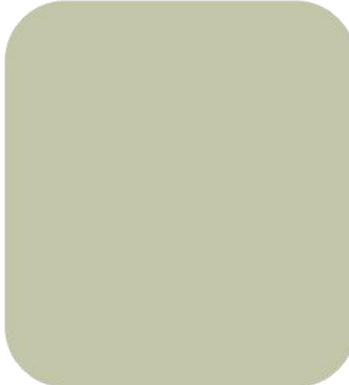
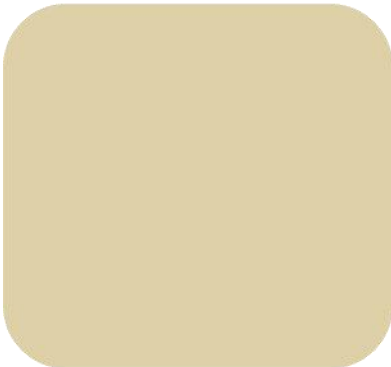




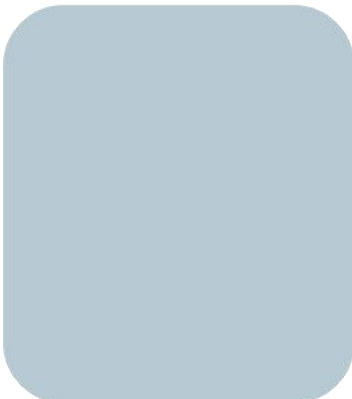
**Workforce
Development
Council of
Seattle–King
County’s
Health
Careers for
All Program**

**Three-Year
Impact Report**



OPRE Report 2020-112

August 2020



PACE
Pathways for Advancing
Careers and Education

Workforce Development Council of Seattle–King County’s Health Careers for All Program: Three-Year Impact Report

A Pathways for Advancing Careers and Education (PACE) / Career Pathways Intermediate Outcomes Study Publication

OPRE Report 2020-112

August 2020

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Submitted to:

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Overview

The Workforce Development Council of Seattle–King County’s Health Careers for All program aimed to help low-income adults, including Temporary Assistance for Needy Families (TANF) recipients, access and complete healthcare occupational training that could lead to increased employment and higher earnings. It is one of nine programs being evaluated under the **Pathways for Advancing Careers and Education (PACE)** project sponsored by the Administration for Children and Families (ACF) within the U.S. Department of Health and Human Services. PACE is a multi-site experimental evaluation of programs that incorporate features of a career pathways framework.

Health Careers for All combined four key components:

- (1) **Navigation and case management services** to help participants select healthcare training programs and address barriers to program completion. Navigation started at the application stage and continued post training.
- (2) **Access to healthcare occupational training at three levels**—foundational (e.g., healthcare career discovery classes), entry (e.g., Nursing Assistant), and advanced (e.g., Licensed Practical Nurse). These courses were funded either through Individual Training Accounts (ITAs) or as grant-funded “cohorts” (course packages open exclusively to program participants and fully funded by the program) based at community or technical colleges.
- (3) **Employment services** including group-based job clubs, individual consultations, and assistance with resume development and interview skills.
- (4) **Financial assistance** during and immediately following training to address barriers to program completion or employment. Assistance included financial support to address barriers such as transportation and to help pay for one-time emergency costs such as housing assistance to avoid eviction or utilities being cut off.

This project, the Career Pathways Intermediate Outcomes Study, extends the follow-up period to three years for programs in the PACE project. Future reports produced by the Career Pathways Long-Term Outcomes Study will extend the follow-up period further.

Purpose

This research was undertaken to evaluate whether Health Careers for All was successful in providing training to low-income, low-skilled adults and whether the program’s efforts led to impacts on credentials, earnings, healthcare employment, and other life outcomes. The Workforce Development Council of Seattle–King County operated Health Careers for All with funding from ACF’s Health Profession Opportunity Grants (HPOG) Program. Like all HPOG-funded programs, Health Careers for All sought to address the dual goals of (1) helping low-income individuals enroll in and complete occupational healthcare training and find healthcare employment and (2) addressing the rising demand for healthcare workers.

Research Questions

Three years after random assignment, what were the effects of Health Careers for All on:

- Educational attainment, including school-issued healthcare credentials and exam-based certifications received?
- Entry into employment and higher earnings?
- Individual and family well-being, including income and other life outcomes?

Key Findings

- ***Health Careers for All had no detectable impact on average quarterly earnings in follow-up quarters 12-13, the study's confirmatory outcome.***

The difference in average quarterly earnings in Q12-Q13 between treatment group and control group members was negative (-\$404) but not statistically significantly different from zero.

- ***Health Careers for All had a positive impact on receipt of postsecondary healthcare credentials from schools during the first three years, but not on receipt of exam-based certifications and licenses from other authorities such as state boards.***

Health Careers for All increased the receipt of any postsecondary healthcare credential at non-colleges by 15 percentage points. There was not a statistically significant difference between the treatment and control groups in the receipt of exam-based credentials.

- ***Health Careers for All did not increase the average duration of education and training across all levels of schools during the first three years, but it did increase duration at non-college schools.***

There was not a statistically significant difference in average duration of education and training overall. However, there was a small but statistically significant difference in average duration enrolled at non-college schools between the treatment group (0.84 months) and control group (0.34 months); a net impact of half a month.

- ***Health Careers for All increased the proportion of treatment group members working in the healthcare field at the end of Year 3 by 6.5 percentage points.***

The program did not change the overall employment rate, however.

- ***Health Careers for All had no detectable impact at the end of Year 3 on most measures of financial well-being and parenting.***

The program did not have a significant effect on health insurance coverage, receipt of means-tested public benefits, personal student debt, or financial distress.

Methods

To assess the effectiveness of Health Careers for All, the PACE project used an experimental research design in which program applicants were assigned at random to a treatment group that could access the program or to a control group that could not, then compared their outcomes. From September 2012 to December 2014, the study randomly assigned 654 program applicants to either the treatment or the control group. The impact study used data from a follow-up survey conducted three years after random assignment and earnings records from the federal National Directory of New Hires. The Health Careers for All impact study measured impacts on educational, employment, and earnings outcomes approximately three years after random assignment for all measures and close to five years after random assignment for earnings.

Executive Summary

The Workforce Development Council of Seattle–King County (WDC) implemented the **Health Careers for All** program to help low-income adults, including Temporary Assistance for Needy Families (TANF) recipients, access and complete occupational training that could lead to increased employment and higher earnings. In doing so, it also aimed to address the rising demand for healthcare workers in the Seattle metropolitan area.

Abt Associates and its partner, MEF Associates, are evaluating Health Careers for All as part of the **Pathways for Advancing Careers and Education (PACE) project**, a multi-site experimental evaluation of nine programs with career pathways components, funded by the Administration for Children and Families (ACF) within the U.S. Department of Health and Human Services. This report, which is part of the Career Pathways Intermediate Outcomes Study, provides analyses of Health Careers for All's impacts on educational attainment, employment and earnings, and other life outcomes three years following random assignment.

It extends analyses conducted previously for an initial report that covered implementation and short-term impacts (about 18 months after study enrollment) on educational and employment-related outcomes (Glosser, Judkins, and Morrison 2017). Future reports produced by the Career Pathways Long-Term Outcomes Study will extend the follow-up period further.

About Health Careers for All

The Health Careers for All program sought to serve and support low-income adults seeking careers in healthcare, including TANF recipients, with customized navigation services combined with funding for healthcare training programs. The program operated between 2010 and 2016 with funding from ACF's Health Profession Opportunity Grants (HPOG) Program. Like all HPOG programs, Health Careers for All sought to address the dual goals of (1) helping low-income individuals enroll in and complete occupational healthcare training and find healthcare employment and (2) addressing the rising demand for healthcare workers.

Health Careers for All combined four key components:

- **Navigation and case management** services to help program participants select healthcare training programs and to address barriers to program completion. Navigation started at the application stage and continued post training.
- **Access to healthcare occupational education and training at three levels—**foundational (e.g., healthcare career discovery classes), entry (e.g., Nursing Assistant), and advanced (e.g., Licensed Practical Nurse). These courses were funded either through Individual Training Accounts (ITAs) or as grant-funded “cohorts” (course packages open exclusively to program participants and fully funded by the program) based at community or technical colleges.
- **Employment services** including group-based job clubs, individual consultations, and assistance with resume development and interview skills.

- **Financial assistance** during and immediately following training to address barriers to program completion or employment. Assistance included financial support to address barriers such as transportation or to help pay for one-time emergency costs such as housing assistance to avoid eviction or utilities being cut off.

About the Health Careers for All Impact Study

The study used an experimental research design to estimate the impact of access to Health Careers for All on participants' educational, employment, and earnings outcomes.¹ The research team designed the experiment to capture the effects of the program as a whole, and not the effects of specific program components. A total of 654 applicants agreed to participate in the study—328 were randomly assigned to the treatment group and offered access to Health Careers for All, and 326 were randomly assigned to the control group and were not offered access to Health Careers for All, but could access other training and services in the community on their own. The analysis estimates impacts for each outcome by calculating the difference between average values in the treatment group and control group.

The short-term report (Glosser, Judkins, and Morrison 2017) found that as of 18 months after random assignment, Health Careers for All did not increase the percentage of treatment group members who received a credential (the short-term confirmatory outcome). It did achieve impacts on the percentage of participants enrolling in training in a healthcare field, and it increased the percentage of participants who were employed in a healthcare occupation.

Key Findings

This three-year report focuses on the impact of Health Careers for All on postsecondary education and training, employment and earnings, and other individual and family well-being outcomes. The impact study relies on data primarily from two sources: employment and earnings data from the National Directory of New Hires and data from a three-year follow-up survey.

Impacts on Postsecondary Education and Training

Health Careers for All had limited impacts in the postsecondary education and training domain. The impacts that did emerge were largely driven by enrollment and credential receipt at schools other than colleges. The measures used in the study differentiated educational outcomes based on institution type, especially whether or not they were accredited colleges.

The emphasis on non-college schools aligns with findings from the implementation research conducted for the short-term report. Health Careers for All staff believed that non-college schools could be particularly well suited to serve the needs of students seeking training as Nursing Assistants given their focus on short and accelerated courses and evening or weekend

¹ Such a design ensures that any estimated impacts can be attributed to program access rather than to unmeasured differences between eligible study sample members with access (the treatment group) and without access (the control group).

options. Accordingly, the research team chose to emphasize outcomes at these schools as the best measures of whether the program achieved the goals that it had set for itself.

- **Health Careers for All increased credential receipt from schools other than colleges.**

In particular, Exhibit ES-1 (left panel) shows that by the end of the three-year follow-up, Health Careers for All increased the receipt of any postsecondary healthcare credential at non-colleges by 15 percentage points.

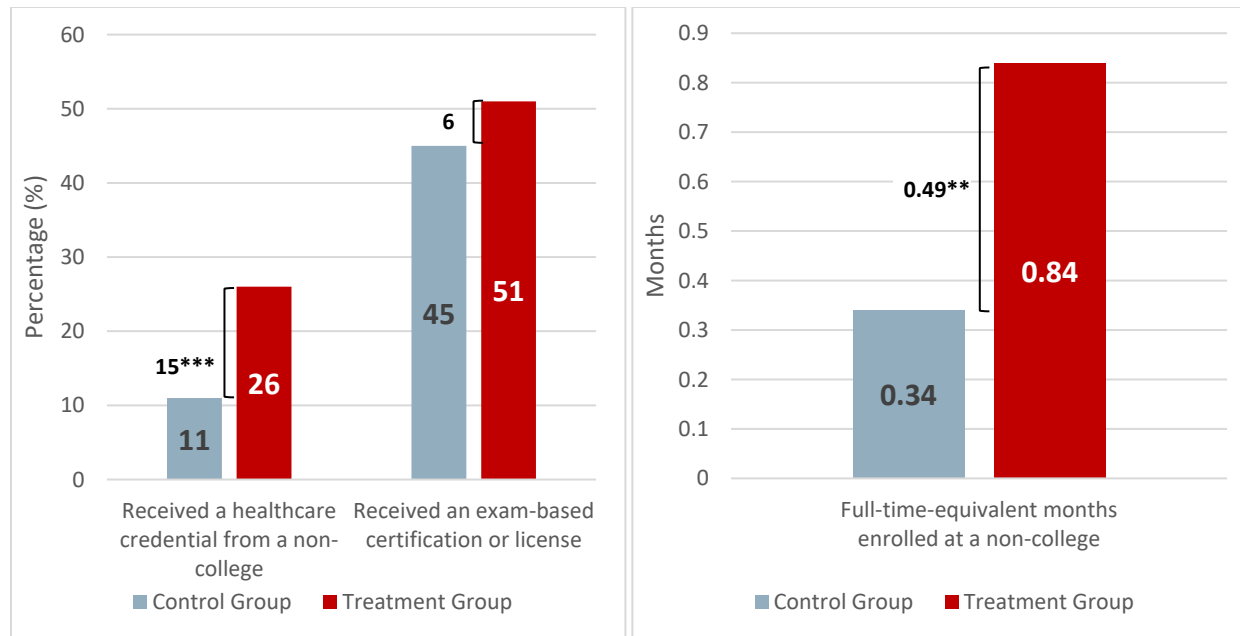
- **Health Careers for All did not significantly increase receipt of exam-based certifications and licenses.**

Exhibit ES-1 (left panel) shows that there was not a statistically significant difference between the treatment and control groups in the receipt of exam-based credentials.

