some combination of the following components: academic and non-academic assessment; innovative basic skills and occupational skills instruction; academic and non-academic supports; and strategies to connect participants to employers.

The programs evaluated as part of the PACE project and HPOG 1.0 varied in the number of pathway steps and the number of career pathways components they offered. Beyond HPOG, which pooled programs of varied types, we grouped the PACE programs as follows:

- Multi-step college-based programs that span basic skills remediation through multiple, stackable credentials: I-BEST and Pathways to Healthcare.
- Short-term college-based programs focused on accelerated basic skills remediation to prepare for occupational training: Patient Care Pathway Program and WTA Connect.
- Workforce Investment Board–based programs that provided Individual Training Accounts and supports: Bridge to Employment in the Healthcare Industry and Health Careers for All.
- Community-based organizations that provided intensive academic and non-academic supports in addition to occupational training: Carreras en Salud and VIDA.
- Substantial single-step workforce training program: Year Up.

Programs in all four groupings with a confirmatory educational outcome had positive impacts on the outcome in one or more follow-up periods.[15] Seven of eight programs from these groupings had an impact on the confirmatory outcome in the short term (at 15-18 months).[16] By three years, five programs had a confirmatory longer-term education outcome (credentials taking one or more years to earn) of which three had an impact: the two community-based programs (Carreras en Salud and VIDA) and one multi-step college-based program (Pathways to Healthcare).

By year six, four programs had a confirmatory longer-term education outcome (receipt of a college credential preceded by eight full-time-equivalent months of enrollment by the 24th follow-up quarter). The two community-based organization programs (Carreras en Salud and VIDA) had an impact, although Carreras' impact was modest (4 percentage points). One multi-step community college program, Pathways to Healthcare, did not have a confirmatory educational outcome at six years but did have a 2 percentage point impact on a secondary outcome, receipt of an associate degree.[17]

Despite impacts on longer-term credentials at three years and six years, Carreras en Salud, Pathways to Healthcare, and VIDA did not have earnings impacts. These findings are qualitatively similar to the overall findings from a meta-analysis of other programs in the career pathways framework (Peck et al. 2021): that is, gains in educational progress and industry-specific employment have not led to earnings gains. The only program with earnings impacts was Year Up, which had an impact on only one credential-related exploratory outcome. What could explain these results?

For a program to have an overall impact on earnings, it must have a sufficiently large impact on the number of credentials (or equivalent) earned and those credentials must have sufficient labor market value to substantially increase employment and/or wages. If the program falls short in either area—that is, if treatment group members do not complete training at a sufficiently higher rate than the control group or if the impacts are primarily for low-level credentials without high economic returns—then the program's impact on overall earnings will be small. For several reasons, most programs in the PACE and HPOG 1.0 evaluations fell short in one or both areas. Below we explore some of these explanations.

■ Many programs had small impacts on credential receipt.

In some programs, a meaningful share of treatment groups members did not engage in any training or services. Participants who do not take up services or engage in training are not likely to receive credentials. For some PACE and HPOG 1.0 programs, one potential explanation for the absence of earnings impacts at the six-year follow-up is that, for a variety of reasons, a large share of the treatment group did not take up training or participate in any services. This includes half of WTA Connect treatment group members, for example.

We would not expect impacts to emerge for earnings or other outcomes for this large share of treatment group members who received no training. The PACE and HPOG 1.0 evaluations used an ITT design because programs do not mandate participation, and so the ITT captures the impact of the combination of showing up as well as participating in the intervention. However, because non-enrollees are included in impact estimates and are not expected to have any impact from the program, they dilute the average impact for the overall treatment group.

Programs did not provide distinctive training or services. Except for Year Up, which offered a unique training that was not available elsewhere, control group members often had access to similar, even identical, training. In many programs, treatment and control group members enrolled in identical courses at the same colleges. The difference was in the financial and support services provided by the intervention. PACE and HPOG 1.0 programs could still have impacts on credential receipt by encouraging persistence of treatment group members; for example, with stipends to help them complete their training or by requiring frequent (e.g., weekly) advising to identify and address challenges that could derail educational goals.[18] Among the programs evaluated, however, the services offered were not sufficient to substantially increase persistence and credential receipt.

An illustrative example of this is VIDA, which recruited study participants who were already enrolled in the same colleges where VIDA participants accessed occupational training. Although control group members did not have access to VIDA's weekly advising and financial assistance (e.g., fill-the-gap tuition, transportation, childcare), they enrolled in the same courses as treatment group members. VIDA had an impact on college credentials, but more than half of control group members earned a long-term credential by year six, and there was no detectable impact on the receipt of Licensed Vocational Nurse (LVN) credentials or Associate Degrees in Nursing (ADNs). As a result, although treatment group earnings were reasonably high as of year six, they were nearly matched by earnings in the similarly trained control group. It is plausible that VIDA's recruitment of study participants already enrolled in college meant that both treatment and control group members had less need for the supports that VIDA provided, which in turn contributed to VIDA's lack of earnings impact. The similar Project QUEST program model recruited study participants who were not enrolled in college, and focused more heavily on high-value LVN and ADN credentials. Unlike VIDA, Project QUEST produced relatively large earnings impacts.[19]

■ Participants typically earned credentials associated with low wages.

Treatment group members initially earned credentials associated with low economic returns. Treatment group members in most PACE and HPOG 1.0 programs typically trained for entry-level credentials at the bottom rung of the career ladder, such as Certified Nursing Assistant (CNA) certificates, rather than for higher-level and more lucrative certifications such as LVN. In part, this is because the typical participant was not ready to begin a higher-level training: they lacked educational prerequisites or the financial or other resources to enroll and persist in a long and intensive training course or both. In programs that provided flexibility in course selection and training location (e.g., Health Careers for All), participants overwhelmingly chose short-term trainings that resulted in entry-level credentials. In other programs, participants' basic skills levels meant they often had to start at the first step on the pathway. A short-duration credential may position the worker on the initial step of a career ladder; but without follow-on training, it is not likely to generate meaningful earnings gains on its own: Several three- and six-year impact reports document how CNA hourly wages do not differ substantially from hourly wages in occupations such as food preparation and service.[20]

Treatment group participants did not return for another credential on the pathway. For most PACE and HPOG 1.0 programs, after participants earned their initial credential, they did not return for a second, higher-level (e.g., CNA to LVN) or smaller step (e.g., CNA to Phlebotomist) credential.[21]

Some participants in the two multi-step programs did progress. Carreras en Salud's treatment group members continued to move up the pathway toward LPN credentials; however, by year six, the impact of the program on receipt of a longer-term credential was not enough to affect quarterly earnings. Pathways to Healthcare had an impact on longer-term credentials at three years, but the impact did not persist through six years. In addition, these programs did not offer strong services to connect newly-credentialed treatment group members with employers, which may have mitigated the economic impact of longer-term credential receipt.

IMPLICATIONS

Most programs evaluated in PACE and HPOG 1.0 successfully increased enrollment in and completion of a first training, leading to generally small impacts on short-term credentials such as a CNA certificate. Most programs did not facilitate subsequent, higher-level education or training steps. Additionally, except for one, programs did not have strong connections to employers. Instead, programs either offered employment workshops or made referrals to employment service providers. Often the control group could access similar services.

The program that did foster employment connections was Year Up, evaluated as part of PACE. Of the 10 programs evaluated, Year Up was the only one that had an earnings impact at six years. In addition to its focus on employment connections, the Year Up model is unique among these programs in that it serves only young adults (ages 18-24); intensively screens applicants to ensure a good fit with both the program and potential employers; implements long trainings focused on real-world skills; and provides intensive supportive services, including stipends, to support participants through the full-time training and into internships.

That said, elements of programs such as Year Up, Project QUEST (a program like VIDA, but that increased annual earnings by $5,080 as of six years), and others may offer lessons for other programs trying to help a broad range of adults persist and complete initial and subsequent training. Several of these elements, described briefly below, are explored in depth in the three-year cross site report (see Randall and Buron 2021). Although we have some evidence to support these points, they are generally speculative, drawing on qualitative observations from the experiences of several PACE and HPOG 1.0 programs and their evaluations.

To be more likely to produce earnings gains among participants, programs could:

- **Target credentials with high economic returns.** Job training interventions are more likely to increase earnings if they provide participants with in-demand credentials associated with higher-than-average wages in the local labor markets (e.g., LVN, ADN). This contrasts with most of the programs evaluated here, in which participants primarily earned credentials with lower economic returns.
- **Offer strong financial support.** Credentials with high economic returns are likely to be of long duration (i.e., eight or more full-time-equivalent months of college). Most PACE and HPOG 1.0 program participants are adults with low incomes who often must combine school with work and/or family obligations. These participants may not be able to afford long-duration programs and the lost hours of work and earnings. Strong financial supports, such as Year Up's stipends, could help participants attend longer training programs.[22] Year Up provides stipends of as much as $8,870 for the full-time, full year of training in addition to other financial assistance and wraparound supports. Although such financial support substantially increases the program cost, Year Up proved cost-effective in the long term. Year Up provides this support through co-funding by employers, whose payments for interns constitute a large share of Year Up's program budget. Alternatively, the federal government might help to fund stipends. Or, as discussed below, programs could partner with registered apprenticeship programs. More research that isolated the effect of financial support on program impacts is needed.[23]

- **Provide accelerated skills remediation.** Many programs provided accelerated basic skills courses as an on-ramp to the first step on a career pathway. However, accelerated remediation need not be limited to helping a participant access an initial training. Short courses could help more participants acquire the skills necessary to enroll in higher-level training programs (e.g., raising reading skills to the level needed to enter a Licensed Vocational Nurse program).
- **Encourage participants to return for a subsequent occupational credential, and provide the supports needed to do so.** Year Up is a single-step program and VIDA primarily supports degrees and longer-term certificates in its first step; as such, staff do not need to encourage participants to take one or more additional pathway steps. Most programs that incorporated high-level credentials, however, required participants to actively apply for and finance subsequent courses. As noted above, participants generally started on an initial step. The challenge for programs is to encourage participants to continue on the pathway after completing their initial step, and/or encouraging them to return if they leave the pathway for work. In-program intensive advising might help participants plan for and register for the next step while they are still attending their first training. Proactive and frequent outreach to participants who leave the pathway for work could remind them of the benefits of additional credentials, and staff providing outreach could assist participants in applying and obtaining funding for subsequent training courses.
- **Provide intensive and mandatory advising.** Year Up and VIDA incorporate frequent—in both cases weekly—and mandatory advising (sometimes referred to as counseling or case management). Failure to participate can result in termination from the program. Advising can help identify and address academic and non-academic challenges as they emerge; help prepare the participant for the next step (additional training or, in the case of Year Up and VIDA, employment); and infuse skills important to school and work including time management, problem solving, and task initiation. Moreover, intensive and frequent advising is not generally available to students in community college or other occupational training courses, so adoption of these services could create a key differential between programs and "business as usual."