- **Health Careers for All increased duration of postsecondary education and training at schools other than colleges.**

Exhibit ES-1 (right panel) shows that there was a small but statistically significant difference in average duration enrolled at non-college schools between the treatment group (0.84 months) and control group (0.34 months); a net impact of half a month. Given that the duration of training at these schools is still modest in the treatment group, this suggests that the extra credentials awarded to the treatment group by non-college schools required short trainings.

Exhibit ES-1: Impacts on Postsecondary Education and Training Outcomes



Source: PACE three-year follow-up survey, except exam-based certification or license is a blended variable from the PACE 18-month and three-year follow-up surveys.

Note: The outcomes in the exhibit are secondary outcomes and thus statistical significance is based on one-tailed tests. Sample sizes: 233 in treatment group and 219 in control group.

Statistical significance levels based on differences between research groups: *** 1 percent level; ** 5 percent level; * 10 percent level.

Impacts on Earnings, Healthcare Employment, and Other Life Outcomes

Health Careers for All's impacts on key educational outcomes have not, as of three years, translated into detectable impacts on earnings or overall employment. The program did, however, have an impact on healthcare-related employment. The program did not affect most other life outcomes.

- ***Health Careers for All did not significantly increase average quarterly earnings in follow-up quarters 12-13, the study's confirmatory outcome.²***

The difference in average quarterly earnings in Q12-Q13 between treatment group and control group members was negative (-\$404) but not statistically significantly different from zero.

- ***Health Careers for All increased the proportion of treatment group members working in healthcare but did not affect overall employment.***

As reported in the three-year survey, Health Careers for All increased employment in the healthcare field (including work in ancillary occupations in healthcare settings) by almost 7 percentage points, from 43 percent to 50 percent. Restricting to jobs that involve the direct delivery of healthcare services (and thus require healthcare skills), the program increased such employment by 9 percentage points, from 23 to 32 percent. However, there was not a statistically significant impact on overall employment (any field) at the time of the three-year follow-up survey.

- ***Health Careers for All had no detectable impact on most measures of financial well-being.***

The program did not have a significant effect on health insurance coverage, receipt of means-tested public benefits, personal student debt, financial distress, or other measures of financial well-being.

Implications

To summarize the main results three years after random assignment, Health Careers for All had a small positive effect on educational credentials and healthcare employment, but had no clear impact on overall employment, earnings, public assistance receipt, or financial distress. Thus, the only clear impact of the program three years after randomization is an increase in the supply of healthcare workers. While this is one of the primary goals of HPOG, it is not clear that this is in the workers' best interest if there is no earnings premium for such work.

The study explored several possible explanations for the lack of detectable three-year impact findings related to earnings:

- **The emphasis on short trainings, specifically Nursing Assistant, may have contributed to lower than expected earnings gains for treatment group members.**

² Confirmatory hypotheses center on outcomes most critical to judging whether the program seems to be achieving its goals. By limiting the confirmatory analysis to a single outcome, we can avoid the problem of "multiple comparisons."

Despite high overall initial engagement in education and training services by treatment group members (at 18 months), most education and training was concentrated in either short occupational trainings—most commonly Nursing Assistant—or prerequisite coursework for higher-level occupational training programs. Nursing Assistant jobs are typically entry-level and do not pay a high wage. Though training participants for jobs in the healthcare field does help increase the number of available workers in a growing sector of the economy, the results from this evaluation suggest that entry-level positions are not necessarily a pathway to earnings gains.

- **Rising wage rates and low unemployment in the Seattle metro area may have negated any potential earnings gains associated with increases in healthcare employment.** The greater Seattle area labor market tightened significantly during the study period. In 2012, the average monthly unemployment rate in King County was 6.3 percent; by 2016, the monthly average had dropped to 3.9 percent.³ At the same time, wages for low-income populations increased, concurrent with a new minimum wage law implemented by the city of Seattle in 2014, along with broader economic growth in the region. These co-occurring labor market trends may have contributed to expanded employment and earnings opportunities for control group members. Even if the control group was not achieving the credential gains of the treatment group, the rising wages for entry-level jobs may help explain why the educational gains of the treatment group did not differentiate their earnings from the earnings of their counterparts in the control group.

Looking Ahead

Although meaningful differences between the treatment and control group outcomes have not emerged to date, the research team plans longer-term analysis using administrative data as a low-cost check of whether new findings emerge over time. Follow-up at six years after random assignment will use data from the National Student Clearinghouse and the National Directory of New Hires to assess the impact of Health Careers for All on future achievement of college credentials and earnings.

³ “May 2016 Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates: Seattle-Tacoma-Bellevue, WA.” Occupational Employment Statistics (website). Bureau of Labor Statistics. Last modified March 31, 2017. https://www.bls.gov/oes/2016/may/oes_42660.htm.

1. Introduction

The demand for healthcare workers is expected to grow in the years to come. The federal Bureau of Labor Statistics (BLS 2019) projects that healthcare occupations will add more jobs through 2026 than any other occupational group, largely due to an aging population. The healthcare sector's projected growth rate, 18 percent, is much faster than any other occupational group (BLS 2019). At the same time, many low-income adults, including those receiving public benefits, face structural and personal barriers to enrolling in and completing occupational healthcare education and training and moving into the labor market.

The **Health Careers for All** program in Seattle, Washington, sought to address these two challenges by providing financial support for education and training, along with case management, financial assistance, and employment services, to assist low-income adults in preparing for jobs in healthcare. The program was operated by the **Workforce Development Council of Seattle–King County (WDC)**, the local Workforce Investment Board for King County.

In recent years, federal initiatives have aimed to help low-income adults, including Temporary Assistance for Needy Families (TANF) recipients, access training in order to attain skills needed to become self-sufficient.⁴ The Administration for Children and Families (ACF) within the U.S. Department of Health and Human Services funded one such initiative, the **Health Profession Opportunity Grants (HPOG)** Program. In 2010, ACF awarded HPOG grants to organizations to provide TANF recipients and other eligible low-income individuals with the opportunity to obtain education and training for occupations in the healthcare field that were expected to either experience labor shortages or be in high demand.⁵

⁴ The TANF program, which is time limited, assists families with children in providing for the family's basic needs. The Federal Government provides block grants to states to run the TANF program. States have broad flexibility to carry out their programs. States determine the design of the program, the type and amount of assistance payments, the range of other services to be provided, and the rules for determining who is eligible for benefits.

⁵ HPOG 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). Most recently, under the Coronavirus Aid, Relief, and Economic Security Act" or the "CARES Act," 2020, Pub. L. 116-136, the HPOG Program was extended through November 30, 2020. The second round of grant awards (HPOG 2.0) has been extended until September 29, 2021.

The WDC received an HPOG grant to implement Health Careers for All. The program aimed to help low-income adults train for healthcare jobs by providing financial support for training, case management, employment services, and financial assistance to help address barriers to program completion or employment. It operated from 2010 to 2016.⁶

Abt Associates and its partner, MEF Associates, is evaluating Health Careers for All as part of the **Pathways for Advancing Careers and Education (PACE) project**. Funded by ACF, PACE is studying nine programs aimed at helping low-income adults to access career pathways (see *Programs in PACE* box).

All nine programs include some features of the overarching career pathways framework (Fein 2012). This framework posits that postsecondary education and training should be organized as a series of manageable steps leading to successively higher credentials and employment opportunities in growing occupations. To effectively engage, retain, and facilitate learning of a diverse population, programs following the career pathways framework generally integrate four program components:

- (1) **Academic and non-academic assessment** to identify student needs and factors that may facilitate or hinder academic success so advisors can make appropriate placements and referrals;
- (2) **Innovative basic skills and occupational skills instruction** to make education and training more manageable for students who are likely to be balancing school and work (e.g., accelerated courses) and who may have low levels of basic skills (e.g., contextualization);

Programs in PACE

- ***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 (I-BEST) program*** at three colleges (Bellingham Technical College, Everett Community College, and Whatcom Community College), Washington State
- ***Pathways to Healthcare***, Pima Community College, Tucson, AZ*
- ***Patient Care Pathway Program***, Madison College, Madison, WI
- ***Valley Initiative for Development and Advancement (VIDA)***, Lower Rio Grande Valley, TX
- ***Workforce Training Academy Connect***, Des Moines Area Community College, Des Moines, IA
- ***Year Up***, Atlanta, Bay Area, Boston, Chicago, National Capital Region, New York City, Providence, and Greater Seattle

*Programs funded through the Health Profession Opportunity Grants (HPOG) Program.

^Program partially HPOG-funded.

⁶ Grants were five years in duration. Grantees could request a six-month no-cost extension. WDC received a six-month extension and provided services through the Health Careers for All program through March 2016.

- (3) **Academic and non-academic supports** (e.g., academic advising, tutoring, financial support, and referrals to support services) to help students succeed in their current academic step and to proceed to and complete subsequent steps; and
- (4) **Strategies to connect participants and employers** during the program, such as internships, or post program, such as employment workshops.

Because the nine programs vary in their target populations, mix of components, and occupational fields, PACE is evaluating each program separately.⁷ This report documents the impact of Health Careers for All on postsecondary education and training, earnings and employment, and other life outcomes of students through approximately three years after they agreed to participate in an evaluation of the program.

An initial report shared findings on implementation and short-term (18-month) impacts on education and training, employment, and related outcomes (Glosser, Judkins, and Morrison 2017). This evaluation, the Career Pathways Intermediate Outcomes Study, extends the follow-up period to three years for programs in the PACE project. Future reports produced by the Career Pathways Long-Term Outcomes Study will extend the follow-up period further.

The remainder of this chapter describes Health Careers for All key components and context (Section 1.1). It then summarizes findings from the short-term report (Section 1.2). Finally, it provides a roadmap to the remainder of the report (Section 1.3).

1.1 The Health Careers for All Program

ACF awarded the WDC a five-year, \$11 million HPOG grant to launch and operate the Health Careers for All program.⁸ Later, the WDC received a six-month grant extension to provide services through March 2016.

The major Health Careers for All program components were the following:

- **Navigation and case management** services to help program participants select healthcare training programs and to address barriers to program completion. Navigation started at the application stage and continued post training.
- **Access to healthcare occupational education and training at three levels—** foundational (e.g., healthcare career discovery classes), entry (e.g., Nursing Assistant), and advanced (e.g., Licensed Practical Nurse). These courses were funded either through Individual Training Accounts (ITAs) or as grant-funded “cohorts” (course packages open exclusively to program participants and fully funded by the program) based at community or technical colleges.

⁷ PACE-related documents, including program profiles and implementation and short-term impact reports for each program, can be found at www.acf.hhs.gov/opre/research/project/pathways-for-advancing-careers-and-education and www.career-pathways.org.

⁸ WDC began implementing a modified version of the Health Careers for All program, called Health Workforce for The Future, with funding from a second-round HPOG grant (HPOG 2.0) awarded in 2015 and implemented beginning in 2016.

- **Employment services** including group-based job clubs, individual consultations, and assistance with resume development and interview skills.
- **Financial assistance** during and immediately following training to address barriers to program completion or employment. Assistance included financial support to address barriers such as transportation or to help pay for one-time emergency costs such as housing assistance to avoid eviction and utilities being cut off.

For the Health Careers for All program, the WDC partnered with TRAC Associates (TRAC), a for-profit, community-based organization that provides employment services in the greater Seattle area. The WDC was responsible for grant oversight and project management, and TRAC was responsible for providing Health Careers for All services.

1.1.1 Eligibility and Enrollment

For the PACE project, Health Careers for All staff screened applicants for eligibility and then randomly assigned eligible applicants to either a treatment group or a control group. To be eligible for the program, applicants had to, in priority order.

- be a current TANF recipient; or
- have a family income of less than 175 percent of the Federal Poverty Line for family size; or
- have a barrier to training and employment, such as low basic skills or disabilities.

Applicants also had to be interested in a healthcare career and pass a background check to ensure that they did not have criminal convictions that would prevent them from working in a healthcare occupation.

Applicants deemed eligible for the program were randomly assigned after they provided informed consent and completed two study forms: the PACE Basic Information Form (BIF) and the PACE Self-Administered Questionnaire (SAQ). Between September 2012 and December 2014, Health Careers for All staff randomly assigned 654 study participants: 328 to the treatment group and 326 to the control group.

Treatment group members could enter the program; control group members could not enter the program but could access other services available in the community. What services were available to control group members varied by whether they were enrolled in TANF, enrolled in the Supplemental Nutrition Assistance Program (SNAP), or received other government benefits:

- All control group members could enroll in community or technical colleges and apply for federal student aid programs such as Pell or other grants or federal student loans. Control group members might have had more difficulty using federal student aid funds to

attend private, non-degree-granting schools because those programs do not meet standards for the federal student aid programs.⁹

- TANF recipients received assistance from their TANF case manager in finding activities that would satisfy the TANF work participation requirements (e.g., community service, subsidized employment, and other training programs).¹⁰
- Some control group members qualified for non-core services provided at American Job Centers (WorkSource Centers, in King County); specifically, intensive services (which include case management) and training (for which participants could receive an ITA to fund occupational courses).
- Additional employment and training supports were also available for SNAP participants. The Washington State Basic Food Employment and Training program provides job search, job search training, self-directed job search, educational services, skills training, and other employment opportunities to those who are not also participating in TANF.
- Control group members who lived in the City of Seattle or in White Center (an unincorporated community adjacent to Seattle) could enroll in Seattle Jobs Initiative programs, which provide short- and longer-term training at community colleges and career navigation in four different industries, including healthcare.¹¹ Those healthcare trainings were more limited than Health Careers for All's options, but the offerings overlapped.¹²

With these services available to the control group members, the key treatment-control group differences were the (1) availability of navigation support specifically focused on healthcare occupations; (2) assured financial support for training through an ITA or cohort; (3) access to a wider range of training providers for ITAs, including private schools that were not on the

⁹ To be eligible for the federal student aid programs, an institution must meet at least one of the following criteria: (1) Provides at least a 15-week (instructional time) undergraduate program of 600 clock hours, 16 semester or trimester hours, or 24 quarter hours. May admit students without an associate degree or equivalent. (2) Provides at least a 10-week (instructional time) program of 300 clock hours, eight semester or trimester hours, or 12 quarter hours. Must be a graduate/professional program or must admit only students with an associate degree or equivalent. (3) Provides at least a 10-week (instructional time) undergraduate program of 300-599 clock hours. Must admit at least some students who do not have an associate degree or equivalent. Must meet specific qualitative standards. Note that institutions meeting only category 3 are eligible only for Direct Loan participation. (U.S. Department of Education 2019)

¹⁰ Most TANF recipients in Washington State are required to be engaged in work activities for at least 32 hours per week.

¹¹ The four industry sectors of the Seattle Jobs Initiative are Automotive, Healthcare, Office Occupations, and Welding/Manufacturing.

¹² The certificate programs offered through the Seattle Jobs Initiative are Certified Nursing Assistant, Dental Assistant, Licensed Practical Nurse, Medical Assistant, Pharmacy Technician, and Surgical Technician.

Workforce Investment Act-approved training provider list; and (4) job search services integrated into the program model and tailored to healthcare occupations.¹³

1.1.2 Characteristics of the Study Sample

Exhibit 1-1 on page 7 shows the characteristics of the treatment and control group members at the time they were randomly assigned (“baseline”), both overall and for the treatment and control groups separately. The *p*-values in the last column test the hypothesis that there are no systematic differences between the groups for each characteristic.

Compared to the control group, the treatment group had a higher proportion of men and more members with one or more years of college but no degree. Thirty (30) percent of the treatment group had at least one year of college but less than an associate degree, compared with 18 percent of the control group. Greater percentages of the control group had lower levels of education (high school diploma or equivalent, less than one year of college). Overall, the distribution of educational experience in the treatment group differed significantly from that of the control group. We believe these differences in characteristics between the treatment and control groups are due to chance.¹⁴

The sample is consistent with the priority groups defined in the program’s eligibility criteria. Sample members were low-income and many were receiving public assistance. Almost two thirds had annual household incomes of less than \$15,000, and about 90 percent had incomes less than \$30,000. Consistent with these low levels of income and the program’s focus on recruiting current TANF recipients, at baseline about 40 percent reported receiving public assistance or welfare. Around 80 percent received benefits from SNAP (formerly known as Food Stamps) or Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). Most (70 percent) were not working at the time of random assignment, and about 60 percent reported experiencing financial hardship in the past year.¹⁵

¹³ These contrasts were documented in the *Implementation and Early Impact Report* (Glosser, Judkins, and Morrison 2017). This three-year report does not update that research.

¹⁴ The large imbalance on education could theoretically be due to one of three causes: (1) systemic manipulation of the randomization system by staff, (2) systemic data entry errors (such as updating the baseline data based on post-randomization experiences), or (3) chance. Checking with Health Careers for All staff uncovered no evidence of inadvertent or deliberate deviation from random assignment protocols that could have favored one educational group over another. Regarding the possibility of systemic data entry errors, analysis of National Student Clearinghouse records also showed that the treatment group had more prior college experience, though the contrast with the control group was not as large as in the self-reported data in Exhibit 1-1. Also, as discussed in Section A.2 of Appendix A in the accompanying appendix volume, the treatment group also had higher quarterly earnings in the quarters leading up to randomization. Given these checks, we concluded that the differences were likely due to chance and addressable by regression adjustment in the impact analysis. See Section A.3 of Appendix A for a discussion of the effects of the regression adjustment on estimates of Health Careers for All impacts. These effects were trivial for outcomes in education and training domain and the well-being domain, but were substantive for earnings.

¹⁵ *Financial hardship* at baseline is defined as ever missed rent/mortgage payment in prior 12 months or reported generally not having enough money left at the end of the month to make ends meet over the last 12 months.

Study participants were older than traditional college students. More than three quarters were age 25 and older, and about one third were age 35 or older. The study sample was racially/ethnically diverse. Half of study participants identified as Black, non-Hispanic; about one quarter identified as white, non-Hispanic; and the remaining one quarter identified as either Hispanic or another race (non-Hispanic). The study population was also predominantly female (85 percent). The educational attainment levels at enrollment varied widely. At the extremes, about 13 percent of the sample did not have a GED or high school diploma, whereas 18 percent already had an associate degree or higher.

The majority of participants were not working at the time of study intake, but almost two thirds expected to work 20 hours or more in the next few months. This may mean that they expected to be employed soon as a result of receiving short-duration training or that they planned to work part-time while in training.

Exhibit 1-1: Selected Characteristics of the Health Careers for All Sample at Baseline

Characteristic	All Study Participants	Treatment Group	Control Group	p-Value
Age (%)				.476
20 or under	6.3	4.9	7.7	
21 to 24	16.1	16.2	16.0	
25 to 34	43.7	45.4	42.0	
35 or older	33.9	33.5	34.4	
Sex (%)				.025
Female	85.2	82.0	88.3	
Male	14.8	18.0	11.7	
Race/Ethnicity (%)				.788
Hispanic, any race	12.8	13.3	12.3	
Black, non-Hispanic	51.4	50.9	52.0	
White, non-Hispanic	28.9	29.4	28.5	
Other, non-Hispanic	14.6	13.3	15.8	
Current Education (%)				.002
Less than a high school diploma	13.4	13.2	13.5	
High school diploma or equivalent	29.8	25.8	33.9	
Less than 1 year of college	14.4	12.0	16.9	
1 or more years of college	24.0	30.4	17.5	
Associate degree or higher	18.4	18.7	18.2	
Family Income in Past 12 Months (%)				.939
Less than \$15,000	64.1	63.8	64.4	
\$15,000-\$29,999	24.2	24.6	23.9	
\$30,000 or more	11.7	11.6	11.8	
Mean (\$)	\$13,534	\$13,634	\$13,436	.835
Public Assistance/Hardship in Past 12 Months (%)				
Received WIC or SNAP	80.3	82.7	77.8	.115
Received public assistance or welfare	41.1	43.1	39.1	.311
Reported financial hardship	61.2	62.6	59.7	.409

Characteristic	All Study Participants	Treatment Group	Control Group	p-Value
Current Work Hours (%)				.324
0	69.9	67.9	71.8	
1 to 19	9.6	11.0	8.2	
20 to 34	14.3	13.5	15.1	
35 or more	6.3	7.6	5.0	
Expected Work Hours in Next Few Months (%)				.133
0	24.2	23.6	24.8	
1 to 19	11.3	11.8	10.8	
20 to 34	34.8	38.7	30.9	
35 or more	29.7	25.9	33.6	
Ever arrested	14.4	13.8	15.0	.641
Sample size	656	329	327	

Key: SNAP = Supplemental Nutrition Assistance Program. WIC = Special Supplemental Nutrition Program for Women, Infants, and Children

Source: PACE Basic Information Form.

Note: There are two statistically significant differences at the $p=.10$ level (Sex, Current Education). Given the number of tests, the number of statistical differences (2 of 11) is about what we would expect by chance. Appendix A provides a fuller set of baseline characteristics, also confirming that random assignment generated well-balanced treatment and control groups with the exception noted in the text. Some percentages for characteristics do not add up to 100 percent due to rounding; the category Public Assistance/Hardship in Past 12 Months does not add to 100 percent because the categories are neither mutually exclusive nor exhaustive.

1.1.3 Local Context

King County in Washington State has more than two million residents, and Seattle (population 637,850 in 2014) is its largest city. Overall, the local economy improved during the PACE project period (2012 to 2016).¹⁶ The average monthly unemployment rate in King County in 2016 was 3.9 percent, whereas it was 6.3 percent on average in 2012.¹⁷ The healthcare jobs for which Health Careers for All provided training were a growing segment of the local economy. In 2014, about 60,000 King County residents were employed in “Healthcare Practitioners and Technical” occupations (e.g., Registered Nurse, Licensed Practical Nurse); more than 30,000 were employed in “Healthcare Support” occupations (e.g., Nursing Assistant, Medical Assistant, Home Health Aide). Over the next 10 years, jobs in the Healthcare Practitioners and Technical occupations category are projected to increase by 20 percent, and those in the Healthcare Support occupations category by about 23 percent.¹⁸

Though not specific to the healthcare field, the local labor market also changed as a result of a new minimum wage law implemented by the city of Seattle in 2014. This change required gradual phase-in of a \$15 per hour minimum wage for all jobs. An analysis of its early impacts

¹⁶ The Health Careers for All program operated over 2010-2016, but only program applicants between 2012 and 2016 were part of the PACE project.

¹⁷ “May 2016 Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates: Seattle-Tacoma-Bellevue, WA.” Occupational Employment Statistics (website). Bureau of Labor Statistics. Last modified March 31, 2017. https://www.bls.gov/oes/2016/may/oes_42660.htm.

¹⁸ Washington State Employment Security Department, <https://esd.wa.gov/labormarketinfo/projections>, long-term occupational projections for Seattle–King County. Calculated percentage change between estimated employment in 2014 and 2024.

by Jardim et al. (2018) found that the combination of the law and broader growth of the Seattle economy had resulted in increased wage rates in the low-income sector. As discussed below, a large segment of Health Careers for All treatment group members received training for entry-level jobs that may have been affected by the new minimum wage law.

1.2 Earlier Findings from PACE on the Health Careers for All Program

The earlier PACE report on Health Careers for All (Glosser, Judkins, and Morrison 2017) provides useful context for the current report. In its initial phase, the PACE project assessed the Health Careers for All program's implementation and short-term (18-month) impacts. This section summarizes key findings from that short-term report.

1.2.1 Earlier Results from the Health Careers for All Implementation Study

This section summarizes program implementation and participants' experiences in the program through 18 months after random assignment.

- ***Health Careers for All increased the percentage of participants enrolling in postsecondary education or training in a healthcare field.***

Health Careers for All produced an 11 percentage point difference in self-reported receipt of healthcare-related training between the treatment and control group.

- ***More than 82 percent of treatment group members participated in some type of postsecondary education or training program.***

Some 82 percent of treatment group members participated in at least one program: 45 percent started with a prerequisite, most commonly a prerequisite for nursing, and 26 percent transitioned from prerequisites to a healthcare training course. An additional 38 percent started directly with a healthcare training program. In total, 64 percent of treatment group members attended at least one healthcare training program within the 18-month follow-up period.

- ***Treatment group members who enrolled in postsecondary education or training most commonly attended healthcare training at private schools.***

More than half (53 percent) of participants received training from private schools.¹⁹ Health Careers for All staff believed that these schools could be particularly well suited to serve the needs of students seeking training as Nursing Assistants, given their focus on short and accelerated courses and evening or weekend options. However, a substantial portion (42 percent) of participants attended training at community or technical colleges. About 5 percent received training at four-year colleges.

Completion rates were higher for those who attended private schools (72 percent), compared with community or technical colleges (48 percent). In large part, this was due to the vast majority of participants at private schools (98 percent) taking short Nursing Assistant programs.

¹⁹ These schools are also often referred to as "proprietary schools," which are for-profit entities. Because some participants may have attended nonprofit non-degree-granting institutions, the report does not use the term *proprietary*.

The participants at community colleges were more likely to enroll in the longer Licensed Practical Nurse programs (24 percent) that were more difficult to complete within the 18-month follow-up period, meaning that participants may have still been enrolled at the end of this follow-up period.

- ***Health Careers for All had limited success engaging participants in more-advanced training during the follow-up period.***

Management at the WDC and TRAC saw entry-level training programs such as Nursing Assistant as a means to engage participants in the healthcare field. Though program managers understood that many participants enrolled because of a near-term need for full-time employment, managers believed that entry-level healthcare employment would expose participants to new career options, which would result in participants returning for more-advanced healthcare training. However, only 12 percent of treatment group members returned to enroll in a second training program during the 18-month follow-up period. More than half the treatment group members who enrolled spent three months or less in training.

Despite the relatively low proportion of participants returning to training, a subset of the treatment group did enroll in longer programs. Among those enrolling in any training, 29 percent spent seven months or more in their program, suggesting that Health Careers for All served some individuals with more-advanced occupational interests. Most commonly, these participants enrolled in a Nursing program (e.g., Registered Nurse, Licensed Practical Nurse).

- ***Health Careers for All is an example of a workforce agency engaging TANF recipients in employment and training.***

Health Careers for All sought to make healthcare training accessible to current TANF recipients. Management at both the WDC and TRAC built and maintained relationships with TANF staff, at both leadership and case manager levels. They also worked to design program processes that would align with both TANF program requirements and the broader goals of Health Careers for All. This included ensuring that program activities could help participants meet TANF's work participation requirements and navigators providing regular progress updates to TANF case managers. Almost half of all treatment group members were TANF recipients at the point of random assignment, and their participation patterns were generally similar to those of treatment group members who were not on public assistance.