  Interest is growing among policymakers and program operators in a different approach to helping participants obtain credentials and find and retain jobs: coaching. In essence, coaching helps program participants practice self-regulation skills that are needed to complete programs and then find, keep, and advance in jobs, such as motivation, self-efficacy, emotional regulation, and executive function. Coaching is distinct from case management or advising in that it is not directive but rather involves a collaborative relationship between coach and participant. That is, the coach works in partnership with participants to help them set goals, determine action steps, and assess their progress toward those goals, rather than directing participants as to which goals they should pursue and how they will attain them (Joyce and McConnell 2019). By practicing goal setting and attainment over time, participants strengthen their self-regulation skills.
- **Develop strong relationships with local employers.** Many employers face challenges building their workforce. By working with employers, training providers can ensure that their programs align with industry needs and graduates are qualified for local jobs. Year Up incorporates six-month internships to provide on-the-job-learning opportunities for its participants. Programs need not adopt paid internships to create strong linkages to employers, however (Cave et al. 1993). Employers can play many roles.

  The U.S. Department of Labor (DOL), for example, developed a framework for deepening employer engagement with college-based training programs. The deepest employer partnership, strategic partners, involves colleges working collaboratively with multiple employers in an industry to design pathways with stackable credentials, employers providing tuition support, employers committing to hire program completers, and employers contributing equipment and/or in-kind support to colleges. In the next type of partnership, hands-on partners, employers collaborate closely with college faculty on the curriculum to ensure it responds to skill profiles for local high-demand jobs and offer hands-on, work-based learning opportunities to program participants. Finally, advisory partners have a more limited role; they participate on employer advisory councils and review curricula.[24]

College/employer partnerships are not static; employers that start as advisory partners can deepen their commitment over time. In engaging employers initially, one study of employers that report strong relationships with community colleges described the benefits to employers of working with training programs: ability to hire qualified workers, retaining workers, and reducing the time to onboard new employees (Scott et al. 2018).

- **Explore other "learn and earn" models.** Year Up's success is due in part to training participants for specific types of jobs and then arranging internships to practice skills on the job. As noted above, in the absence of a stipend, a full-time, year-long program might not be accessible to many adults with low incomes. There are, however, other types of training models that enable participants to learn skills while earning a wage. One example is registered apprenticeship, meaning the program meets federal and state standards and is registered with DOL or a DOL-approved state apprenticeship agency. Programs must include at least 2,000 hours of on-the-job learning, a recommended minimum of 144 hours of related technical instruction, an industry-recognized credential, and structured wage progression. Most on-the-job learning occurs at the employer site; meanwhile, community colleges and other postsecondary education providers often provide the related technical instruction. Apprentices are hired by employers and begin earning a wage immediately then earn progressively higher wages as they master new skills or at specified intervals. The requisite skills level and experience varies by occupation and employer. Potential apprentices who need to improve their reading and math skills or who first want to determine if the occupation is a good fit can enroll in a pre-apprenticeship program.[25]

WHAT IS NEXT?

The findings and implications summarized above suggest several possible directions for future research.

One question is ***whether impacts will emerge in the longer-term for programs other than Year Up***. Although increases in credentials generated earlier in the follow-up period persisted to six years for several programs, they remained modest in size and did not produce positive earnings impacts. It follows that impacts on long-term credential receipt would need to be larger to detect earnings impacts. The six-year analyses found that no program had an impact on college enrollment as of quarter 24, making subsequent large impacts on credential receipt unlikely. This implies that it is unlikely that earnings gains will materialize from these programs in longer-term analyses.

Longer-term analysis of earnings impacts might be informative for Year Up, whose large earnings impacts showed no sign of diminishing at the end of the six-year period. Here, extended follow-up could be valuable in determining how long earnings impacts evolve, how various subgroups fare in the longer term, and whether effects begin to emerge in non-financial outcome domains. Assessing longer-term impacts also will help project Year Up's net benefits over participants' lifetimes.

The second area of inquiry concerns ***how to strengthen occupational programs of different lengths, including short-term ones.*** Even with financial supports, should programs implement them, some participants will not be able to enroll in longer-term programs, or may not have the academic skills needed to do so. Thus, technical assistance could help programs incorporate all four components of the career pathways framework: (1) assessment, (2) innovative instruction, (3) academic and non-academic supports (including financial), and (4) employment connections. Except for Year Up, the programs selected for PACE each included multiple components of the career pathways framework, but not all four. Research could explore the extent to which strong implementation of all four components leads to earnings impacts (assuming participants engage in services and persist in training).

As programs work to better strengthen their career pathways strategies, technical assistance could promote adoption of a package of supports and financial assistance. Implementing these types of elements would require additional program infrastructure and resources. But doing so could plausibly result in stronger programs that are more likely to demonstrate impacts across outcome domains.

Should in-house financial supports be untenable, programs could explore partnering with other "learn and earn" programs such as registered apprenticeship by providing the classroom instruction that accompanies on-the-job mentoring.

Finally, a note about the ***timing of these studies***. All training and most of the employment and earnings findings refer to periods largely prior to the COVID-19 pandemic. The pandemic displaced workers, with one analysis showing most job losses were among workers with less than a bachelor's degree (Alamo 2020). Surveys suggest that upwards of one-quarter of workers plan to look for a new job once the economy recovers, with many citing the lack of a career pathway as the reason (Castrillon 2021). It remains to be seen whether working study participants remain in their pre-pandemic jobs (or following a layoff, find a similar one) or they seek something different, possibly associated with additional training. Limited analyses of COVID-era outcomes in some programs suggest that, although COVID reduced earnings and increased unemployment benefits for sample members generally, these shifts mostly did not differ between the treatment and control group.

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Summary and Insights from the Long-Term Follow-Up of Ten PACE and HPOG 1.0 Job Training Evaluations: Six-Year Cross-Site Report

A Pathways for Advancing Careers and Education (PACE) / Career Pathways Long-Term Outcomes Study Publication

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APPENDIX A: CONFIRMATORY OUTCOMES, BY PROGRAM AND FOLLOW-UP

Exhibit A-1. Confirmatory Outcomes, by Program and Follow-Up

Program	Short-Term	Three-Year	Six-Year
Bridge to Employment in the Healthcare Industry	**EP:** Receipt of an occupational credential from any source	**E$:** Average quarterly earnings over Q12-Q13	**E$:** Average quarterly earnings over Q23-Q24
Carreras en Salud	**EP:** Total number of hours of occupational training	**EP:**Completion of a one+ year college credential **E$:** Average quarterly earnings over Q12-Q13	**EP:** Completion of a degree or college credential after 8+ full-time-equivalent months of college enrollment **E$:** Average quarterly earnings over Q23-Q24
Health Careers for All	**EP:** Receipt of an occupational credential from any source	**E$:** Average quarterly earnings over Q12-Q13	**E$:** Average quarterly earnings over Q23-Q24
I-BEST	**EP:** Total number of academic and workforce credits earned at colleges	**EP:** Completion of a one+ year college credential **E$:** Average quarterly earnings over Q12-Q13	**EP:** Completion of a degree or college credential after 8+ full-time-equivalent months of college enrollment **E$:** Average quarterly earnings over Q23-Q24
Pathways to Healthcare	**EP:** Total number of regular college credits earned	**EP:** Completion of a one+ year college credential **E$:** Average quarterly earnings over Q12-Q13	**E$:** Average quarterly earnings over Q23-Q24
Patient Care Pathway Program	**EP:** Total number of hours of college-based occupational training	**EP:** Completion of a one+ year college credential **E$:** Average quarterly earnings over Q12-Q13	**EP:** Completion of a degree or college credential after 8+ full-time-equivalent months of college enrollment **E$:** Average quarterly earnings over Q23-Q24
VIDA	**EP:** Total number of academic and technical credits earned at colleges	**EP:** Completion of a one+ year college credential **E$:** Average quarterly earnings over Q12-Q13	**EP:** Completion of a degree or college credential after 8+ full-time-equivalent months of college enrollment **E$:** Average quarterly earnings over Q23-Q24
WTA Connect	**EP:** Receipt of an occupational credential from any source	**E$:** Average quarterly earnings over Q12-Q13	**E$:** Average quarterly earnings over Q23-Q24
Year Up	**E$:** Average quarterly earnings over Q6-Q7	**E$:** Average quarterly earnings over Q12-Q13	**E$:** Average quarterly earnings over Q23-Q24
HPOG 1.0	**EP:** Completion of or ongoing enrollment in training	**EP:** Completion of training **E$:** Average quarterly earnings over Q12-Q13	**EP:** Completion of a one+ year credential **EM:** Employed in a healthcare occupation **E$:** Average quarterly earnings over Q23-Q24

Key: EP=educational progress domains; EM=employment domain; E$=earnings domain.
Sources: PACE Short-Term, Three-Year and Six-Year Analysis Plans; HPOG 1.0 Short-Term, Three-Year, and Six-Year Analysis Plans.