- ***The wide array of education and employment supports available in King County limited the contrast between the treatment and control groups.***

The limited impacts on service receipt and educational outcomes seen in comparisons between treatment and control groups may be a function of the multiple supports that were available for low-income populations in the service area. Though the specific structure of Health Careers for All does appear to have increased receipt of healthcare-specific training, a large share of control group members engaged in some type of occupational training. This was likely a combination of several factors, including the requirement for program applicants to research training options before being randomly assigned, potentially increasing applicants' motivation to pursue healthcare training even if they ended up in the control group. It may also be a function of the

availability of funds from non-program sources such as TANF and the Workforce Investment Act (WIA). Similarly, the program's lack of impact on earnings above \$13 per hour may reflect the combination of a strong labor market and the availability of job search supports for control group members through TANF and WIA.

1.2.2 Earlier Results from the Health Careers for All Short-Term Impact Study

The PACE research team pre-specified a single educational measure—*attainment of a credential*—as the confirmatory indicator of the program's success at 18 months. The short-term analyses also assessed a variety of other educational outcomes as well as several employment-related outcomes believed to provide an early indication of expected longer-term educational, employment, and earnings impacts.

- ***Health Careers for All did not increase the percentage of treatment group members who received a credential (the confirmatory outcome at 18 months).***

There was no significant difference between the percentage of treatment group and control group members who received a credential, the primary outcome of interest for the 18-month analysis period. Among treatment group members, 49 percent received a credential, compared to 45 percent among control group members. There was also no impact on total hours of occupational training.

- ***Health Careers for All produced impacts on employment in a healthcare occupation, but there were no other impacts on employment.***

At 18 months there was a 9 percentage point difference in the percentage of treatment group (45 percent) and control group members (36 percent) reporting that they were working in a healthcare occupation. This suggests that the program was effective in increasing healthcare employment. However, there were no impacts on the percentage of participants reporting that they were earning more than \$13 per hour or employment in a job requiring at least mid-level skills. These early findings may be a function of the high proportion of treatment group members who focused on entry-level healthcare occupations.

1.3 Guide to Rest of the Report

This report has six chapters. **Chapter 2 details the Health Careers for All study design and analytic methods**, including a discussion of the career pathways theory of change and its implied research questions. The chapter also documents how the Health Careers for All impact study implemented random assignment and describes its principal data sources.

Chapter 3 presents the three-year impact findings on postsecondary education and training. As noted above, at 18 months after random assignment, Health Careers for All did not increase the share of its participants who received a credential, though there were impacts on enrollment in training in a healthcare field. This chapter analyzes whether those early experiences with credentials and healthcare training increase, decrease, or stay about the same three years out and whether there has been any impact on longer-term credentials such as college degrees.

Chapter 4 presents the three-year impact findings on employment and earnings. The short-term impact study conducted a relatively limited analysis of impacts on labor market outcomes at 18 months because such impacts were expected to take longer to emerge. This three-year report provides more detail on impacts on labor market outcomes for a period when such impacts might plausibly emerge. The evaluation identified *earnings in quarters 12 and 13 after random assignment* as the most important outcome measure of program success in the earnings and employment domain.

Chapter 5 presents the three-year impact findings on other life outcomes such as career knowledge, availability of career supports, psycho-social skills, family economic well-being, parental engagement, and child outcomes. If the Health Careers for All program has an impact on earnings, then it might also be expected to affect these outcomes.

Chapter 6 concludes with a discussion of the findings and open questions for future research.

A separate **Appendix** volume provides technical details on analysis methods, data sources, and sensitivity analysis.

2. Methods

This chapter describes the PACE project's research design and analytic methods as applied to the Health Careers for All program three years after random assignment. It begins with a discussion of the program's theory of change and associated research questions. It then describes the data sources, evaluation design, and analysis procedures.

2.1 Health Careers for All Theory of Change

Exhibit 2-1 below depicts the Health Careers for All program theory of change within the career pathways framework. It shows in detail how the program is hypothesized to produce effects on outcomes such as career knowledge and resources, which in turn will lead to effects on outcomes such as hours of training and credential receipt and eventually to longer-term gains in employment, earnings, and other life outcomes.

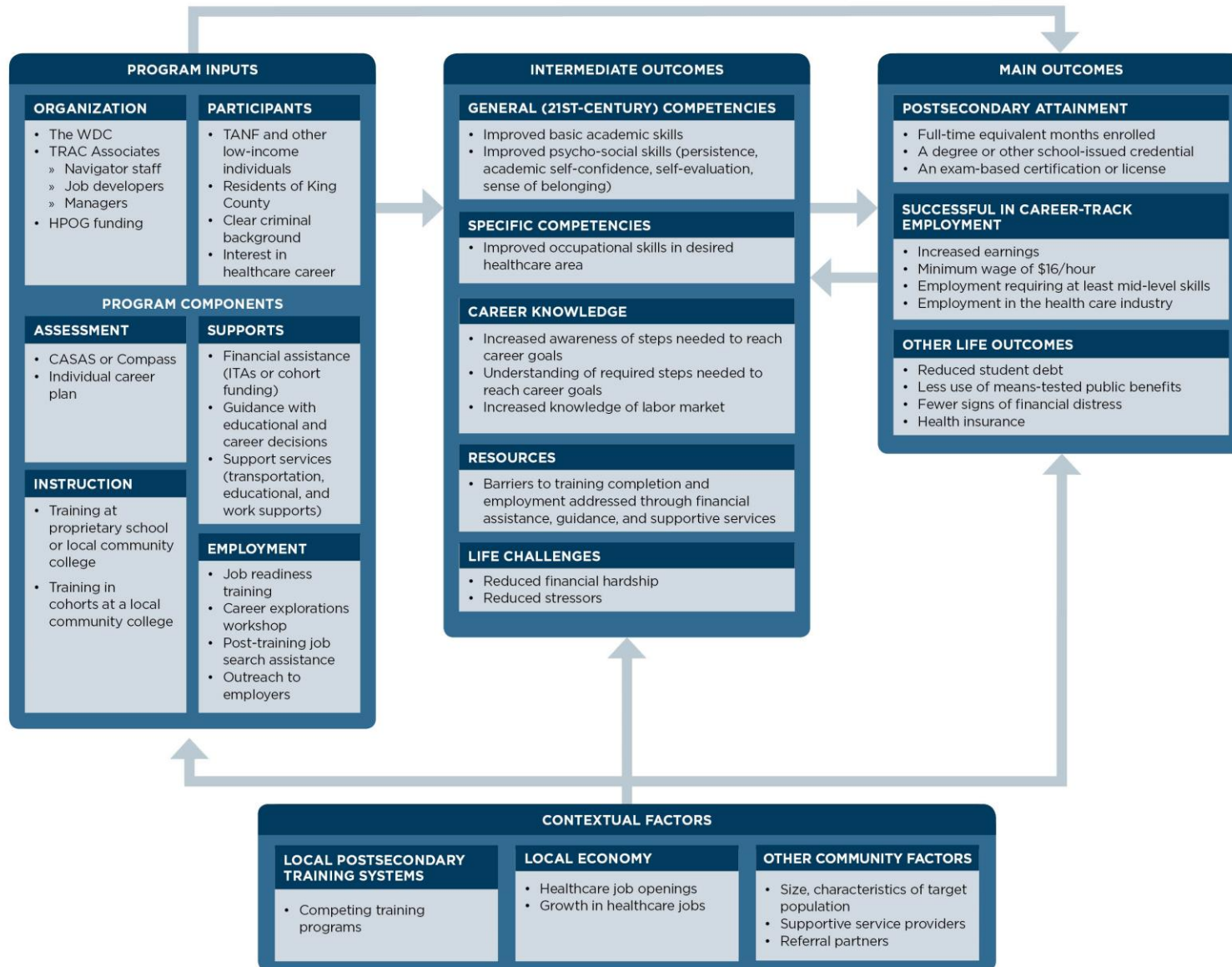
Starting in the box at the left, the theory of change begins with **program inputs** and **program components**. The short-term report (Glosser, Judkins, and Morrison 2017) found that these program inputs (WDC, TRAC, HPOG funding, and participant characteristics) and program components (e.g., navigation and case management, access to healthcare occupational training, employment services, financial assistance) were largely in place and operated as planned. After participants left the Health Careers for All program, usually within a few months of enrollment, these inputs and components no longer played a key role; as a result, we do not re-assess them now at the three-year follow-up.²⁰

The middle box shows the **"intermediate" outcomes**. Improving these outcomes was not the ultimate goal of the Health Careers for All program, but the theory of change suggests that improving participants' competencies and career knowledge, removing barriers to employment such as difficulties with childcare or transportation, and addressing life challenges such as alcohol and drug use are a necessary precursor to improving the outcomes of interest. The Health Careers for All program intended to affect these intermediate outcomes quickly so that students would be better positioned to engage in education and training.

²⁰ Although the Health Careers for All program ended in 2016, the WDC continues to oversee provision of employment services in King County through the Workforce Innovation and Opportunity Act. Moreover, the WDC received a grant award under HPOG 2.0 to operate Health Workforce for The Future, which retains many Health Careers for All components. Health Careers for All study participants, including control group members who were no longer embargoed from receiving Health Careers for All services once the program ended, could enroll in Health Workforce for The Future program services. All non-tribal HPOG 2.0 grantees are participating in the HPOG 2.0 National Evaluation, which includes an experimental impact evaluation. So although random assignment governs access to Health Workforce for The Future, PACE control group members beyond the embargo period and PACE treatment group members can bypass random assignment and participate in services.

More information about the HPOG 2.0 National Evaluation is available at <https://www.acf.hhs.gov/opre/research/project/national-evaluation-of-the-2nd-generation-of-health-profession-opportunity-grants-hpog-20-national-evaluation>.

Exhibit 2-1: Career Pathways Theory of Change for Health Careers for All



The short-term report found mixed results for the intermediate outcomes: the program improved participants' perceived career progress and access to career supports, but it appeared to actually increase the prevalence of financial hardship. Moreover, no effects on barriers to employment or life challenges were found.

The “**main**” outcomes, which are the focus of this three-year report, appear in the far right box. They include postsecondary attainment, career-track employment, and other life outcomes. These outcomes are most directly connected to the Health Careers for All program's ultimate goal of improving employment and earnings for TANF recipients and other low-income individuals.

The earlier short-term report assessed the impact of Health Careers for All on postsecondary attainment after 18 months. Because the program emphasized rapid training (students spent on average 5.4 months in a training program), we anticipated that impacts on postsecondary attainment would begin to emerge within 18 months after random assignment. That turned out not to be the case.

Although Health Careers for All boosted the receipt of credentials from schools other than colleges, the estimated impact on any credential from a college, other school, or licensing authority was not statistically significant. However, because a non-trivial proportion of students in both the treatment and control group were still enrolled in training at 18 months, educational impacts might have broadened. As a result, in this three-year report we re-assess impacts on *postsecondary attainment*. Because we expected that most training effects should have emerged within 18 months, we do not consider credential receipt a confirmatory outcome for this three-year report.

With the exception of a small number of measures of career progress and job quality, the short-term report did not assess impacts on *employment and earnings* because we anticipated that it was too early to see impacts at that time. However, with treatment group members participating in relatively short-duration training programs, it seems reasonable to expect any employment and earnings impacts to emerge within three years. The career pathways theory of change also specifies that if improvements in educational attainment lead to improvements in employment and earnings, then that should in turn lead to improvements in *other life outcomes*. Again, it seems reasonable that these changes would emerge by three years after randomization.

Finally, the exhibit shows that a number of **contextual factors** can condition impacts, such as other available training programs and local economic conditions. The short-term report explored these factors (Glosser, Judkins, and Morrison 2017), and we discuss them again in this report when they are useful for explaining program impacts.

2.2 Research Questions at Three-Year Follow-up

Three years after random assignment, what were the effects of Health Careers for All on:

- Educational outcomes?
- Entry into career-track employment and higher earnings?

- Individual and family well-being, including income and other life outcomes?

Each of these research questions is addressed, in turn, in Chapters 3 through 5.

2.3 Data Sources

Analyses in this report draw on data from several sources: baseline surveys administered to study participants immediately prior to their random assignment; follow-up surveys conducted approximately 18 months and three years after random assignment; earnings and employment data from the National Directory of New Hires (NDNH); and school enrollment data from the National Student Clearinghouse (NSC). We describe each of these data sources below.

2.3.1 Baseline Surveys

The study randomized 654 study participants between September 2012 and December 2014. All study participants completed the **Basic Information Form** just prior to random assignment. This form captured demographic information, family characteristics, educational history, and work and earnings information. At this time study participants also completed a **Self-Administered Questionnaire**, which collected more sensitive personal information such as training commitment and academic confidence.²¹ This report uses data from these baseline surveys to describe the sample and for regression adjustment.

2.3.2 Follow-up Surveys

This report focuses on outcomes measured in a three-year follow-up survey, with some reference to 18-month follow-up survey data analyzed in the *Implementation and Early Impact Report* (Glosser, Judkins, and Morrison 2017).