APPENDIX B: DETAILED FINDINGS, BY PROGRAM

This appendix presents detailed findings for select outcomes in each PACE program and HPOG 1.0. There are three tables for each:

- Impacts on Key Education Outcomes
- Impacts on Average Earnings and Employment in Specified Follow-Up Periods
- Impact on Unemployment Insurance Benefits in Specified Follow-Up Periods

The first tables, reporting education outcomes, use administrative data from the National Student Clearinghouse (NSC). The second and third tables, reporting earnings, employment, and Unemployment Insurance (UI) benefits, use administrative data from the National Directory of New Hires (NDNH). For interested readers, we include UI benefits because of the meaningful uptick in UI receipt that occurred during the COVID period.

Findings for PACE programs are presented in alphabetical order, followed by findings for HPOG 1.0.

The tables for HPOG 1.0 present findings for outcomes that are comparable to those presented for PACE programs, although certain specific measures are different.[26] Findings for many additional outcomes are presented in the stand-alone HPOG 1.0 Impact Study's Six-Year Impacts Report Appendix (Litwok et al. 2022).

The detailed findings in this appendix are presented without commentary. Some of these findings are explored in greater detail in the six-year program-level evaluation reports for Carreras en Salud, I-BEST, VIDA, Year Up, and HPOG 1.0.[27] Findings from the six-year follow up survey, which was fielded for only this subset of programs, are also provided in those six-year program-level evaluation reports.

Bridge to Employment in the Healthcare Industry

Exhibit B-1. Bridge to Employment Impacts on Key Education Outcomes

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Credentials						
Received college credential preceded by 8+ FTE months of enrollment by Q24 (%)	8.5	11.0	−2.6	1.8	−23.4	.152
Received associate or higher degree by Q24 (%)	6.7	9.0	−2.4	1.6	−26.3	.144
Received any college credential after year 3 (%)	6.1	7.8	−1.7	1.6	−21.6	.283
Enrollment						
Any college enrollment after year 3 (%)	27.9	31.5	−3.7	2.8	−11.6	.192
Enrolled in college in quarter 24 (%)	12.6	12.4	+0.2	2.1	1.2	.942
Total months with any college enrollment across years 1-6	8.9	10.2	−1.3	0.9	−12.7	.165
Total months with any full-time college enrollment across years 1-6	3.4	3.9	−0.5	0.5	−12.7	.359
Cumulative FTE months of college enrollment across years 1-6	5.9	6.6	−0.7	0.7	−10.9	.297
Multiple Education Steps						
Earned any college certificate or degree and subsequently enrolled 4+ months (%)	6.5	5.8	+0.7	1.5	11.3	.655
Earned any college certificate or degree after at least 1 year of study and subsequently enrolled 4+ months (%)	5.9	5.4	+0.5	1.4	9.3	.722
Sample size	506	498				

Source: National Student Clearinghouse.
Note: All hypothesis tests and associated p-values in this table are based on two-sided tests. Statistics in the Relative Impact column represent the impact as a percentage of the control group mean (i.e., 100 * [impact / control group mean]).
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Exhibit B-2. Bridge to Employment Impacts on Average Earnings and Employment in Specified Follow-Up Periods

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Confirmatory outcome: Average quarterly earnings over Q23 and Q24 ($)	$6,299	$6,372	−$73	$363	−1.1	.580
Average quarterly earnings of $6,825 or more in Q23 and Q24 (%)[a]	42.1	45.7	−3.7	3.1	−8.0	.883
Average Total Earnings ($) in Follow-Up:						
Year 1 (Q 0-3)	$7,977	$8,739	−$763*	$454	−8.7	.093
Year 2 (Q 4-7)	$13,837	$13,607	+$230	$752	1.7	.760
Year 3 (Q 8-11)	$17,466	$16,386	+$1,080	$883	6.6	.221
Year 4 (Q 12-15)	$20,078	$19,150	+$928	$1,011	4.8	.179
Year 5 (Q 16-19)	$22,234	$21,764	+$470	$1,158	2.2	.343
Year 6 (Q 20-23)	$24,506	$24,592	−$86	$1,334	−0.3	.526
Year 7 (Q 24-27)	$26,791	$27,229	−$439	$1,511	−1.6	.614
Years 1-7	$132,889	$131,467	+$1,422	$5,682	1.1	.802
Employed (%) in follow-up Q23	72.7	73.8	−1.1	2.8	−1.4	.703
Employed (%) in follow-up Q24	72.8	75.3	−2.5	2.8	−3.3	.365
Sample size	493	481				

Source: National Directory of New Hires.
Note: Bold indicates confirmatory and secondary outcomes. Other outcomes are exploratory. Hypothesis tests are one-sided for confirmatory and secondary outcomes and two-sided for exploratory outcomes. Relative Impact is computed the impact as a percentage of the control group mean (i.e., [impact / control group mean]*100).
[a] The $6,825 cut-point identifies earnings consistent with full-time employment (35 hours/week) at a career-entry wage level ($15/hour) throughout the quarter.
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Exhibit B-3. Bridge to Employment Impact on Unemployment Insurance Benefits in Specified Follow-Up Periods

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Average quarterly unemployment insurance benefits in Q23 and Q24 ($)	$82	$78	+$4	$29	5.2	.888
Average Total Unemployment Insurance ($) in Follow-Up:						
Year 1 (Q 0-3)	$1,360	$1,099	+$261	$190	23.7	.169
Year 2 (Q 4-7)	$316	$200	+$116*	$69	57.7	.093
Year 3 (Q 8-11)	$216	$305	−$89	$79	−29.3	.261
Year 4 (Q 12-15)	$233	$251	−$18	$70	−7.1	.797
Year 5 (Q 16-19)	$271	$255	+$16	$83	6.4	.844
Year 6 (Q 20-23)	$307	$201	+$107	$81	53.1	.187
Year 7 (Q 24-27)	$454	$490	−$36	$105	−7.3	.735
Years 1-7	$3,158	$2,801	+$357	$323	12.7	.270
Sample size	493	481				

Source: National Directory of New Hires.
Note: All hypothesis tests and associated p-values in this table are based on two-sided tests. Relative Impact is computed the impact as a percentage of the control group mean (i.e., [impact / control group mean]*100).
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Exhibit B-4. Carreras Impacts on Key Education Outcomes

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Credentials						
Confirmatory outcome: Received college credential preceded by 8+ FTE months of enrollment by Q24 (%)	16.8	13.1	+3.8*	2.4	29.0	.057
Received associate or higher degree by Q24 (%)	10.7	8.8	+1.9	2.0	22.0	.334
Received any college credential after year 3 (%)	15.2	10.6	+4.7**	2.3	44.4	.043
Enrollment						
Any college enrollment after year 3 (%)	30.1	22.9	+7.2**	3.0	31.5	.017
Enrolled in college in quarter 24 (%)	10.1	8.8	+1.3	2.1	14.3	.549
Total months with any college enrollment across years 1-6	11.0	8.5	+2.5**	1.0	29.1	.018
Total months with any full-time college enrollment across years 1-6	2.4	2.4	+0.1	0.4	2.8	.880
Cumulative FTE months of college enrollment across years 1-6	6.3	5.2	+1.1*	0.7	21.9	.087
Multiple Education Steps						
Earned any college certificate or degree and subsequently enrolled 4+ months (%)	11.2	10.8	+0.4	2.2	3.9	.849
Earned any college certificate or degree after at least 1 year of study and subsequently enrolled 4+ months (%)	8.8	8.8	+0.0	2.0	0.2	.994
Sample size	401	398				

Source: National Student Clearinghouse.
Note: Bold indicates confirmatory and secondary outcomes. Other outcomes are exploratory. Hypothesis tests are one-sided for confirmatory and secondary outcomes and two-sided for exploratory outcomes. Relative Impact is computed the impact as a percentage of the control group mean (i.e., [impact / control group mean]*100).
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Exhibit B-5. Carreras Impacts on Average Earnings and Employment in Specified Follow-Up Periods

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Confirmatory outcome: Average quarterly earnings over Q23 and Q24 ($)	$6,343	$6,053	+$290	$365	4.8	.214
Average quarterly earnings of $6,825 or more in Q23 and Q24 (%)[a]	49.2	43.2	+6.0**	3.4	13.8	.041
Average Total Earnings ($) in Follow-Up:						
Year 1 (Q 0-3)	$10,465	$11,515	−$1,050**	$507	−9.1	.039
Year 2 (Q 4-7)	$14,050	$14,964	−$914	$762	−6.1	.230
Year 3 (Q 8-11)	$16,743	$17,540	−$797	$899	−4.5	.376
Year 4 (Q 12-15)	$18,455	$20,332	−$1,878	$1,007	−9.2	.969
Year 5 (Q 16-19)	$21,995	$23,169	−$1,175	$1,180	−5.1	.840
Year 6 (Q 20-23)	$24,935	$24,087	+$849	$1,309	3.5	.259
Years 1-6	$106,642	$111,607	−$4,964	$4,548	−4.4	.275
Employed (%) in follow-up Q23	77.5	72.7	+4.9	3.1	6.7	.113
Employed (%) in follow-up Q24	75.5	73.2	+2.3	3.1	3.1	.458
Sample size	391	384				