18-month Survey. The first follow-up survey provided measures of outcomes that the theory of change indicated Health Careers for All might affect in the short term. The findings summarized in Chapter 1 are based on these data. The primary use of the 18-month survey data in this three-year report is to help impute values for missing data on job and education spells from other data sources. Administered by telephone or in person, the survey's overall response rate was 71 percent (75 percent in the treatment group and 67 percent in the control group). Administration began at 15 months after random assignment, and the median response occurred at 18 months.

Three-year Survey. We designed the second follow-up survey to measure outcomes that the theory of change indicated Health Careers for All might affect over a longer time horizon, such as employment and other life outcomes. The survey also captured detail on respondents' educational history, a limited number of psycho-social skills, and their children's experiences with school (as applicable). The response rate for the three-year follow-up was 69 percent

²¹ Navigator staff administered the Basic Information Form on paper and then entered it electronically into the study database. Because the Self-Administered Questionnaire asked for personal information (criminal records, psycho-social skills, social support, career orientation and knowledge, and personal and family challenges), study participants filled out a paper form and then placed it in a sealed envelope that navigator staff sent to Abt Associates for data entry.

overall (71 percent in the treatment group and 68 percent in the control group).²² The median response occurred at 39 months.²³ (Appendix B in the appendix volume provides detailed descriptions of the outcomes based on the three-year survey used in this report.²⁴)

2.3.3 National Directory of New Hires

Wage records from the NDNH are a major data source for earnings and employment analyses in this report. Maintained by the federal Office of Child Support Enforcement, the NDNH includes quarterly earnings measured by state Unemployment Insurance systems and earnings of federal civilian and military employees provided by various federal agencies. The PACE project had access to these data for study sample members for two years prior to random assignment through the end of the evaluation period.²⁵

2.3.4 National Student Clearinghouse

NSC is a nonprofit organization that collects data on student enrollment, degrees earned, and other credential completion data from most U.S. colleges. Designed to aid the administration of student loan programs, researchers also use NSC data to study college access and persistence. As in most administrative data systems, data are subject to various coverage and content limitations. Most critically, coverage of private, for-profit two-year colleges is very low (less than 30 percent), and the NSC makes no attempt whatsoever to collect data from schools that are not colleges (i.e., not accredited to grant degrees).

Because a large number of Health Careers for All participants used their ITAs to enroll in schools that are for-profit two-year colleges or private non-college schools, we could not reliably use NSC data to measure impacts on educational outcomes. Instead, we measure impacts on postsecondary attainment in this report based on the three-year follow-up survey data. However, we used NSC data on college enrollment for a number of technical purposes, such as nonresponse analysis and weighting (see Appendix B.3).

2.4 Evaluation Design and Analysis Plan

The PACE project uses an experimental research design to estimate the impact of access to its nine programs (of which Health Careers for All is one) on study participants' outcomes. When properly implemented, such a design ensures that any estimated impacts can be attributed to

²² We included nonrespondents at 18 months in the eligible pool for attempted interviews at three years.

²³ More than 75 percent of the respondents completed the survey 40 months or less after random assignment. The longest lag between randomization and completion was 46 months. Additional months of follow-up potentially increases recall error and shifts means for time-sensitive variables. However, the lags were well matched between the treatment and control group, so this variation in lags between randomization and completion should not lead to false claims of program effects.

²⁴ The full instrument is available at <http://www.career-pathways.org/career-pathways-pace-three-year-instrument/>.

²⁵ Additional detail is provided in Appendix C. At the time this three-year impact report was written, 19 quarters of NDNH data were available. However, the pre-specified confirmatory and secondary outcomes in this report use only the first 13 quarters.

program access rather than to unmeasured differences between eligible study sample members with access (the treatment group) and without access (the control group).

As designed, the experiment captures impacts for all sample members, regardless of whether those assigned to the treatment group actually received the Health Careers for All program's services. In other words, this design—an “intent to treat” approach—assesses whether access to the program, including all of its components, led to better outcomes for those offered the chance to participate in it, relative to what they could have obtained without the program. For a voluntary (rather than mandatory) program, the intent to treat estimate is often the most policy relevant.

However, it is important to remember that those offered a slot in Health Careers for All are being compared to those denied a slot but who still had access to other programs and services available in the local area (“business as usual”), rather than being compared to no training. King County is rich in training opportunities. The short-term report (Glosser, Judkins, and Morrison 2017) found that at 18 months, 65 percent of the control group had enrolled in training without help from Health Careers for All. Moreover, 50 percent of the control group had enrolled specifically in healthcare training on their own. Health Careers for All only boosted these two percentages by 8 and 11 percentage points, respectively.

Another important aspect of the PACE research design is that the experiment captures the effects of the local program overall, rather than the contributions of its individual components. Designers of Health Careers for All deliberately included a package of multiple strategies (e.g., navigation and case management, access to healthcare occupational training, employment services, financial assistance) that they hypothesized were needed to produce desired impacts. As a result, the evaluation focuses on whether the program as a whole, when implemented in real-world conditions, produces an impact.

2.4.1 Hypothesis Testing

The theory of change for Health Careers for All targets a range of outcomes of interest to policymakers, program operators, and researchers. Testing for program impacts on so many outcomes causes a statistical problem: the large number of statistical tests provide the program many chances to demonstrate success; but with enough chances, even an unsuccessful program might appear to have one or two impacts. In other words, if an evaluation does not account in some way for multiple hypothesis tests, some of its findings would reach conventional levels of statistical significance merely by chance, even if there were no real effects on any outcome. This is known as the problem of “multiple comparisons.”

To avoid overinterpreting the many false positives that could arise, the PACE research team established three categories of hypotheses to structure the analysis: confirmatory, secondary, and exploratory.

- **Confirmatory hypotheses** center on outcome(s) most critical to judging whether a program seems to be achieving its goals. By limiting the confirmatory analysis to a single outcome, we can avoid the multiple comparisons problem entirely. For the three-year impact study of Health Careers for All, we specified a single confirmatory hypothesis, in

the employment domain: *an increase in average quarterly earnings in quarters 12 and 13 after random assignment*.²⁶ Because this hypothesis posits an expected direction for the impact (an increase), we applied a one-tailed test of statistical significance only in the specified direction, ignoring the possibility of an effect in the other direction.

- **Secondary hypotheses** address a parsimonious set of other important indicators of program success. Secondary hypotheses also posit effects in an expected direction—that is, either an increase or decrease in the average level of each outcome. For this reason, we again applied one-tailed tests for statistically significant effects only in the specified direction. Secondary hypotheses for Health Careers for All at the three-year follow-up include
 - an increase in
 - *full-time-equivalent months of study at non-college schools,*
 - *credential receipt from a non-college school,*
 - *credential receipt from other authorities,*
 - *any employment,*
 - *high-wage and mid-skilled employment,*
 - *employment in the healthcare industry or in a healthcare occupation,*
 - *health insurance,*
 - *confidence in career knowledge, and*
 - *access to career supports; and*
 - a decrease in
 - *dependence on public support,*
 - *student debt, and*
 - *financial hardship.*
- **Exploratory hypotheses** include a larger number of additional possible effects for related outcomes. They are intended to help improve our understanding of findings from the confirmatory and secondary analyses. Exploratory hypotheses do not necessarily posit the direction of effects, and therefore we applied two-tailed tests. Some examples of exploratory outcomes include *quarterly earnings and employment for each quarter after random assignment*, various measures of *job quality*, and measures of *financial well-being* such as living arrangements. Comparisons of program impacts between *subgroups* of study sample members are also exploratory hypotheses.

²⁶ As discussed in the analysis plan (Judkins, Fein, and Buron 2018), the Health Careers for All research team did not specify a confirmatory outcome for the program three years out in the education domain. The team made this decision based on the consideration that the program did not aspire to promote the attainment of long-term educational credentials and that the *Implementation and Early Impact Report* (Glosser, Judkins, and Morrison 2017) adequately addressed the question of the impact of the program on short-term credentials.

Throughout this report we refer to outcomes as being confirmatory, secondary, or exploratory to align with specific confirmatory, secondary, and exploratory hypotheses, respectively.

Prior to estimating Health Careers for All three-year impacts, the research team published an analysis plan specifying key hypotheses and outcome measures (see Judkins, Fein, and Buron 2018). The team subsequently assessed data quality, refined the plan, and publicly registered it on the OSF website.²⁷ The purpose of the analysis plan and registration was to guide the work of the research team and publicly commit to particular hypotheses and an estimation approach that aligns with ACF's commitment to promote rigor, relevance, transparency, independence, and ethics in the conduct of evaluations.²⁸

2.4.2 Impact Estimation Procedures

We conducted analyses to estimate the impact of Health Careers for All on the hypothesized outcomes described above and for selected subgroups.

Random assignment ensures that, on average, study sample members in the treatment and control groups will have similar characteristics at baseline. Random assignment also ensures that measured differences in subsequent outcomes provide unbiased estimates of program impacts. To address any effects that chance differences arising from random assignment might have on estimates, analysts typically estimate impacts using a procedure that compensates for chance differences in measured baseline characteristics. Such procedures also help to increase the precision of estimates.

To select baseline characteristics and estimate impacts, the PACE research team developed an approach that respects the conservative tradition of including out-of-balance characteristics, no matter what, in addition to empirically-selected covariates, but without incurring large losses in precision. We describe details of this approach—a recently developed technique called “least absolute shrinkage and selection operator (LASSO)” —in Appendix A.3.

After identifying covariates, we used a regression-adjustment model to estimate impacts three years out. All analyses of survey data applied weights developed to adjust for differential nonresponse between the treatment and control group. (Additional details on these and other aspects of the analysis appear in Appendices A and B.)

The *How to Read Impact Tables* text box below describes how to read the tables in the report's impact chapters.

²⁷ Previously the Open Science Framework; see <https://osf.io/33exb/> for the short-term (18-month) report registration and <https://osf.io/xa2pw/> for the three-year report registration.

²⁸ See <https://www.acf.hhs.gov/opre/resource/acf-evaluation-policy>.

How to Read Impact Tables

The exhibits in Chapters 3-5 show the outcome measure in the left-most column (**Outcome**).

The next column (**Treatment Group**) presents the treatment group's regression-adjusted mean outcome, followed in the next column by the control group's actual mean outcome (**Control Group**). The regression adjustments correct for random variation in baseline covariates between the two groups (and thus differ slightly from the raw means) and improve the precision of the estimates.

The next column (**Impact (Difference)**) is the impact of being offered Health Careers for All—that is, the difference between the treatment group and control group means. The **Standard Error** column is a measure of uncertainty in the estimated impact that reflects both chance variation due to randomization and any measurement error. The column labeled **Relative Impact** presents the impact as a percentage change from the control group mean. It offers a sense of how “big” or “small” the impact of the program on the treatment group is, at least relative to the control group's level. For outcomes with no natural unit of measurement, we report an **Effect Size** instead of the relative impact. The effect size is a standardized measure that defines impacts as a fraction of the pooled standard deviation across the treatment group and control group. It offers a sense of the size of the impact relative to how much the outcome varies across the full sample and allows for comparison of the size of the impact across scale outcomes.

The final column, **p-Value**, is the probability that the observed or a larger difference between the treatment group and control group would occur by chance, even if there was in reality no difference between the two groups.

Statistical significance

There are several common standards for judging statistical significance. In this report, tests are considered statistically significant and highlighted in tables if the *p*-value is less than .10. The smaller the *p*-value, the more likely that the observed difference between the treatment group and the control group is real, rather than occurring by chance. Tests with *p*-values smaller than .10 are separately flagged:

- * for .10 (10 percent level)
- ** for .05 (5 percent level)
- *** for .01 (1 percent level)

Categories of findings

Tests of statistical significance for confirmatory and secondary outcomes are one-sided tests because we have a directional hypothesis for these impacts. The confirmatory and secondary analyses are reported using **bold text** in the tables. Tests of significance for exploratory outcomes use a two-sided test, a test we use because we do not have a directional hypothesis. Exploratory analyses are reported using regular (not bolded) text in the tables.

3. Impacts on Postsecondary Education and Training

This chapter reports the impact of Health Careers for All on postsecondary education and training for the three-year follow-up period. The Health Careers for All theory of change posits that occupational instruction through ITAs or community college cohorts, coupled with a range of academic and non-academic supports, will increase postsecondary credential attainment.

This chapter uses responses to the three-year follow-up survey to report impacts on credentials and enrollment. Credentials can be awarded by schools for completion of a course or set of courses (degree, diploma, certificate), or they can be awarded by some other authority such as a state government after proof of competency (certification, license). This chapter explores program impacts on both types of credentials, further dividing those school-issued by whether issued by a college or by postsecondary non-college schools.

- ***Health Careers for All had a positive impact on receipt of credentials from schools during the first three years but not on receipt of exam-based certifications or licenses.***

As shown in Exhibit 3-1, Health Careers for All had a positive impact on the receipt of credentials issued by schools; in particular, schools that are not colleges. By the end of the three-year follow-up period, 52 percent of treatment group members reported receiving any type of credential from a school, compared to 39 percent of the control group. This difference was largely driven by credential receipt from a non-college school, where there was a 14 percentage point impact.

There was a similar impact on the percentage of treatment group members receiving a healthcare credential from a school during this period compared to the control group. Though roughly equal proportions of study members from the two groups received healthcare credentials from colleges, there was a 15 percentage point difference in healthcare credential receipt from non-college schools between the two groups. This finding aligns with differences in overall credential receipt at postsecondary schools other than colleges after three years, as well as differences described in the earlier report at 18 months, which found impacts on credential receipt at these schools: in the short-term report, there was a 10 percentage point impact on credential receipt from a non-college school (Glosser, Judkins, and Morrison 2017).

There was no statistically significant difference in receipt of exam-based certifications or licenses between the treatment group and the control group (51 percent and 45 percent, respectively).²⁹ The lack of an impact here is concerning because many healthcare professions require a state certification or license in addition to a school-issued credential.

²⁹ That more members of the control group received exam-based certifications or licenses than received any type of school-issued credential arises from some measurement issues discussed in Appendix Sections B.4 and B.5.

The emphasis on non-college schools aligns with findings from the implementation research conducted for the short-term report. Program staff emphasized that Health Careers for All was a consumer choice model, and that participants often chose a training provider based primarily on its location and schedule flexibility. This was especially the case for those seeking training as a Nursing Assistant. Program staff reported that participants typically sought programs that minimized the effect of training on their other responsibilities, such as caring for children and/or their current jobs. This often meant programs operated by private non-degree-granting schools, rather than community colleges. These non-college schools were also more attractive to some participants because their courses were shorter in duration than community college courses, and they offered accelerated courses and evening or weekend options.

Note, however, that for both the treatment and control group, colleges were still the primary training providers, granting more credentials and providing many more months of training. The length of training spells at schools that are not colleges tended to be very short, often starting and ending in the same calendar month. Most of the credentials issued by non-college schools are for Certified Nursing Assistant.

Exhibit 3-1: Three-Year Impacts on Educational Outcomes

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact (%)	p-Value
Received any type of credential from any school (%)	52.1	39.4	+12.6***	(4.9)	+32.2***	.005
From a college	30.5	29.4	+1.1	(4.4)	+3.7	.806
From a non-college school	27.2	13.3	+13.9***	(4.0)	+104.5***	<.001
Received a healthcare credential from any school (%)	48.6	36.5	+12.0**	(4.9)	+33.2**	.014
From a college	27.6	28.4	-0.8	(4.3)	-2.8	.861
From a non-college school	25.7	11.1	+14.6***	(3.9)	+131.5***	<.001
Received an exam-based certification or license (%)	50.5	44.9	+5.6	(5.1)	+12.5	<.132
Full-time-equivalent months enrolled at any school (#)	7.25	6.49	+0.76	(0.89)	+11.7	.197
At a college	6.39	6.15	+0.24	(0.88)	+3.9	.786
At a non-college school	0.84	0.34	+0.49**	(0.22)	+147.1**	.025
Enrolled in education or training at survey follow-up (%)	15.0	16.2	-1.3	(3.5)	-7.4	.717
Sample size	233	219				

Source: PACE three-year follow-up survey, except exam-based certification or license is a blended variable based on 18-month and three-year follow-up surveys.

Note: Secondary outcomes are **bolded** and statistical significance is based on one-tailed tests; exploratory outcomes are not bolded and statistical significance is based on two-tailed tests. "Relative Impact" represents impacts in column 3 as a fraction of the corresponding control group mean (i.e., $100 \times [\text{impact}/\text{control group mean}]$).

Statistical significance levels based on differences between research groups: *** 1 percent level; ** 5 percent level; * 10 percent level.

- ***Health Careers for All did not affect the overall average duration of education and training during the first three years, though it did affect duration of education and training at non-college schools specifically.***

There was no statistically significant difference in average number of full-time-equivalent months enrolled during the first three follow-up years (Exhibit 3-1). As with other education and training outcomes, a difference emerges when looking at impacts by school type—specifically, college versus non-college schools. Though the overall average on months enrolled was low for both the treatment group (0.84 months) and the control group (0.34 months), the difference between the two averages is statistically significant.

As noted above, this impact finding aligns with earlier findings from the short-term study, which indicated that treatment group members were primarily attending non-college schools to receive training as a Nursing Assistant. These non-college programs are less likely to have transferable credits for subsequent training, reducing the potential for this impact to translate into effects on the longer-term educational trajectory of these students. Moreover, because there was no impact at three years on the months of enrollment overall, this non-college impact suggests the Health Careers for All program influenced the type of school that treatment group members attended, as opposed to the duration of their enrollment.

4. Impacts on Earnings and Employment

The Health Careers for All theory of change suggests that positive impacts on credential attainment and hours of education and training received will lead to higher levels of earnings and employment, particularly healthcare-related employment. The short-term report did not specifically assess earnings and employment impacts because it seemed too early for them to emerge.³⁰ However, it seems reasonable to expect impacts after three years because program participants could have completed one or more credentials, including longer-term ones, and attained healthcare-related employment and earnings associated with their credentials. As described in Chapter 3, the program had impacts on credential attainment generally as well as on attainment of healthcare credentials specifically.

This chapter reports whether the program resulted in impacts on earnings, employment, and several measures of job quality at three years. The confirmatory outcome for this study—the outcome we pre-specified to use to determine whether Health Careers for All is meeting its goals three years after random assignment—is *average quarterly earnings in follow-up quarters 12-13*.

4.1 Impact on Earnings

We used NDNH wage records to determine whether earnings impacts emerged by the end of the three-year follow-up period. Exhibit 4-1 summarizes these findings.

- ***Health Careers for All did not increase average quarterly earnings in follow-up quarters 12-13.***

The top row in Exhibit 4-1 shows that the difference between the treatment group and control group in average quarterly earnings in quarters 12 and 13 was negative (−\$404; i.e., earnings were higher for the control group than for the treatment group) and was not statistically significant.³¹

As noted in the *How to Read Impact Tables* text box at the end of Chapter 2, there is uncertainty associated with the impact estimates, and this uncertainty is reflected in the standard errors. In the earnings domain, a major source of uncertainty is that earnings vary substantially across individual study participants. When we incorporate that uncertainty into a range of plausible impacts, we cannot rule out that the true impact is as large as +\$210 or as

³⁰ For the short-term report, the team examined employment-based exploratory outcomes that looked at whether respondents were working in a job paying \$13 per hour or more and whether they were working in a job requiring at least mid-level skills (both based on 18-month survey data). There were no statistically significant impacts on either measure.

³¹ We present regression-adjusted estimates here following the approach described in the analysis plan (Judkins, Fein, and Buron 2018). This accounts for imbalance in pre-randomization earnings. The unadjusted estimate is \$63, and as with the other estimate, it is not statistically significant. For additional discussion of the impact of regression adjustment on this and other estimated impacts, see Section A.3 of Appendix A.

small as -\$1,018.³² Thus, it is very unlikely that Health Careers for All caused an increase in quarterly earnings larger than \$210; most of the range of plausible impacts are either negative or not sufficiently larger than zero to be meaningful.

We also estimated the impact of Health Careers for All based on the three-year follow-up survey, which roughly aligns with quarter 12. Briefly, the alternative estimates (shown in Appendix D) are positive but not statistically significant. The research team investigated potential explanations for the discrepancy but could not determine any definitive reasons.

Exhibit 4-1 also shows impacts on longer periods of time based on NDNH data. These estimates are also negative but very imprecise and not statistically different from zero.

Exhibit 4-1: Three-Year Impacts on Earnings

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact (%)	p-Value
Confirmatory Outcome: Average quarterly earnings Q12-Q13 (\$)	4,964	5,368	-404	372	-7.5	.861
Total Earnings (\$)						
In last year of follow-up (Q12-Q15)	20,942	21,930	-989	1,495	-4.5	.509
Since randomization (Q1-Q15)	60,011	64,528	-4,518	3,925	-7.0	.250
Sample size	328	324				

Source: National Directory of New Hires.

Note: Confirmatory and secondary outcomes are **bolded** and statistical significance is based on one-tailed tests; exploratory outcomes are not bolded and statistical significance is based on two-tailed tests. "Relative Impact" represents impacts in column 3 as a percentage of the corresponding control group mean (i.e., 100 × [impact/control group mean]).

Statistical significance levels based on differences between research groups: *** 1 percent level; ** 5 percent level; * 10 percent level.

4.2 Impact on Employment

This section examines impacts on the level of employment and job characteristics as captured in the three-year follow-up survey. These findings offer additional information on the earnings estimates reported above.

- **Health Careers for All did not increase overall employment as of three years after random assignment.**

Exhibit 4-2 below shows that there was not a statistically significant difference between the employment levels of the treatment group and control group at the time of the three-year follow-up survey, which is consistent with analysis of administrative earnings data from NDNH (see Appendix D, Exhibit D-1). Slightly more than two thirds of both the treatment group and control group reported employment at the time of survey follow-up.

³² These values are the endpoints for a 90 percent confidence interval for average earnings in quarters 12 to 13.

Exhibit 4-2: Three-Year Impacts on Employment and Career Progress

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact (%)	p-Value
Employed at survey follow-up (%)	70.2	68.7	+1.5	(4.6)	+2.2*	.377
Indicators of Career Pathways Employment						
Employed and: (%)						
Earning \$16 per hour or more^a	29.9	25.4	4.5	(4.5)	+17.7	.159
Working in the healthcare field (could include ancillary occupations in healthcare settings)	49.5	43.0	+6.5*	(5.0)	+15.1*	.095
Working in a healthcare occupation (duties include a role in the diagnosis or treatment of health problems)	32.2	23.0	9.2**	(4.6)	+40.0**	.044
Indicators of Job Quality						
Employed and: (%)						
Working in a job requiring at least mid-level skills^b	21.0	22.5	-1.5	(4.2)	-6.7	.639
Working at least 32 hours per week	41.4	46.6	-5.2	(5.1)	-11.2	.312
Working straight day, evening, or night shifts	56.1	58.3	-2.1	(5.1)	-3.8	.675
Working in job that offers health insurance	46.6	50.7	-4.1	(5.1)	-8.1	.419
Working in job with supportive working environment ^c	38.2	33.2	+5.0	(4.9)	15.1	.312
Sample size	233	219				

Source: PACE three-year follow-up survey.

^a \$16 per hour is the 60th percentile of the wage distribution for control group members who were employed at survey follow-up.

^b O*NET Job Zone 3 or higher.

^c A job is considered to have a supportive working environment if the worker reports a rich combination of family-friendly policies, helpful coworkers and supervisors, high job satisfaction, generous fringe benefits, and opportunities for advancement.

Note: Secondary outcomes are **bolded** and statistical significance is based on one-tailed tests; exploratory outcomes are not bolded and statistical significance is based on two-tailed tests. "Relative Impact" represents impacts in column 3 as a percentage of the corresponding control group mean (i.e., $100 \times [\text{impact}/\text{control group mean}]$).

Statistical significance levels based on differences between research groups: *** 1 percent level; ** 5 percent level; * 10 percent level.

To supplement the quarterly earnings estimates reported in the previous section, we tested whether the Health Careers for All program could generate a moderate initial boost in wages with the expectation for further impact over time (a key assumption in the theory of change). We define these jobs using the 60th percentile of the wage distribution for control group members who were employed, which corresponds to about \$16 per hour (Exhibit 4-2). There was no

significant difference in percentage of treatment and control group members who reported that they were employed at jobs that pay \$16 per hour or more at the time of the survey.³³

■ ***Health Careers for All increased employment in the healthcare field.***

The three-year follow-up survey asked study participants about their employment status and, for those working at the time of the survey, about the characteristics of their job. As Exhibit 4-2 above shows, nearly 50 percent of the treatment group self-reported employment in the healthcare field, an increase of almost 7 percentage points over the control group. The survey also included three open-ended questions about the kind of work done, usual activities completed, and the job title. We converted these into a U.S. Department of Labor Standard Occupational Classification (SOC) code and used that code to classify employment in the healthcare sector (see Appendix C). Using this measure, we find a statistically significant 9 percentage point impact on employment in a healthcare occupation.

Health Careers for All, which received funding from the HPOG Program, was an effort to meet the dual policy goals of increasing the supply of healthcare workers while also creating training opportunities for low-income adults. Thus, the findings indicate that even if Health Careers for All did not succeed in increasing earnings three years out, the program appears to have succeeded in furthering the important first goal.

■ ***Health Careers for All had no detectable impact on measures of job quality.***

The bottom panel of Exhibit 4-2 above reports treatment and control group self-assessment of job quality. Treatment group members were no more likely than control group members to report their current job required “at least mid-level skills,” classified as jobs in O*NET Job Zone three or higher.³⁴ About one in five study participants in both the treatment group and control group reported employment in this type of job. Similarly, the program did not improve other measures of job quality, such as working in a job for at least 32 hours per week or working straight shifts. Treatment group members were also no more likely to report working in a job that offers health insurance or working in a job with a supportive working environment.

³³ As noted earlier in this report, the City of Seattle implemented a new minimum wage law in 2014. This change required gradual phase-in of a \$15 per hour minimum wage for all jobs there. By 2018, the minimum wage for all employers with 501 or more employees was \$15 or greater. The three-year follow-up survey was fielded from September 2015 through June 2018.

³⁴ O*NET defines occupations in Job Zone 3 as those that “need medium preparation.” Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate degree. O*NET lists Medical Assistant as an example of an occupation in Job Zone 3. See <https://www.onetonline.org/help/online/zones>.