Source: National Directory of New Hires.
Note: Bold indicates confirmatory and secondary outcomes. Other outcomes are exploratory. Hypothesis tests are one-sided for confirmatory and secondary outcomes and two-sided for exploratory outcomes. Relative Impact is computed the impact as a percentage of the control group mean (i.e., [impact / control group mean]*100).
[a] The $6,825 cut-point identifies earnings consistent with full-time employment (35 hours/week) at a career-entry wage level ($15/hour) throughout the quarter.
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Exhibit B-6. Carreras Impact on Unemployment Insurance Benefits in Specified Follow-Up Periods

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Average quarterly unemployment insurance benefits in Q23 and Q24 ($)	$38	$38	+$0	$23	0.2	.997
Average Total Unemployment Insurance ($) in Follow-Up:						
Year 1 (Q 0-3)	$604	$717	−$113	$188	−15.7	.549
Year 2 (Q 4-7)	$240	$117	+$122	$85	104.4	.149
Year 3 (Q 8-11)	$74	$46	+$28	$38	61.0	.464
Year 4 (Q 12-15)	$101	$146	−$45	$62	−30.9	.464
Year 5 (Q 16-19)	$67	$91	−$24	$44	−26.1	.590
Year 6 (Q 20-23)	$151	$150	+$1	$79	0.7	.989
Years 1-6	$1,237	$1,267	−$30	$270	−2.4	.912
Sample size	391	384				

Source: National Directory of New Hires.
Note: All hypothesis tests and associated p-values in this table are based on two-sided tests. Relative Impact is computed the impact as a percentage of the control group mean (i.e., [impact / control group mean]*100).
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Health Careers for All

Exhibit B-7. Health Careers for All Impacts on Key Education Outcomes

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Credentials						
Received college credential preceded by 8+ FTE months of enrollment by Q24 (%)	16.8	18.5	−1.7	2.9	−9.3	.561
Received associate or higher degree by Q24 (%)	14.3	15.4	−1.1	2.8	−7.4	.681
Received any college credential after year 3 (%)	11.4	11.7	−0.3	2.5	−2.6	.904
Enrollment						
Any college enrollment after year 3 (%)	32.3	35.5	−3.2	3.7	−8.9	.391
Enrolled in college in quarter 24 (%)	9.1	12.3	-3.2	2.4	-26.0	.189
Total months with any college enrollment across years 1-6	12.5	12.7	−0.2	1.2	−1.5	.871
Total months with any full-time college enrollment across years 1-6	6.8	6.3	+0.4	0.8	7.0	.572
Cumulative FTE months of college enrollment across years 1-6	9.6	9.5	+0.1	1.0	1.4	.886
Multiple Education Steps						
Earned any college certificate or degree and subsequently enrolled 4+ months (%)	10.0	13.9	−3.9	2.5	−28.3	.120
Earned any college certificate or degree after at least 1 year of study and subsequently enrolled 4+ months (%)	5.8	7.7	−1.9	2.0	−25.2	.326
Sample size	328	324				

Source: National Student Clearinghouse.
Note: All hypothesis tests and associated p-values in this table are based on two-sided tests. Relative Impact is computed the impact as a percentage of the control group mean (i.e., [impact / control group mean]*100).
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Exhibit B-8. Health Careers for All Impacts on Average Earnings and Employment in Specified Follow-Up Periods

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Confirmatory outcome: Average quarterly earnings over Q23 and Q24 ($)	$6,965	$6,733	+$232	$604	3.4	.351
Average quarterly earnings of $9,100 or more in Q23 and Q24 (%)[a]	31.5	32.4	−0.9	3.6	−2.8	.601
Average Total Earnings ($) in Follow-Up:						
Year 1 (Q 0-3)	$8,775	$9,215	−$440	$806	−4.8	.585
Year 2 (Q 4-7)	$15,058	$15,404	−$347	$1,192	−2.2	.771
Year 3 (Q 8-11)	$17,576	$19,285	−$1,709	$1,311	−8.9	.193
Year 4 (Q 12-15)	$21,621	$21,972	−$351	$1,459	−1.6	.595
Year 5 (Q 16-19)	$25,327	$24,023	+$1,304	$2,021	5.4	.260
Year 6 (Q 20-23)	$27,810	$26,016	+$1,794	$2,163	6.9	.204
Years 1-6	$116,167	$115,916	+$251	$7,164	0.2	.972
Employed (%) in follow-up Q23	70.0	71.7	−1.7	3.6	−2.3	.640
Employed (%) in follow-up Q24	71.0	72.0	−1.0	3.5	−1.4	.775
Sample size	327	321				

Source: National Directory of New Hires.
Note: Bold indicates confirmatory and secondary outcomes. Other outcomes are exploratory. Hypothesis tests are one-sided for confirmatory and secondary outcomes and two-sided for exploratory outcomes. Relative Impact is computed the impact as a percentage of the control group mean (i.e., [impact / control group mean]*100).
[a] The $9,100 cut-point identifies earnings consistent with full-time employment (35 hours/week) at a career-entry wage level ($15/hour) throughout the quarter.
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Exhibit B-9. Health Careers for All Impact on Unemployment Insurance Benefits in Specified Follow-Up Periods

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Average quarterly unemployment insurance benefits in Q23 and Q24 ($)	$569	$421	+$148	$149	35.1	.321
Average Total Unemployment Insurance ($) in Follow-Up:						
Year 1 (Q 0-3)	$385	$652	−$267	$181	−40.9	.141
Year 2 (Q 4-7)	$100	$136	−$37	$57	−26.8	.524
Year 3 (Q 8-11)	$150	$121	+$30	$66	24.7	.654
Year 4 (Q 12-15)	$207	$182	+$25	$89	13.6	.780
Year 5 (Q 16-19)	$232	$220	+$12	$100	5.4	.907
Year 6 (Q 20-23)	$985	$844	+$141	$274	16.7	.608
Years 1-6	$2,059	$2,155	−$96	$458	−4.5	.833
Sample size	327	321				

Source: National Directory of New Hires.
Note: All hypothesis tests and associated *p*-values in this table are based on two-sided tests. Relative Impact is computed the impact as a percentage of the control group mean (i.e., [impact / control group mean]*100).
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Integrated Basic Education and Skills Training (I-BEST)

Exhibit B-10. I-BEST Impacts on Key Education Outcomes

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Credentials						
Confirmatory outcome: Received college credential preceded by 8+ FTE months of enrollment by Q24 (%)	13.2	12.0	+1.1	2.6	9.5	.331
Received associate or higher degree by Q24 (%)	10.7	7.0	+3.7*	2.2	53.1	.098
Received any college credential after year 3 (%)	4.7	6.0	−1.3	1.8	−22.4	.465
Enrollment						
Total months with any college enrollment across years 1-6	12.0	8.4	+3.5***	1.0	41.6	<.001
Total months with any full-time college enrollment across years 1-6	5.7	4.3	+1.5**	0.6	34.4	.019
Cumulative FTE months of college enrollment across years 1-6	8.6	6.2	+2.4***	0.8	38.2	.002
Any college enrollment after year 3 (%)	20.7	22.5	−1.7	3.3	−7.7	.597
Enrolled in college in quarter 24 (%)	7.0	5.1	+2.0	1.9	39.0	.300
Multiple Education Steps						
Earned any college certificate or degree and subsequently enrolled 4+ months (%)	15.1	6.0	+9.1***	2.4	150.6	<.001
Earned any college certificate or degree after at least 1 year of study and subsequently enrolled 4+ months (%)	6.1	5.7	+0.4	1.9	6.8	.841
Sample size	315	316				

Source: National Student Clearinghouse.
Note: Bold indicates confirmatory and secondary outcomes. Other outcomes are exploratory. Hypothesis tests are one-sided for confirmatory and secondary outcomes and two-sided for exploratory outcomes. Relative Impact is computed the impact as a percentage of the control group mean (i.e., [impact / control group mean]*100).
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Exhibit B-11. I-BEST Impacts on Average Earnings and Employment in Specified Follow-Up Periods

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Confirmatory outcome: Average quarterly earnings over Q23 and Q24 ($)	$5,285	$5,134	+$152	$446	3.0	.367
Average quarterly earnings of $6,825 or more in Q23 and Q24 (%)[a]	37.0	34.3	+2.7	3.8	7.7	.241
Average Total Earnings ($) in Follow-Up:						
Year 1 (Q 0-3)	$7,107	$7,951	−$844	$610	−10.6	.168
Year 2 (Q 4-7)	$11,825	$10,671	+$1,154	$1,001	10.8	.250
Year 3 (Q 8-11)	$15,292	$13,485	+$1,807	$1,240	13.4	.146
Year 4 (Q 12-15)	$16,879	$15,535	+$1,345	$1,279	8.7	.147
Year 5 (Q 16-19)	$18,241	$18,507	−$266	$1,485	−1.4	.571
Year 6 (Q 20-23)	$21,165	$19,994	+$1,171	$1,638	5.9	.237
Years 1-6	$90,509	$86,143	+$4,366	$5,728	5.1	.446
Employed (%) in follow-up Q23	64.8	60.7	+4.1	3.8	6.7	.287
Employed (%) in follow-up Q24	66.7	60.7	+6.0	3.8	9.9	.113
Sample size	310	300				

Source: National Directory of New Hires.
Note: Bold indicates confirmatory and secondary outcomes. Other outcomes are exploratory. Hypothesis tests are one-sided for confirmatory and secondary outcomes and two-sided for exploratory outcomes. Relative Impact is computed the impact as a percentage of the control group mean (i.e., [impact / control group mean]*100).
[a] The $6,825 cut-point identifies earnings consistent with full-time employment (35 hours/week) at a career-entry wage level ($15/hour) throughout the quarter.
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Exhibit B-12. I-BEST Impact on Unemployment Insurance Benefits in Specified Follow-Up Periods

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Average quarterly unemployment insurance benefits in Q23 and Q24 ($)	$161	$273	−$111	$91	−40.8	.220
Average Total Unemployment Insurance ($) in Follow-Up:						
Year 1 (Q 0-3)	$584	$418	+$165	$166	39.5	.318
Year 2 (Q 4-7)	$53	$241	−$189**	$80	−78.2	.018
Year 3 (Q 8-11)	$258	$168	+$90	$110	53.5	.415
Year 4 (Q 12-15)	$285	$166	+$119	$100	71.8	.236
Year 5 (Q 16-19)	$234	$277	−$42	$102	−15.2	.679
Year 6 (Q 20-23)	$210	$533	−$324*	$169	−60.7	.056
Years 1-6	$1,624	$1,804	−$180	$396	−10.0	.650
Sample size	310	300				

Source: National Directory of New Hires.
Note: All hypothesis tests and associated *p*-values in this table are based on two-sided tests. Relative Impact is computed the impact as a percentage of the control group mean (i.e., [impact / control group mean]*100).
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Patient Care Pathway Program

Exhibit B-13. Patient Care Pathway Program Impacts on Key Education Outcomes

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Credentials						
Confirmatory outcome: Received college credential preceded by 8+ FTE months of enrollment by Q24 (%)	30.6	26.1	+4.5	4.0	17.1	.131
Received associate or higher degree by Q24 (%)	20.8	14.1	+6.8**	3.3	48.0	.021
Received any college credential after year 3 (%)	25.8	20.9	+4.9	3.8	23.6	.192
Enrollment						
Any college enrollment after year 3 (%)	55.9	51.8	+4.1	4.5	7.9	.365
Enrolled in college in quarter 24 (%)	14.5	14.1	+0.4	3.1	3.1	.888
Total months with any college enrollment across years 1-6	25.4	23.1	+2.3	1.6	10.2	.137
Total months with any full-time college enrollment across years 1-6	5.2	5.6	−0.4	0.8	−6.5	.637
Cumulative FTE months of college enrollment across years 1-6	15.0	13.9	+1.1	1.1	8.0	.311
Multiple Education Steps						
Earned any college certificate or degree and subsequently enrolled 4+ months (%)	8.8	7.2	+1.6	2.5	22.3	.515
Earned any college certificate or degree after at least 1 year of study and subsequently enrolled 4+ months (%)	7.8	7.2	+0.6	2.4	8.6	.798
Sample size	250	249				

Source: National Student Clearinghouse.
Note: Bold indicates confirmatory and secondary outcomes. Other outcomes are exploratory. Hypothesis tests are one-sided for confirmatory and secondary outcomes and two-sided for exploratory outcomes. Relative Impact is computed the impact as a percentage of the control group mean (i.e., [impact / control group mean]*100).
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Exhibit B-14. Patient Care Pathway Program Impacts on Average Earnings and Employment in Specified Follow-Up Periods

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Confirmatory outcome: Average quarterly earnings over Q23 and Q24 ($)	$6,336	$6,578	−$242	$448	−3.7	.705
Average quarterly earnings of $6,825 or more in Q23 and Q24 (%)[a]	41.4	51.7	−10.3	4.3	−19.9	.991
Average Total Earnings ($) in Follow-Up:						
Year 1 (Q 0-3)	$11,595	$12,045	−$451	$621	−3.7	.469
Year 2 (Q 4-7)	$13,486	$14,729	−$1,242	$884	−8.4	.161
Year 3 (Q 8-11)	$15,484	$17,268	−$1,784*	$1,032	−10.3	.084
Year 4 (Q 12-15)	$18,628	$19,579	−$951	$1,223	−4.9	.781
Year 5 (Q 16-19)	$20,704	$21,823	−$1,119	$1,439	−5.1	.781
Year 6 (Q 20-23)	$23,713	$24,279	−$566	$1,629	−2.3	.636
Year 7 (Q 24-27)	$26,805	$28,091	−$1,286	$1,947	−4.6	.745
Years 1-7	$129,996	$138,731	−$8,735	$6,784	−6.3	.199
Employed (%) in follow-up Q23	82.4	83.1	−0.7	3.4	−0.8	.841
Employed (%) in follow-up Q24	80.3	81.4	−1.1	3.5	−1.4	.754
Sample size	244	242				

Source: National Directory of New Hires.
Note: Bold indicates confirmatory and secondary outcomes. Other outcomes are exploratory. Hypothesis tests are one-sided for confirmatory and secondary outcomes and two-sided for exploratory outcomes. Relative Impact is computed the impact as a percentage of the control group mean (i.e., [impact / control group mean]*100).
[a] The $6,825 cut-point identifies earnings consistent with full-time employment (35 hours/week) at a career-entry wage level ($15/hour) throughout the quarter.
Data for Q27 are limited to samples observed by June 2021.
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Exhibit B-15. Patient Care Pathway Program Impact on Unemployment Insurance Benefits in Specified Follow-Up Periods

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Average quarterly unemployment insurance benefits in Q23 and Q24 ($)	$4	$23	−$19	$17	−81.5	.267
Average Total Unemployment Insurance ($) in Follow-Up:						
Year 1 (Q 0-3)	$884	$712	+$173	$230	24.3	.453
Year 2 (Q 4-7)	$292	$364	−$73	$143	−19.9	.613
Year 3 (Q 8-11)	$259	$193	+$66	$95	34.0	.488
Year 4 (Q 12-15)	$186	$91	+$95	$71	103.7	.181
Year 5 (Q 16-19)	$65	$85	−$20	$67	−24.1	.759
Year 6 (Q 20-23)	$94	$126	−$32	$69	−25.2	.643
Year 7 (Q 24-27)	$212	$273	−$61	$140	−22.4	.663
Years 1-7	$2,042	$1,814	+$228	$414	12.6	.583
Sample size	244	242				

Source: National Directory of New Hires.
Note: All hypothesis tests and associated *p*-values in this table are based on two-sided tests. Relative Impact is computed the impact as a percentage of the control group mean (i.e., [impact / control group mean]*100).
Data for Q27 are not yet complete. Will be added in June. The data presented for this quarter are limited to samples observed to date.
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Pathways to Healthcare

Exhibit B-16. Pathways to Healthcare Impacts on Key Education Outcomes

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Received associate or higher degree by Q24 (%)	8.3	6.7	+1.6	1.4	23.0	.140
Received any college credential after year 3 (%)	9.6	8.9	+0.7	1.6	7.8	.333
Enrolled in college sometime after year 3 (%)	26.0	25.8	+0.2	2.4	0.7	.470
Enrolled in college in quarter 24 (%)	9.7	10.7	-1.0	1.7	-9.0	.572
Sample size	609	608				

Source: National Student Clearinghouse.
Note: Bold indicates secondary outcomes. Other outcomes are exploratory. Hypothesis tests are one-sided for secondary outcomes and two-sided for exploratory outcomes. Relative Impact is computed the impact as a percentage of the control group mean (i.e., [impact / control group mean]*100).
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Exhibit B-17. Pathways to Healthcare Impacts on Average Earnings and Employment in Specified Follow-Up Periods

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Confirmatory outcome: Average quarterly earnings over Q23 and Q24 ($)	$4,758	$5,087	−$330	$285	−6.5	.876
Average quarterly earnings of $6,825 or more in Q23 and Q24 (%)[a]	31.9	34.2	−2.3	2.6	−6.7	.813
Average Total Earnings ($) in Follow-Up:						
Year 1 (Q 0-3)	$8,140	$8,560	−$420	$420	−4.9	.317
Year 2 (Q 4-7)	$11,343	$12,330	−$988*	$585	−8.0	.092
Year 3 (Q 8-11)	$13,822	$15,212	−$1,390**	$659	−9.1	.035
Year 4 (Q 12-15)	$17,182	$16,957	+$225	$790	1.3	.388
Year 5 (Q 16-19)	$18,388	$18,106	+$282	$902	1.6	.377
Year 6 (Q 20-23)	$18,165	$19,117	−$953	$992	−5.0	.831
Year 7 (Q 24-27)	$20,587	$21,596	−$1,009	$1,258	−4.7	.789
Years 1-7	$107,068	$112,183	−$5,114	$4,393	−4.6	.245
Employed (%) in follow-up Q23	63.4	64.5	−1.1	2.7	−1.7	.689
Employed (%) in follow-up Q24	64.1	65.0	−0.9	2.7	−1.4	.741
Sample size	603	605				

Source: National Directory of New Hires.
Note: Bold indicates confirmatory and secondary outcomes. Other outcomes are exploratory. Hypothesis tests are one-sided for confirmatory and secondary outcomes and two-sided for exploratory outcomes. Relative Impact is computed the impact as a percentage of the control group mean (i.e., [impact / control group mean]*100).
[a] The $6,825 cut-point identifies earnings consistent with full-time employment (35 hours/week) at a career-entry wage level ($15/hour) throughout the quarter. Data for Q27 are limited to samples observed by June 2021.
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Exhibit B-18. Pathways to Healthcare Impact on Unemployment Insurance Benefits in Specified Follow-Up Periods