5. Impacts on Other Life Outcomes

This chapter examines whether Health Careers for All affected other life outcomes, including those related to career knowledge and support, family economic well-being, parental engagement, and child outcomes. The program theory of change implies that outcomes related to personal and family well-being will improve as a result of increases in education and training that lead to more favorable earnings and employment outcomes. Improved outcomes related to career knowledge and support are expected to support improvements in earnings and employment.

As discussed in Chapter 4, although treatment group members were more likely to earn a range of credentials from non-college schools, education and training thus far have not translated into career-track jobs with higher earnings. As a result, this would suggest that impacts on more distal outcomes are unlikely.

5.1 Impact on Career Knowledge, Availability of Career Supports, and Psycho-Social Skills

This section reports Health Careers for All's impacts on career knowledge, availability of career supports, and psycho-social indicators. The study's analysis plan hypothesizes that improvements to these outcomes would boost postsecondary educational attainment and career progress (Judkins, Fein, and Buron 2018).

- ***Health Careers for All did not increase confidence in career knowledge or access to career supports.***

There were no significant differences between the treatment group and control group in their reports of access to career supports or confidence in career knowledge (Exhibit 5-1 below)—two secondary outcomes. This stands in contrast to the significant positive effects of Health Careers for All on both outcomes at 18 months, but the difference in estimated effects at the two points in time is not itself statistically significant. Based on the point estimates, it appears that the control group gained a little career knowledge whereas the treatment group lost a little access to career supports, but all the differences are small relative to standard errors.

Turning attention to exploratory outcomes, as of three years, there was a positive impact on perceived career progress, though of a smaller magnitude (difference of 0.15) than was found in the short-term report (0.24).³⁵ There were no significant differences in psycho-social skills such as grit, core self-evaluation, or index of life challenges. Given the extra vulnerability of exploratory outcomes to false discoveries (as discussed earlier in Section 2.4.1), we conclude that there is little evidence of any impacts in this domain.

³⁵ Perceived career progress is a three-item measure that combines progress toward long-term educational goals, progress toward long-term employment goals, and a self-report of being on a career path. In a sensitivity analysis, we removed the education component of the measure to test whether impacts were being driven by that component. Removing it did not change the results.

Exhibit 5-1: Impacts on Career Knowledge, Career Supports, and Psycho-Social Skills

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Effect Size	p-Value
Confidence in career knowledge^a	3.43	3.40	+0.04	(0.06)	+0.06	.286
Career Supports						
Access to career supports^b	1.65	1.62	+0.03	(0.04)	+0.08	.222
Perceived career progress ^c	3.30	3.16	+0.15*	(0.09)	+0.18*	.094
Psycho-Social Indicators						
Grit ^d	3.28	3.29	-0.01	(0.06)	-0.01	.913
Core self-evaluation ^e	3.37	3.37	0.00	(0.06)	0.00	.990
Index of life challenges ^f	1.73	1.82	-0.09	(0.07)	-0.13	.189
Sample size	233	219				

Source: PACE three-year follow-up survey.

^a Seven-item scale tapping self-assessed career knowledge; response categories range from 1=strongly disagree to 4=strongly agree.

^b Six-item scale tapping self-assessed access to career supports; response categories range from 1=no to 2=yes.

^c Three-item scale on whether reaching long-range educational goals and employment goals and whether on career path; response categories range from 1=strongly disagree to 4=strongly agree.

^d Eight-item scale measuring self-assessed persistence and determination; response categories range from 1=strongly disagree to 4=strongly agree.

^e Twelve-item scale measuring self-assessed self-efficacy; response categories range from 1=strongly disagree to 4=strongly agree.

^f Five-item scale of situations that could interfere with school, work, job search, or family responsibilities; response categories ranged from 1=never to 5=very often.

Note: Secondary outcomes are **bolded** and statistical significance is based on one-tailed tests; exploratory outcomes are not bolded and statistical significance is based on two-tailed tests. “Effect Size” represents impacts in column 3 as a fraction of the pooled standard deviation across the treatment and control groups. See Appendix C for a description of outcome measures.

Statistical significance levels based on differences between research groups: *** 1 percent level; ** 5 percent level; * 10 percent level.

5.2 Impact on Family Economic Well-Being

This section reports impacts for several measures of family economic well-being, including health insurance coverage, receipt of means-tested benefits, debt, and signs of financial distress.

- **Health Careers for All had no detectable impact on most measures of family economic well-being.**

The Health Careers for All theory of change suggests that a number of program components, (academic and non-academic advisors, employment services, and financial assistance) would lead to increased training and earnings, which subsequently would lead to positive outcomes on a range of family economic well-being measures, including decreases in receipt of means-tested public benefits, student loan debt, and signs of financial distress. However, the expected direction of some effects is less clear at the three-year mark. For example, non-academic advising could facilitate enrollment in a means-tested program such as TANF or Medicaid to make persisting in college more manageable (but would increase benefits receipt). Career-track employment and higher earnings could reduce the need for these benefits, but less than a third of treatment group members are employed in career-track jobs (i.e., jobs that require at least mid-level skills and/or pay at least \$16 per hour), and Health Careers for All did not significantly boost the prevalence of such employment (see Section 4.2 of Chapter 4). Access to financial supports would lead to lower student debt.

As Exhibit 5-2 shows, health insurance coverage rates were high among both the treatment group (88 percent) and the control group (93 percent) three years after random assignment, with no significant difference between the two. Similarly, though overall receipt of some sort of means-tested benefit was high in the treatment and control group (70 percent and 76 percent, respectively) there were no significant differences between the groups.³⁶

Exhibit 5-2: Impacts on Selected Measures of Family Economic Well-Being

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact (%)	p-Value
Has health insurance coverage (%)	87.8	93.3	-5.5	(3.1)	-5.9	.963
Receipt of Means-Tested Benefits^a						
Any means-tested public benefits (%)	70.3	75.5	-5.1	(4.4)	-6.9	.122
Debt						
Personal student debt amount (\$)	1,827	1,196	+631	(506)	+52.8	.894
Signs of Financial Distress						
Any signs of financial distress (%) ^b	59.3	63.3	-4.0	(4.8)	-6.3	.201
Sample size	233	219				

Source: PACE three-year follow-up survey.

^a Means tested-benefits reflects whether respondent reports whether they or anyone in their household receives TANF, SNAP, WIC, Medicaid, subsidized childcare, Section 8 or Public Housing, Low-Income Home Energy Assistance Program, or free or reduced-price lunch.

^b Signs of Financial Distress is a flag for utility disconnects, delayed health/dental care, hunger, trouble paying bills, or making ends meet.

Note: Secondary outcomes are **bolded** and statistical significance is based on one-tailed tests; exploratory outcomes are not bolded and statistical significance is based on two-tailed tests. "Relative Impact" represents impacts in column 3 as a fraction of the corresponding control group mean (i.e., $100 \times [\text{impact}/\text{control group mean}]$).

Statistical significance levels based on differences between research groups: *** 1 percent level; ** 5 percent level; * 10 percent level.

Additionally, Health Careers for All did not affect student debt or signs of financial distress. Roughly 60 percent of both the treatment and control group reported signs of financial distress; the slight estimated difference between the groups was not statistically significant. The three-year follow-up survey also included an array of exploratory outcome measures related to family formation. We do not include them here given the lack of effects on any of the secondary outcomes shown in Exhibit 5-2.

5.3 Impact on Parental Engagement and Child Outcomes

This section assesses impacts on several outcomes related to child well-being and parental engagement. The Health Careers for All program provided no direct services to children, but the program's theory of change hypothesizes that any effects are to flow from parents' experiences with the program and increases in their educational attainment, employment, or income. It is possible that parents who pursue training in a field, complete the training, and move into employment in that field feel they have accomplished a life goal, which could more incline them to encourage their children to do well in school—a positive for children. Additionally, children's outcomes might improve if their parents' pursuit of more education and better work opportunities

³⁶ Not shown, 7 percent of members of the treatment group at follow-up were on TANF, 45 percent were receiving SNAP or WIC, and 30 percent were on Medicaid. These rates were not statistically different from the control group's.

serves as a role model. Conversely, it is also possible that parents who are at school or working at career-track jobs are less able to engage with and supervise their children—a negative for children.

Note that the three-year follow-up survey asked parenting questions only of parents with minor children at baseline. Because only 44 percent of study participants had eligible children, the analysis is not well powered to detect small differences in impacts.

Health Careers for All had no impacts on parental engagement.

Exhibit 5-3 shows that Health Careers for All did not have a statistically significant impact on three measures of parental engagement. The impact results from these three measures—parents’ belief their child will graduate from college, parents’ presence in daily family activities, and parents’ sense of self-efficacy in helping their children navigate school—suggest that the program did not have impacts on parental engagement.

Exhibit 5-3: Impacts on Child Outcomes (Parent Reports) and Parental Engagement

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	Relative Impact (%)	p-Value
All Children						
Parent believes child will graduate college (%)	84.8	86.9	-2.1	(5.3)	-2.4	.698
Highly engaged parent (parent almost always present for meals and other daily family activities) (%)	31.1	21.8	+10.3	(6.5)	49.5	.116
Parent self-efficacy for helping child navigate school ^a	3.42	3.38	+0.04	(0.06)	+0.09 ^b	.539
Sample size	102	104				

Source: PACE three-year follow-up survey.

^a Parental self-efficacy based on seven items (e.g., “I know how to help my child in school”) rated from 1=disagree very strongly to 6=agree very strongly. See Appendix Exhibit B-4 for more details on child outcome measures.

^b For the scale variable (parent self-efficacy), we report effect size rather than relative impact. Effect size represents impacts in column 3 as a fraction of the pooled standard deviation of the treatment control group.

Note: All of the subgroup analysis is exploratory and statistical significance is based on two-tailed tests. “Relative Impact” represents impacts in column 3 as a fraction of the corresponding control group mean (i.e., 100 × [impact/control group mean]).

Statistical significance levels, based on differences between research groups: *** 1 percent level; ** 5 percent level; * 10 percent level.

6. Discussion and Conclusions

The WDC received an HPOG grant to implement Health Careers for All. The program, which operated between 2010 and 2016, provided financial support for training, along with case management, employment services, and financial assistance to help address barriers to program completion or employment. Like all HPOG-funded programs, it aimed to advance the economic well-being of low-income individuals and to increase the overall healthcare workforce in the community. This report documents program impacts on postsecondary education and training, earnings and employment, and other life outcomes three years following random assignment.

We conclude that it is unlikely Health Careers for All had a meaningful impact on earnings in the first three years after random assignment. Our estimated average quarterly earnings impact of $-\$404$ is not significantly different from zero, and uncertainty associated with the estimate implies a plausible range of $-\$1,018$ to $+\$210$, meaning that large negative impacts are more plausible than even very modest positive impacts.³⁷ Furthermore, estimated earnings impacts remained small and statistically insignificant when we extended the analysis on earnings impact using administrative data to four years.

The program did not increase earnings or have a positive impact on the more distal outcomes of personal and family well-being that might have been expected had there been substantial increases in earnings. However, the program did have positive impacts on several outcomes that the program believed to be precursors to earnings impacts. Specifically, Health Careers for All increased receipt of educational credentials by 13 percentage points and employment in the healthcare field by almost 7 percentage points.

This concluding chapter explores possible explanations for why the impact on credentials did not translate to a detectable impact on earnings and ends with plans for future research.

6.1 Findings in the Context of Recent Research

The Workforce Development Council of Seattle–King County developed Health Careers for All to expand training opportunities in the healthcare field for low-income populations in the greater Seattle region. The model, particularly its use of ITAs, has parallels with existing workforce programs, specifically training supports provided through the Workforce Innovation and Opportunity Act (WIOA) and its precursor, the Workforce Investment Act (WIA).³⁸ Therefore, it is useful to look at prior evaluations of the WIA program and compare impact findings from those evaluations to findings from Health Careers for All. Additionally, the WDC Health Careers for All

³⁷ The upper end of this plausible range is not large relative to results from some recent studies. For instance, about two years after random assignment, impact for the Special Education in Institutional Settings (SEIS) Education Initiative was $+\$1,011$ per quarter (Maguire et al. 2010) and for Per Scholas (one provider in the WorkAdvance Demonstration) was $+\$937$ per quarter (Hendra et al. 2016).

³⁸ The WDC directs and oversees the network of American Job Centers funded under WIOA.

received funding from HPOG and is part of that larger evaluation (HPOG 1.0 Impact Study); findings across the 23 HPOG 1.0 grantees that participated in the impact study are available for this same three-year time period. Finally, evaluations of other sectoral training programs that serve low-income adults are useful to consider.

All of the programs reviewed in this section were evaluated using an experimental research design. Though the evaluations examined a range of outcome measures, for consistency we focus on two key outcomes: *percentage of sample members who completed the training and received a certificate or credential* and *average quarterly earnings*.