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Average quarterly unemployment insurance benefits in Q23 and Q24 ($)	$32	$13	+$19*	$11	147.4	.084
Average Total Unemployment Insurance ($) in Follow-Up:						
Year 1 (Q 0-3)	$1,025	$889	+$136	$125	15.3	.275
Year 2 (Q 4-7)	$144	$111	+$33	$41	30.3	.420
Year 3 (Q 8-11)	$113	$109	+$4	$37	3.5	.917
Year 4 (Q 12-15)	$141	$171	−$30	$45	−17.8	.500
Year 5 (Q 16-19)	$157	$181	−$25	$49	−13.6	.617
Year 6 (Q 20-23)	$88	$85	+$3	$33	3.7	.925
Year 7 (Q 24-27)	$165	$153	+$13	$47	8.2	.791
Years 1-7	$1,850	$1,747	+$103	$193	5.9	.594
Sample size	603	605				

Source: National Directory of New Hires.
Note: All hypothesis tests and associated *p*-values in this table are based on two-sided tests. Relative Impact is computed the impact as a percentage of the control group mean (i.e., [impact / control group mean]*100).
The data presented for this quarter are limited to samples observed by June 2021.
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Valley Initiative for Development and Advancement (VIDA)

Exhibit B-19. VIDA Impacts on Key Education Outcomes

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Credentials						
Confirmatory outcome: Received college credential preceded by 8+ FTE months of enrollment by Q24 (%)	66.4	54.8	+11.6***	2.9	21.2	<.001
Received associate or higher degree by Q24 (%)	48.9	40.6	+8.3***	3.0	20.4	.003
Received any college credential after year 3 by Q24 (%)	21.2	17.1	+4.1	2.6	23.9	.116
Enrollment						
Total months with any college enrollment across years 1-7	27.2	22.9	+4.3***	1.1	18.7	<.001
Total months with any full-time college enrollment across years 1-7	11.7	10.0	+1.7***	0.7	17.4	.005
Cumulative FTE months of college enrollment across years 1-7	19.2	16.2	+3.0***	0.8	18.3	<.001
Any college enrollment after year 3 by Q24 (%)	46.4	39.4	+7.0**	3.2	17.9	.027
Enrolled in college in quarter 24 (%)	14.6	12.9	+1.6	2.2	12.7	.463
Multiple Education Steps						
Earned any college certificate or degree and subsequently enrolled 4+ months by Q24 (%)	42.6	31.5	+11.2***	3.0	35.5	<.001
Earned any college certificate or degree after at least 1 year of study and subsequently enrolled 4+ months by Q24 (%)	36.7	26.5	+10.2***	3.0	38.7	<.001
Sample size	478	480				

Source: National Student Clearinghouse.
Note: Bold indicates confirmatory and secondary outcomes. Other outcomes are exploratory. Hypothesis tests are one-sided for confirmatory and secondary outcomes and two-sided for exploratory outcomes. Relative Impact is computed the impact as a percentage of the control group mean (i.e., [impact / control group mean]*100).
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Exhibit B-20. VIDA Impacts on Average Earnings and Employment in Specified Follow-Up Periods

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Confirmatory outcome: Average quarterly earnings over Q23 and Q24 ($)	$8,409	$8,337	+$72	$416	0.9	.431
Average quarterly earnings of $6,825 or more in Q23 and Q24 (%)[a]	56.3	52.0	+4.3*	3.0	8.3	.079
Average Total Earnings ($) in Follow-Up:						
Year 1 (Q 0-3)	$5,082	$5,944	−$861*	$519	−14.5	.097
Year 2 (Q 4-7)	$10,629	$12,256	−$1,627*	$834	−13.3	.051
Year 3 (Q 8-11)	$18,999	$20,883	−$1,884	$1,150	−9.0	.102
Year 4 (Q 12-15)	$24,879	$26,409	−$1,531	$1,400	−5.8	.863
Year 5 (Q 16-19)	$30,303	$29,670	+$633	$1,530	2.1	.340
Year 6 (Q 20-23)	$32,509	$32,308	+$200	$1,610	0.6	.450
Year 7 (Q 24-27)	$35,206	$35,525	−$319	$1,768	−0.9	.572
Years 1-7	$157,682	$163,346	−$5,664	$7,124	−3.5	.427
Employed (%) in follow-up Q23	79.5	78.1	+1.4	2.6	1.8	.576
Employed (%) in follow-up Q24	80.6	80.0	+0.7	2.5	0.9	.783
Sample size	476	479				

Source: National Directory of New Hires.
Note: Bold indicates confirmatory and secondary outcomes. Other outcomes are exploratory. Hypothesis tests are one-sided for confirmatory and secondary outcomes and two-sided for exploratory outcomes. Relative Impact is computed the impact as a percentage of the control group mean (i.e., [impact / control group mean]*100).
[a] The $6,825 cut-point identifies earnings consistent with full-time employment (35 hours/week) at a career-entry wage level ($15/hour) throughout the quarter.
Data for Q27 are not yet complete. Q27 will be added in September. The data presented for this quarter are limited to samples observed to date.
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Exhibit B-21. VIDA Impact on Unemployment Insurance Benefits in Specified Follow-Up Periods

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Average quarterly unemployment insurance benefits in Q23 and Q24 ($)	$40	$55	−$14	$21	−26.5	.499
Average Total Unemployment Insurance ($) in Follow-Up:						
Year 1 (Q 0-3)	$1,037	$617	+$421***	$158	68.2	.008
Year 2 (Q 4-7)	$200	$108	+$93	$62	85.9	.136
Year 3 (Q 8-11)	$154	$130	+$25	$53	18.9	.643
Year 4 (Q 12-15)	$159	$141	+$18	$52	12.5	.733
Year 5 (Q 16-19)	$142	$166	−$24	$57	−14.2	.678
Year 6 (Q 20-23)	$200	$196	+$4	$69	2.1	.952
Year 7 (Q 24-27)	$168	$319	−$151*	$81	−47.4	.062
Years 1-7	$2,095	$1,708	+$388	$269	22.7	.149
Sample size	476	479				

Source: National Directory of New Hires.
Note: All hypothesis tests and associated *p*-values in this table are based on two-sided tests. Relative Impact is computed the impact as a percentage of the control group mean (i.e., [impact / control group mean]*100).
Data for Q27 are not yet complete. Q27 will be added in September. The data presented for this quarter are limited to samples observed to date.
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Workforce Training Academy Connect (WTA Connect)

Exhibit B-22. WTA Connect Impacts on Key Education Outcomes

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Credentials						
Received college credential preceded by 8+ FTE months of enrollment by Q24 (%)	3.4	1.3	+2.2**	1.0	171.6	.035
Received associate or higher degree by Q24 (%)	2.4	1.3	+1.1	0.9	90.2	.217
Received any college credential after year 3 (%)	3.8	0.8	+2.9***	1.0	348.4	.003
Enrollment						
Any college enrollment after year 3 (%)	11.8	12.7	−0.9	2.1	−6.7	.691
Enrolled in college in quarter 24 (%)	3.4	3.4	0.0	1.2	0.5	.988
Total months with any college enrollment across years 1-6	3.6	3.3	+0.3	0.6	9.7	.563
Total months with any full-time college enrollment across years 1-6	0.7	0.7	0.0	0.2	−3.9	.896
Cumulative FTE months of college enrollment across years 1-6	1.9	1.7	+0.1	0.3	7.8	.699
Multiple Education Steps						
Earned any college certificate or degree and subsequently enrolled 4+ months (%)	1.6	0.2	+1.4**	0.6	653.7	.022
Earned any college certificate or degree after at least 1 year of study and subsequently enrolled 4+ months (%)	1.2	0.0	+1.2**	0.5		.015
Sample size	470	473				

Source: National Student Clearinghouse.
Note: All hypothesis tests and associated *p*-values in this table are based on two-sided tests. Relative Impact is computed the impact as a percentage of the control group mean (i.e., [impact / control group mean]*100).
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Exhibit B-23. WTA Connect Impacts on Average Earnings and Employment in Specified Follow-Up Periods

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Confirmatory outcome: Average quarterly earnings over Q23 and Q24 ($)	$4,087	$4,223	−$135	$288	−3.2	.681
Average quarterly earnings of $6,825 or more in Q23 and Q24 (%)[a]	24.0	26.4	−2.4	2.7	−9.0	.815
Average Total Earnings ($) in Follow-Up:						
Year 1 (Q 0-3)	$8,103	$8,774	−$671	$449	−7.7	.135
Year 2 (Q 4-7)	$11,355	$11,706	−$351	$620	−3.0	.571
Year 3 (Q 8-11)	$14,007	$13,781	+$226	$784	1.6	.773
Year 4 (Q 12-15)	$14,959	$15,145	−$186	$881	−1.2	.584
Year 5 (Q 16-19)	$16,015	$15,600	+$415	$954	2.7	.332
Year 6 (Q 20-23)	$16,338	$16,987	−$650	$1,031	−3.8	.736
Years 1-6	$80,776	$81,993	−$1,217	$3,836	−1.5	.751
Employed (%) in follow-up Q23	66.3	62.5	+3.8	3.1	6.0	.221
Employed (%) in follow-up Q24	65.8	63.8	+2.0	3.1	3.1	.527
Sample size	461	459				

Source: National Directory of New Hires.
Note: Bold CAPS indicate the confirmatory outcome. Rows in bold identify secondary outcomes. Other rows are exploratory. Hypothesis tests are one-sided for confirmatory and secondary outcomes and two-sided for other (exploratory) outcomes. Statistics in the Relative Impact column represent the impact as a percentage of the control group mean (i.e., 100 * [impact / control group mean]).
[a]The $6,825 cut-point identifies earnings consistent with full-time employment (35 hours/week) at a career-entry wage level ($15/hour) throughout the quarter.
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Exhibit B-24. WTA Connect Impact on Unemployment Insurance Benefits in Specified Follow-Up Periods

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Average quarterly unemployment insurance benefits in Q23 and Q24 ($)	$185	$170	+$15	$49	9.1	.754
Average Total Unemployment Insurance ($) in Follow-Up:						
Year 1 (Q 0-3)	$912	$773	+$139	$149	18.0	.350
Year 2 (Q 4-7)	$258	$304	−$46	$73	−15.2	.526
Year 3 (Q 8-11)	$220	$238	−$18	$61	−7.5	.768
Year 4 (Q 12-15)	$282	$331	−$49	$83	−14.7	.558
Year 5 (Q 16-19)	$292	$330	−$38	$96	−11.5	.692
Year 6 (Q 20-23)	$385	$411	−$26	$106	−6.4	.804
Years 1-6	$2,350	$2,388	−$38	$303	−1.6	.901
Sample size	461	459				

Source: National Directory of New Hires.
Note: All hypothesis tests and associated *p*-values in this table are based on two-sided tests. Relative Impact is computed the impact as a percentage of the control group mean (i.e., [impact / control group mean]*100).
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Year Up

Exhibit B-25. Year Up Impacts on Key Education Outcomes

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Credentials						
Received college credential preceded by 8+ FTE months of enrollment by Q24 (%)	12.1	13.3	−1.2	1.3	−9.2	.362
Received associate or higher degree by Q24 (%)	9.5	11.3	−1.8	1.2	−15.7	.152
Received any college credential after year 3 by Q24 (%)	8.4	9.5	−1.1	1.2	−11.9	.336
Enrollment						
Any college enrollment after year 3 by Q24 (%)	33.9	33.5	+0.4	1.9	1.1	.849
Enrolled in college in quarter 24 (%)	12.5	12.2	+0.4	1.4	2.9	.792
Total months with any college enrollment across years 1-7	14.2	12.2	+2.1***	0.7	17.0	.002
Total months with any full-time college enrollment across years 1-7	6.4	5.7	+0.7	0.4	11.4	.106
Cumulative FTE months of college enrollment across years 1-7	10.0	9.0	+1.1**	0.5	11.8	.038
Multiple Education Steps						
Earned any college certificate or degree and subsequently enrolled 4+ months by Q24 (%)	8.7	7.9	+0.8	1.1	10.4	.467
Earned any college certificate or degree after at least 1 year of study and subsequently enrolled 4+ months by Q24 (%)	6.0	7.9	−1.9*	1.1	−24.2	.072
Sample size	1,668	871				

Source: National Student Clearinghouse.
Note: All hypothesis tests and associated *p*-values in this table are based on two-sided tests. Relative Impact is computed the impact as a percentage of the control group mean (i.e., [impact / control group mean]*100).
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Exhibit B-26. Year Up Impacts on Average Earnings and Employment in Specified Follow-Up Periods

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Confirmatory outcome: Average quarterly earnings over Q23 and Q24 ($)	$8,797	$6,901	+$1,895***	$267	27.5	<.001
Average quarterly earnings of $9,100 or more in Q23 and Q24 (%)[a]	44.1	31.7	+12.4***	1.9	39.2	<.001
Average Total Earnings ($) in Follow-Up:						
Year 1 (Q 0-3)	$3,964	$9,742	−$5,778***	$259	−59.3	<.001
Year 2 (Q 4-7)	$19,200	$13,978	+$5,222***	$507	37.4	<.001
Year 3 (Q 8-11)	$24,330	$17,320	+$7,011***	$636	40.5	<.001
Year 4 (Q 12-15)	$27,858	$20,277	+$7,581***	$741	37.4	<.001
Year 5 (Q 16-19)	$31,032	$23,243	+$7,789***	$820	33.5	<.001
Year 6 (Q 20-23)	$34,439	$26,363	+$8,076***	$947	30.6	<.001
Year 7 (Q 24-27)	$35,589	$27,338	+$8,251***	$1,120	30.2	<.001
Years 1-7	$176,412	$138,260	+$38,152***	$3,958	27.6	<.001
Employed (%) in follow-up Q23	81.6	81.6	0.0	1.6	0.0	.993
Employed (%) in follow-up Q24	78.7	78.7	0.0	1.7	0.0	.991
Sample size	1,637	858				

Source: National Directory of New Hires.
Note: Bold CAPS indicate the confirmatory outcome. Rows in bold identify secondary outcomes. Other rows are exploratory. Hypothesis tests are one-sided for confirmatory and secondary outcomes and two-sided for other (exploratory) outcomes. Statistics in the Relative Impact column represent the impact as a percentage of the control group mean (i.e., 100 * [impact / control group mean]).
[a] The $9,100 cut-point identifies earnings consistent with full-time employment (35 hours/week) at a career-supporting wage level ($20/hour).
Data for Q26 and Q27 are not yet complete. Complete data for Q26 will be available in September; and Q27 in December. The data presented for these quarters are limited to samples observed to date.
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Exhibit B-27. Year Up Impact on Unemployment Insurance Benefits in Specified Follow-Up Periods

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	*p*-Value
Average quarterly unemployment insurance benefits in Q23 and Q24 ($)	$421	$438	−$16	$64	−3.7	.797
Average Total Unemployment Insurance ($) in Follow-Up:						
Year 1 (Q 0-3)	$108	$161	−$53	$36	−33.1	.139
Year 2 (Q 4-7)	$99	$120	−$21	$26	−17.1	.436
Year 3 (Q 8-11)	$314	$154	+$161***	$42	104.5	<.001
Year 4 (Q 12-15)	$320	$230	+$90*	$51	38.9	.082
Year 5 (Q 16-19)	$328	$235	+$93	$61	39.5	.126
Year 6 (Q 20-23)	$613	$670	−$57	$94	−8.6	.544
Year 7 (Q 24-27)	$2,913	$3,105	−$192	$265	−6.2	.468
Years 1-7	$4,695	$4,675	+$20	$331	0.4	.952
Sample size	1,637	858				

Source: National Directory of New Hires.
Note: Bold CAPS indicate the confirmatory outcome. Rows in bold identify secondary outcomes. Other rows are exploratory. Hypothesis tests are one-sided for confirmatory and secondary outcomes and two-sided for other (exploratory) outcomes. Statistics in the Relative Impact column represent the impact as a percentage of the control group mean (i.e., 100 * [impact / control group mean]).
Data for Q26 and Q27 are not yet complete. Complete data for Q26 will be available in September; and Q27 in December. The data presented for these quarters are limited to samples observed to date.
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

HPOG 1.0

Exhibit B-28. HPOG 1.0 Impacts on Key Education Outcomes

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	Confidence Interval
Credentials						
Confirmatory outcome: Earned a 1+ year credential since baseline	35.3	32.6	2.7	8.4	2.8	(−0.8, ∞)
Received college credential preceded by 8+ FTE months of enrollment by Q24 (%)	19.5	18.5	1.0	0.9	5.4	(−0.5, 2.5)
Received associate or higher degree by Q24 (%)	13.8	13.3	0.5	0.6	4.0	(−0.4, 1.5)
Earned any college certificate or degree between Q8 and Q24 (%)	10.0	9.2	0.8	0.6	8.7	(−0.1, 1.7)
Enrollment						
Any college enrollment (%)	56.4	51.1	5.3**	2.2	10.4	(1.7, 8.9)
Cumulative months with any college enrollment	10.9	10.4	0.6	0.5	5.7	(−0.2, 1.3)
Cumulative months of full-time equivalent college enrollment	7.6	7.2	0.4	0.3	5.0	(−0.2, 0.9)
Enrolled in college in quarter 24 (%)	11.0	11.1	-0.1	0.6	-1.2	(−1.1, 0.9)
Multiple Education Steps						
Earned any college certificate or degree and subsequently enrolled 4+ months by Q24 (%)	12.8	11.3	1.4*	0.8	12.8	(0.2, 2.7)
Earned college certificate or degree after 8+ full-time equivalent months of study and subsequently enrolled in 4+ months by Q24 (%)	9.6	8.9	0.7	0.7	7.7	(−0.5, 1.8)
Sample size	8,672	5,044				

Source: National Student Clearinghouse.
Note: Bold CAPS indicate the confirmatory outcome. Other rows are exploratory. Hypothesis tests are one-sided for confirmatory outcomes and two-sided for other (exploratory) outcomes. Statistics in the Relative Impact column represent the impact as a percentage of the control group mean (i.e., 100 * [impact / control group mean]).
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent..