- ***Two national evaluations of programs that funded short-term occupational training, case management, and employment services had results that are consistent with the results from the Health Careers for All impact study.***

The first evaluation, the WIA Adult and Dislocated Worker Programs Gold Standard Evaluation, funded by the U.S. Department of Labor (DOL), assessed the effectiveness of three tiers of services offered by WIA: (1) *core* services, consisting mainly of information and online tools available to everyone at AJCs; (2) *intensive* services, which included more staff-assisted employment services; and (3) *training* services, the majority of which were funded through ITAs (Fortson et al. 2017).³⁹ The study randomly assigned eligible individuals into one of three study groups: (a) the full-WIA group, who were offered all three tiers of services; (b) the core-and-intensive group, who could receive core and intensive services only; and (c) the core group, who could receive core services only. The array of services offered to the full-WIA group is closest to the services offered by Health Careers for All, making the full-WIA group versus the core group the most apt comparison to impacts from Health Careers for All.⁴⁰

The second and most relevant evaluation of healthcare training is the HPOG 1.0 Impact Study. The WDC was one of three HPOG 1.0 grantees that was evaluated as a standalone program as part of PACE, in addition to being included in the HPOG 1.0 Impact Study. For its analysis, the HPOG 1.0 Impact Study pooled all study sample members from a large and diverse set of 23 grantees, operated by community and technical colleges, workforce agencies, nonprofit institutions, and government agencies. A large majority of HPOG 1.0 participants (84 percent) participated in short-term trainings, such as Nursing Aide, Orderly, and Attendant; only 16 percent participated in longer-term trainings, such as Registered Nurse. In most HPOG 1.0

³⁹ WIA was replaced on July 1, 2015, by the Workforce Innovation and Opportunity Act.

⁴⁰ There are four key differences between the Gold Standard Evaluation and this PACE evaluation of the Health Careers for All program. (1) Health Careers for All treatment group members had access to a wider array of training options, including cohorts that the WDC had purchased from local community colleges, whereas ITAs were the primary training option for individuals in the WIA Gold Standard full-WIA group. (2) The WIA Gold Standard's core group members were expected to access core services from the AJCs, whereas Health Careers for All's control group members could access these services anywhere in the community, though they had to find services on their own. (3) Health Careers for All's control group was not restricted from accessing training funded by WIA, though they had to seek out this funding and there was no guarantee they would receive it. (4) For the roughly 40 percent of Health Careers for All control members on TANF, they could potentially access TANF-funded training.

programs—similar to Health Careers for All—treatment group members had access to more financial and support services than did the control group members.

The WIA Gold Standard Evaluation, HPOG 1.0 Impact Study, and this Health Careers for All impact study all achieved very similar impacts on **receipt of credentials**—14 percentage points for the full-WIA group after 30 months, 12 percentage points for the HPOG 1.0 Impact Study after three years, and 13 percentage points for the Health Careers for All study after three years.

Differences between treatment and control group **earnings** were also similar across studies. The WIA Gold Standard Evaluation found an impact on quarterly earnings in only Q5 (+\$543),⁴¹ and the HPOG 1.0 Impact Study found an impact only in Q7 (+\$140).⁴² As reported in Chapter 4 of this report, Health Careers had no detectable impact on earnings.

- ***In these models, the case management services and other supports may be just as important (or more important) than the training itself.***

The WIA Gold Standard Evaluation found that compared with the core-only group, the intensive-only group achieved the same earnings gains as the full-WIA group that received both core and intensive services and training. That finding led the authors to conclude that any increase in earnings for the full-WIA group compared with the core-only group should be attributed to the intensive services, rather than to the WIA-funded training.

Another prominent DOL-funded WIA evaluation compared three approaches to ITAs, varying the level of customer choice and the dollar amount at which ITAs are capped (Perez-Johnson, Moore, and Santillano 2011). It found that clients who received more-structured guidance and higher-valued ITAs were more likely to complete their training, to earn a credential in the field of their training, to be employed in the occupation for which they trained, and to have higher earnings, compared with those who received less-structured guidance and lower ITA amounts. The findings suggest that more-structured navigation has positive effects over less-directive assistance, though higher ITA amounts also may have contributed to better outcomes. However, the ITA evaluation's implementation study reported that staff found it challenging to implement the structured guidance as planned, instead often deferring to clients' preferences.

Both the WIA Gold Standard Evaluation and the ITA evaluation attest to the importance of staff assistance and navigation support, which aligns with the Health Careers for All program model. Though the Health Careers for All model provides students with the certificates they need to find employment in some occupations, the Gold Standard Evaluation and the ITA evaluation suggest that a key component of a program such as Health Careers for All is the navigation and employment supports it provides. However, similar to staff in the ITA evaluation, the reliance on

⁴¹ The Gold Standard Evaluation also estimated quarterly earnings from its survey data and found impacts in three of 12 quarters.

⁴² The HPOG 1.0 short-term impact report (Peck et al. 2018) found an impact of \$127 on Q5 earnings, at which point, as a secondary outcome, Q5 earnings was subject to a one-tailed hypothesis test. For the three-year impact report (Peck et al. forthcoming) that Q5 earnings became an exploratory outcome subject to a two-tailed test, which failed to show a detectable impact.

a consumer choice model for Health Careers for All may have limited navigators' ability to offer more focused guidance on training options best-suited to support employment and earnings increases.

■ ***Studies of other occupational training programs that targeted a more educated population found larger impacts.***

A few relevant studies provided training to low-income adults, but only after screening applicants for readiness or the resources to participate in a lengthier application process and more intensive training. This differed from Health Careers for All, which screened out few applicants and focused primarily on short-term training.

For example, Project QUEST—which operates in San Antonio, Texas—targeted adults from low-income households who were interested in attending one of its healthcare career-track programs full-time after completing any necessary remedial and prerequisite classes. Its training programs included Licensed Vocational Nurse; Registered Nurse; Medical Records Coder; and Radiography, Respiratory, Sonography, and Surgical Technicians. Most of these programs took one to two years after students met prerequisite requirements (Roder and Elliot 2019). The evaluation found that QUEST treatment group members earned about \$20,000 more than control group members in the nine years after random assignment; in year 9 alone, QUEST treatment group members earned more than \$5,000 more than control group members (Roder and Elliot 2019).

WorkAdvance consisted of four separate programs that specialized in specific sectors (information technology, environmental remediation, transportation and manufacturing, and healthcare). It implemented a rigorous screening process that included several steps and required interested individuals to report to the provider on multiple occasions. The training was relatively short term—lasting four weeks to 32 weeks, depending on the program—but WorkAdvance increased earnings for the treatment group pooled across the four programs by about \$1,865 (12 percent) over the control group average in year 3 (Schaberg 2017). One of the programs, Per Scholas, increased earnings by \$4,829 in year 3.

Year Up provided six months of full-time training in the information technology and financial service sectors, followed by six-month internships. It also administered an intensive, multi-stage assessment and screening process that involved assessing applicants' abilities and skills through individual and group activities, followed by one-on-one interviews with program staff. Year Up increased average quarterly earnings by \$1,895 (53 percent) in the sixth and seventh quarters after random assignment (Fein and Hamadyk 2018).

Most of these other programs offered training for higher-paying jobs that required more education and skills, and which may have required more screening and assessment to ensure applicants could succeed in the programs. It is not possible to disaggregate the effect on the programs' impacts of the screening versus the type of training offered.

6.2 Possible Explanations for Health Careers for All Impact Findings

Findings from this study align quite closely with those from a concurrent three-year evaluation of another HPOG-funded program included in PACE—the San Diego Workforce Partnership’s Bridge to Employment in the Healthcare Industry program (Farrell et al., 2020). As with Health Careers for All, the program in San Diego also offered a combination of ITAs and healthcare-focused case management to low-income adults interested in careers in healthcare.

For both interventions, their impact studies found significant impacts on credential receipt, both overall and in healthcare specifically, but not on full-time-equivalent months enrolled at any school. Additionally, neither program found impacts on overall employment or earnings. However, as with Health Careers for All, the San Diego program did have an impact on the percentage of treatment group members working in a healthcare occupation. The specifics of program implementation and local context in which the programs were delivered vary. For example, Health Careers for All offered both ITAs and cohort-based course packages at community colleges. However, the similarities in both program design and the results underscore the potential limitations of a program model focused on short-term, entry-level healthcare training for affecting longer-term employment and earnings.

This section explores two possible explanations for the absence of positive impacts on earnings: (1) training for short-term, entry-level jobs does not consistently translate into enrollment in more-advanced training that comes with higher-wage employment options; and (2) the increases to the local minimum wage reduced the return on entry-level healthcare work.

- ***The emphasis on short-term training, specifically Nursing Assistant, may have contributed to the lack of earnings gains for treatment group members.***

There was high initial engagement in educational and training services by treatment group members. However, most of this was concentrated in either short-term healthcare training or prerequisite coursework for occupational training programs. After 18 months, more than 80 percent of treatment group members had enrolled in some form of training program, either a prerequisite to occupational training or a healthcare training program (Glosser, Judkins, and Morrison 2017).

Of the 64 percent who enrolled in at least one healthcare training program, most (69 percent) enrolled in Nursing Assistant training programs. The engagement in these programs is reflected in Health Careers for All’s impact on credentials and employment in healthcare occupations. However, Nursing Assistant jobs are relatively low-wage occupations and advancement to higher-wage jobs typically requires substantial additional training (Loprest and Sick 2018). The lack of impacts on longer-term measures of education and training (e.g., full-time-equivalent months enrolled at any school at three years) suggests that this initial training did not translate into increased enrollment in more-advanced training programs; roughly 15 percent of both the treatment and control group were currently enrolled in education or training at the three-year follow-up.

Entry-level training in this field does help increase the number of available workers in a growing sector of the economy, but the results from this evaluation suggest that an entry-level

healthcare job is not necessarily a pathway to sustained—and perhaps not to any—earnings gains. There may be greater opportunities for earnings gains if programs such as Health Careers for All can encourage participants to return for longer-term training. However, this may be particularly challenging for programs like Health Careers for All that focus on the healthcare field, where the jump from entry- to mid-level occupations requires substantial investment. For example, a newly minted nursing assistant seeking to become a nurse would need to take Licensed Vocational or Licensed Practical Nurse or Registered Nurse training, which takes from one to four years. This commitment may be unrealistic for many participants. Moreover, participants completing Nursing Assistant programs may need to increase their basic skills levels or take academic prerequisites before even starting additional training.

- ***Rising wage rates and low unemployment in the Seattle metro areas may have negated any potential earnings gains associated with increases in healthcare employment.***

The greater Seattle area labor market tightened significantly during the study period. In 2012, the average monthly unemployment rate in King County was 6.3 percent; by 2016 the monthly average had dropped to 3.9 percent.⁴³ At the same time, wages for low-income populations increased, concurrent with a new minimum wage law implemented by the City of Seattle in 2014 (Jardim et al. 2018). These two co-occurring labor market trends may have contributed to expanded employment and earnings opportunities for control group members. Even though the control group at follow-up was less likely to be working in healthcare than the treatment group, the rising wages for all low-skill, entry-level jobs may help explain why the treatment group's greater entry into the healthcare field did not translate into comparatively higher earnings. According to O*NET OnLine, the national median wage for Nursing Assistant in 2018 was \$13.72 whereas the national median wage for fast food workers was \$10.22.⁴⁴ In Seattle, it seems likely that both occupations earned the new minimum wage of \$15 per hour in 2018.

6.3 Future Research

The Health Careers for All findings at three years after random assignment raise a number of interesting questions for longer-term research. Some of these questions concern possible effects that could still arise and will be addressed by future research on Health Careers for All. Other questions would require tests of revised models

6.3.1 Future Research of Health Careers for All

- ***Over a longer follow-up, will treatment group members have higher earnings than control group members?***

A future PACE follow-up impact study report covering six years after random assignment will have at least nine more quarters of NDNH wage records with which to analyze longer-term

⁴³ "May 2016 Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates: Seattle-Tacoma-Bellevue, WA." Occupational Employment Statistics (website). Bureau of Labor Statistics. Last modified March 31, 2017. https://www.bls.gov/oes/2016/may/oes_42660.htm.

⁴⁴ See <https://www.onetonline.org/link/summary/31-1014.00> and <https://www.onetonline.org/link/summary/35-3021.00>.

differences in earnings of Health Careers for All's treatment and control groups. Though this three-year report found no statistically significant differences between the two groups three years after random assignment, impacts could emerge after six years if, for example, treatment group members pursue additional education and training at a higher rate than control group members that leads to an impact on earnings.

■ ***Do impacts on credential receipt increase and will treatment group members return to school for more training?***

The six-year reports will also have several additional years of NSC data to analyze whether the impact on credential receipt increases or fades and whether treatment group members return for high-level trainings.

The six-year report will be based on analysis of administrative data from the NSC and NDNH only; no additional follow-up surveys will occur. Therefore, we will not be able explore whether impacts on employment in the healthcare sector persist.

6.3.2 Questions to Be Addressed by Further Research

The implementation, short-term impact, and three-year impact findings of the Health Careers for All evaluation offer considerations for policymakers. These findings suggest that this type of program model can be used to alleviate shortages in the healthcare industry, but policymakers might select other models if the priority goal is to improve the program participants' economic well-being. Additional research may be needed to address the following related questions.

■ ***How can programs best help workers in entry-level healthcare jobs advance in their careers?***

The Health Careers for All model evaluated in this report focused primarily on short-term training programs. Program leadership saw these training programs as entry to the healthcare progression and expected that at least a subset of individuals training to be Nursing Assistants would return for more advanced training in the healthcare field.

However, it can take two to four years for a Nursing Assistant to become a Licensed Vocational Nurse or Registered Nurse—enough time to gain the academic prerequisites and complete the training. This may not be realistic for program applicants with low academic skills or the ability to be out of the workforce for that period of time. Thus, this career pathway may not be feasible without some intensive training supports such as stipends for living expenses while in multi-year trainings.

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