Exhibit B-29. HPOG 1.0 Impacts on Average Earnings and Employment in Specified Follow-Up Periods

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	Confidence Interval
Confirmatory outcome: Average quarterly earnings over Q23-Q24 ($)	$6,011	$6,162	−$151	$106	−2.5	(-$287, ∞)
Average cumulative earnings	$112,551	$113,483	−$932	$1,584	−0.8	(-$3,530, $1,666)
Confirmatory outcome: Currently employed in a healthcare occupation (%)	36.9	32.0	4.7**	2.2	15.4	(2.1, ∞)
Employment (%) in Q23 or Q24	79.6	79.9	−0.3	0.7	-0.4	(-1.3, ∞)
Employed (%) in follow-up Q23	74.0	73.9	+0.1	0.8	0.1	(-1.2, 1.4)
Employed (%) in follow-up Q24	73.4	74.3	−0.9	0.8	−1.2	(-2.2, 0.5)
Sample size	8,371	4,476				

Source: National Directory of New Hires.
Note: Bold CAPS indicate the confirmatory outcome. Rows in bold identify secondary outcomes. Other rows are exploratory. Hypothesis tests are one-sided for confirmatory and secondary outcomes and two-sided for other (exploratory) outcomes. Statistics in the Relative Impact column represent the impact as a percentage of the control group mean (i.e., 100 * [impact / control group mean]).
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

Exhibit B-30. HPOG 1.0 Impact on Unemployment Insurance Benefits in Specified Follow-Up Periods

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact	Confidence Interval
Amount of Unemployment Insurance (UI) Benefits Received by Quarter ($):						
UI benefits in Q0	$323	$313	$9	$18	2.9	(−21, 39)
UI benefits in Q1	$234	$233	$1	$14	0.3	(−23, 24)
UI benefits in Q2	$113	$102	$10	$10	10.2	(−7, 28)
UI benefits in Q3	$60	$62	−$2	$8	−3.5	(−15, 10)
UI benefits in Q4	$45	$48	−$3	$6	−5.8	(−13, 7)
UI benefits in Q5	$40	$45	−$5	$6	−10.7	(−15, 5)
UI benefits in Q6	$37	$41	−$4	$7	−9.1	(−15, 8)
UI benefits in Q7	$39	$39	$1	$6	1.6	(−9, 11)
UI benefits in Q8	$48	$44	$3	$8	7.5	(−9, 16)
UI benefits in Q9	$42	$46	−$4	$6	−8.3	(−14, 7)
UI benefits in Q10	$43	$44	−$2	$7	−4.0	(−13, 9)
UI benefits in Q11	$56	$46	$10	$10	20.7	(−7, 27)
UI benefits in Q12	$47	$53	−$6	$7	−10.4	(−18, 7)
UI benefits in Q13	$48	$53	−$5	$7	−9.6	(−17, 7)
UI benefits in Q14	$42	$52	−$10	$6	−19.0	(−20, 1)
UI benefits in Q15	$50	$53	−$3	$7	−5.7	(−15, 8)
UI benefits in Q16	$50	$57	−$6	$7	−10.8	(−18, 6)
UI benefits in Q17	$55	$56	−$1	$9	−2.5	(−16, 13)
UI benefits in Q18	$51	$63	−$13	$8	−19.9	(−25, −0)
UI benefits in Q19	$46	$59	−$13*	$8	−22.5	(−26, −1)
UI benefits in Q20	$48	$44	$4	$8	9.0	(−9, 17)
UI benefits in Q21	$61	$36	$25***	$9	67.8	(9, 40)
UI benefits in Q22	$106	$113	−$7	$15	−6.5	(−32, 17)
UI benefits in Q23	$195	$186	$9	$21	4.8	(−25, 43)
UI benefits in Q24	$251	$234	$16	$23	6.9	(−22, 54)
Sample size	1,637	858				

Source: National Directory of New Hires.
Note: Hypothesis tests are two-sided for all outcomes in this table. Statistics in the Relative Impact column represent the impact as a percentage of the control group mean (i.e., 100 * [impact / control group mean]).
Statistical significance levels are indicated as follows: *** 1 percent; ** 5 percent; * 10 percent.

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ENDNOTES

1 The HPOG Program funded two rounds of five-year grants: HPOG 1.0 in 2010 and HPOG 2.0 in 2015. This report presents outcomes only for programs funded in the first round. The second round of grants is being evaluated separately.

2 The first cross-site report (Gardiner and Juras 2019) focused on findings from the nine PACE programs. The second (Juras and Buron 2021) reported findings from both PACE and HPOG 1.0. Program-specific short-term and intermediate reports are available online. The evaluation team also produced six-year impact reports for four PACE programs and HPOG 1.0: Fein and Dastrup (2022); Gardiner and Grittner (2022); Martinson and Glosser (2022); Peck et al. (2022); Rolston and Walton (2022).

3 The rationale for designating a confirmatory outcome is to enhance the conclusiveness of the evidence that comes from the evaluations. Where many outcomes across multiple domains are of interest to policy, practice, and research, an evaluation runs the risk of identifying as statistically significant some of those outcomes, if even by chance alone. This is the case when making multiple hypothesis tests. To avoid detecting statistically significant outcomes that did not exist, the evaluations designated at most one outcome per domain as the priority outcomes of interest for each follow-up point.

4 The research team selected these programs for long-term survey data collection based on policy interest and their estimated potential to observe long-term impacts based on earlier evaluation findings.

5 For the three-year follow-up, average quarterly earnings over follow-up quarters 12 and 13 was pre-selected as the confirmatory outcome in the earnings domain for the PACE project and HPOG 1.0 Impact Study. These two quarters were specified because they were expected to be the longest follow-up period available for all programs. The average of two quarters was chosen to reduce short-term variation in quarterly earnings estimates. For the six-year follow-up, average quarterly earnings over follow-up quarters 23 and 24 was pre-selected as the confirmatory outcome for PACE and HPOG 1.0 for similar reasons.

6 The research team used this measure for comparisons across all programs because six-year follow-up surveys, which were the source of some educational progress measures, were fielded for only four of the PACE evaluations.

7 The Pathways to Healthcare evaluation team found large unexplained discrepancies between NSC and program data for cumulative months of FTE enrollment as well as details of enrollment such as enrollment start and end dates. As a result, the outcome receipt of a college credential preceded by eight or more months of full-time-equivalent college enrollment by the 24th follow-up quarter could not be reliably constructed.

8 See "Impacts on Key Education Outcomes" in Appendix B.

9 By way of comparison, the Green Jobs-Health Care impact evaluation's Kern Community College program had a quarterly earnings gain of $1,520 as of its 1½-year follow-up (Martinson et al. 2016); Per Scholas had a quarterly earnings gain of $1,570 as of year 3 (Schaberg and Greenberg 2020); and Project QUEST had annual earnings gains of between about $4,000 and $5,700 in follow-up years 4 through 6 and years 9 through 11 (Roder and Elliot 2021).

10 As a result, we describe educational progress outcomes first, even if they are not a confirmatory outcome for that program. Confirmatory outcomes are the pre-selected measures of whether a program is achieving its goals in the specified time period.

11 The ITT estimate compares the entire treatment group to the entire control group, regardless of take-up or participation (see page 6).

12 PCPP added the Patient Care Nursing Assistant (PCNA) academy after the study launched. PCNA combined the Certified Nursing Assistant course with a support class that provided instruction in reading, college success, and writing contextualized for that course; students also completed a four-week clinical assignment. Completers received a certificate that allowed them to sit for Wisconsin's Nurse Aide licensing exam. Few study participants enrolled in PCNA.

13 The ITT estimate compares the entire treatment group to the entire control group, regardless of take-up or participation (see page 3).

14 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).

15 The exception is the substantial single-step program, Year Up. Because Year Up is an employment-oriented program, the research team did not define a confirmatory outcome in the educational progress domain for any of the short-, intermediate-, or long-term analyses.

16 Short-term confirmatory outcomes in the educational progress domain included hours of occupational training, credits earned, and credential receipt, depending on which outcome was most appropriate for a given program.

17 Data limitations precluded accurate measurement of Pathways to Healthcare's impacts on the confirmatory outcome.

18 The legislation authorizing HPOG prohibited its grantees from offering stipends.

19 Project QUEST targeted adults from households with low incomes 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. An evaluation of Project QUEST found large, statistically significant earnings increases that emerged four years after random assignment (Roder and Elliot 2021).

20 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 Bridge to Employment in the Healthcare Industry evaluation in PACE, many treatment group members earned CNA certifications; however, in the county of San Diego, where the program operated, 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 (Farrell et al. 2020).

21 For example: 3 percent of HPOG 1.0 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 a 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 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 relate to how the grant credited grantee 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. The Administration for Children and Families made changes in funding HPOG 2.0 to address this.

22 The legislation authorizing HPOG prohibited its grantees from offering stipends.

23 A meta-analysis of 46 career pathways impact evaluations by Peck et al. (2021) found that financial assistance for tuition, training costs, and other expenses is associated with smaller labor market impacts. The authors note that programs that offer financial assistance do so because they serve populations with greater need for it (such as having greater barriers to employment).

24 Guidance to Trade Adjustment Assistance Community College and Career Training grantees is available here: https://www.dol.gov/sites/dolgov/files/ETA/taaccct/pdfs/TAACCCT_Fact_Sheet_Employer_Engagement_10.21.2016.pdf

25 Pre-apprenticeship programs provide an approved training curriculum based on industry standards that prepares individuals to enter and succeed in an apprenticeship. Pre-apprenticeship programs can include educational and pre-occupational services (e.g., career and industry awareness workshops, job readiness courses), hands-on training in a simulated lab experience or through volunteer opportunities, and assistance in applying to apprenticeship programs. Pre-apprenticeship programs involve formal partnerships with at least one apprenticeship program.

26 For example, HPOG 1.0 did not calculate Unemployment Insurance receipt by year.

27 Fein and Dastrup (2022); Gardiner and Grittner (2022); Litwok et al. (2022); Martinson and Glosser (2022); Rolston and Walton (2022).